graduate catalog
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*Wichita State University Libraries*

*8122015*
Academic Calendar, 2003-2004

**Summer Semester 2003**

April 19-May 16: Web registration
May 5-June 6: In-person registration
May 26: Memorial Day holiday
May 27-June 6: Presession and workshops
June 3-6: Open registration
June 9: Classes begin, eight-week term and first four-week term
June 20: Final date for filing Application for Degree card in Graduate School Office
July 3: Last day of first four-week term
July 4: Independence Day holiday
July 7: Classes begin, second four-week term
July 25: Final date for all degree requirements, excluding current courses, to be met and reported to the Graduate School, including: oral defense, comprehensive exam, incomplete grades, bound thesis*.
August 1: Summer Session ends

**Fall Semester 2003**

April 21-August 1: Web registration
July 21-August 7: In-person registration
August 4-15: Fall pre-session
August 13-20: In-person registration
August 21-27: Late registration
August 21: Classes begin
September 1: Labor Day holiday
September 17: Final date for filing Application for Degree card in Graduate School Office
October 16: Midterm point
October 19-21: Fall recess
November 3: Final date for withdrawal with nonpenalty grades
November 10: Tentative start date for early registration period for spring semester (exact dates published in the Schedule of Courses)
November 26-30: Thanksgiving recess
December 5: Final date for all degree requirements, excluding current courses, to be met and reported to the Graduate School, including: oral defense, comprehensive exam, incomplete grades, bound thesis.*
All departmental requirements must have been met*
December 11: Last day of classes
December 12: Study day
December 13-19: Final examinations
December 14: Graduation and University Commencement

**Spring Semester 2004**

January 12-17: Tentative spring semester registration (exact dates published in the Schedule of Courses)
January 19: Martin Luther King, Jr. Day, holiday
January 20: Classes begin
February 16: Final date for filing Application for Degree card in Graduate School Office
March 12: Midterm point
March 22-28: Spring recess
April 2: Final date for withdrawal with nonpenalty grades
April 16-August 4: Tentative registration period for fall semester (exact dates published in the Schedule of Courses)
May 7: Final date for all degree requirements, excluding current courses, to be met and reported to the Graduate School, including: oral defense, comprehensive exam, incomplete grades, bound thesis*
All departmental requirements must have been met*
May 10: Last day of classes
May 11: Study day
May 12-18: Final examinations
May 14-15: Commencement

*These dates are subject to change.

*Graduate School deadlines to ensure graduation that semester.
2003-2004 University and Academic Officers

Donald L. Beggs, President
Ted D. Ayres, Vice President and General Counsel
Robert L. Kindrick, Vice President for Academic Affairs and Research
Elizabeth H. King, Vice President for University Advancement
Roger D. Lowe, Vice President for Administration and Finance
Ronald R. Kopita, Vice President for Student Affairs
Susan Kovar, Dean of the Graduate School
John M. Beehler, Dean of the W. Frank Barton School of Business
Jon M. Engelhardt, Dean of the College of Education
Walter Horn, Interim Dean of the College of Engineering
Elaine D. Bernstorff, Interim Dean of the College of Fine Arts
Peter Cohen, Dean of the College of Health Professions
William Bischoff, Dean of Fairmount College of Liberal Arts and Sciences
Kathy Downes, Interim Dean of Libraries
Christine Schneikart-Luebbe, Dean of Enrollment Services
Cheryl Anderson, Dean of Students
James W. Kelley, Dean, Operations & Personnel, Student Affairs
Deltha Colvin, Assistant Vice President, Student Affairs
Eric Sexton, Director, Government Relations
Jim Schaus, Director of Intercollegiate Athletic Association, Inc.

Kansas Board of Regents

Jack R. Wempe, Lyons, chair
Janice DeBauge, Emporia, vice-chair
Richard “Dick” Bond, O'Fallon Park
William R. Docking, Arkansas City
Lewis L. Ferguson, Topeka
James “Jim” Grier III, Wichita
Fred A. Kerr, Pratt
Donna L. Shank, Liberal
Deryl Wynn, Kansas City
Reggie Robinson, Lawrence, President and CEO
Graduate Degree Programs • Departmental Admission Requirements

Minimum grade point average (GPA) for all areas is 2.75 on last 60 hours of course work or nearest two full years of coursework. Some programs require a higher GPA. International applicants living outside the U.S. must meet the Graduate School international application deadlines: fall, April 1; spring, August 1. Some program areas have earlier deadlines.

<table>
<thead>
<tr>
<th>TOEFL Paper</th>
<th>TOEFL Computer</th>
<th>Programs</th>
<th>Departmental application requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>550</td>
<td>213</td>
<td>Accounting (MACC)</td>
<td>Total of 1,100 points based on the formula of 200 times the overall GPA in 60 hours plus the GMAT score</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Aerospace engineering&lt;br&gt;Master of Science (MS)&lt;br&gt;Doctor of Philosophy (PhD)</td>
<td>GPA 3.0 last 60 hours; undergraduate degree in engineering or related field GRE (general); master's degree in engineering or physical science; 3.5 GPA in last 60 hours</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Anthropology (MA)</td>
<td>GPA 3.250 in last 60 hours; 15 hours of anthropology; statement of purpose with intended specialization; application deadline, February 1</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Art, studio (MFA)&lt;br&gt;Ceramics&lt;br&gt;Painting&lt;br&gt;Printmaking&lt;br&gt;Sculpture</td>
<td>BFA degree equivalent; GPA 3.0 in art courses; resume; portfolio (15 color slides); 3 reference letters; statement of artistic philosophy</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Biology (MS)</td>
<td>GRE (general and biology); GPA 3.0 in all UG biology courses; 24 semester hours in biology; 15 semester hours in chemistry; 3 reference letters from science faculty</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Business administration (MBA)&lt;br&gt;Executive business administration (EMBA)</td>
<td>GMAT scores; personal essay; letters of recommendation; personal interview</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Chemistry&lt;br&gt;Master of Science (MS)&lt;br&gt;Doctor of Philosophy (PhD)</td>
<td>BS Chemistry (ACS certified or equivalent); GPA 3.0 (overall and in all chemistry courses); 2 recommendation letters; statement of goals and research interests; GRE (general and chemistry)</td>
</tr>
<tr>
<td>600</td>
<td>250</td>
<td>Communication (MA)</td>
<td>GRE (general); statement of purpose; 3.0 GPA over last 60 hours</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Communicative disorders and sciences&lt;br&gt;Master of Arts (MA)&lt;br&gt;Doctor of Philosophy (PhD)</td>
<td>GRE (general); undergraduate major of at least 30 credit hours in speech, language, and hearing disorders or closely allied courses; GPA 3.0 in last 60 hours and major; 3 recommendation letters personal essay</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Computer science (MS)</td>
<td>Two semesters of calculus 1 level or above with 3.0 GPA; additional foundation courses</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Counseling (MEd)</td>
<td>GPA 3.0 last 60 hours; statement of professional goals; 3 reference letters; resume; 9 undergraduate hours in psychology and 6 additional hours in behavioral sciences</td>
</tr>
<tr>
<td>600</td>
<td>250</td>
<td>Creative writing (MFA)&lt;br&gt;Fiction&lt;br&gt;Poetry</td>
<td>GRE 3.0 in English courses; 24 hours of relevant courses; Original writing in fiction; 4 to 6 original poems</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Criminal justice (MA)</td>
<td>GPA 3.0 last 60 hours; auto biographical statement of interests and goals; GRE (verbal and quantitative); fall admission only; 3 reference letters</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Curriculum and instruction (MEd)</td>
<td>GPA 3.0 last 60 hours, or acceptable GRE or MAT scores; teacher certification and teaching experience</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Economics (MA)</td>
<td>GRE 2.75 in all economics courses and required mathematics</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Educational Administration and Supervision&lt;br&gt;Master of Education (MEd)&lt;br&gt;Doctor of Education (EdD)</td>
<td>GPA 3.0 last 60 hours; GRE (general) or MAT; 3 reference forms; resume; 1 year full-time teaching experience in accredited school; mentor support letter; goals statement</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Educational psychology (MEd)</td>
<td>GRE (verbal, quantitative, and writing); resume; 3 reference letters; statement of goals; statement of research interests</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Electrical engineering (MS)&lt;br&gt;Doctor of Philosophy (PhD)</td>
<td>GPA 3.0 last 60 hours; Undergraduate major in electrical engineering, technology, science, mathematics, or computer science; resume; GPA 3.5 last 60 hours; GRE (general); master's degree in engineering or physical science</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Engineering management (MEM)</td>
<td>UG major in engineering, technology, science, mathematics, or computer science; resume; GPA 3.0 last 60 hours and in all graduate work</td>
</tr>
<tr>
<td>600</td>
<td>250</td>
<td>English (MA)</td>
<td>GPA 3.0 in English courses; 24 hours of relevant English courses</td>
</tr>
<tr>
<td>575</td>
<td>230</td>
<td>Gerontology (MA)</td>
<td>GPA 3.0 last 60 hours; names of 3 references</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Industrial engineering&lt;br&gt;Master of Science (MS)&lt;br&gt;Doctor of Philosophy (PhD)</td>
<td>GRE (general) recommended if undergraduate degree not accredited by ABET; GPA 3.0 last 60 hours; programming competence in C, C++, Visual Basic or FORTRAN; GRE (general); master's degree in engineering or physical science; GPA 3.5 in last 60 hours</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Liberal studies (MA)</td>
<td>GPA 3.0 last 60 hours; essay; personal interview; application deadlines: October 1 for spring, April 1 for fall</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Mathematics (MS)&lt;br&gt;Doctor of Philosophy (PhD)</td>
<td>Undergraduate major in math or equivalent; GPA 3.0 in mathematics courses; GRE (advanced); GPA 3.0 overall and 3.25 in mathematics and statistics</td>
</tr>
<tr>
<td>350</td>
<td>213</td>
<td>Mechanical engineering&lt;br&gt;Master of Science (MS)&lt;br&gt;Doctor of Philosophy (PhD)</td>
<td>GPA 3.0 last 60 hours; GRE may be required for nonresident aliens; GPA 3.5 last 60 hours; GRE (general); master's degree in engineering or physical science</td>
</tr>
</tbody>
</table>
Minimum grade point average (GPA) for all areas is 2.75 on last 60 hours of course work or nearest two full years of coursework. Some programs require a higher GPA.

International applicants living outside the U.S. must meet the Graduate School international application deadlines: fall, April 1; spring, August 1. Some program areas have earlier deadlines.

<table>
<thead>
<tr>
<th>TOEFL</th>
<th>Programs</th>
<th>Departmental application requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>530</td>
<td>213</td>
<td>Music (MM) Accredited music bachelor's degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Opera Performance Audition; performance background</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Piano Accompanying Audition, BM in piano performance</td>
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<tr>
<td></td>
<td></td>
<td>Piano Pedagogy Audition, BM in piano performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Instrumental Conducting Audition, BM in music or music education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>History-literature BM, reading proficiency in one of the following: German, French, or Italian</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Theory-composition BM, resume, scores portfolio</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Music education (MME) BME or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Choral, Elementary, Voice, Instrumental, Special Education</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Nursing (MSN) RSN from nationally accredited school; RN license; 1 year of practice recommended; statistics; GPA 3.0 last 60 hours; professional liability insurance; computer literacy; NP requires departmental application</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Physical education (Med) Application letter; 3 recommendation letters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K-12 Physical Education/Exercise Wellness</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Physical therapy (MPT) Department application; GPA 3.0 last 60 hours, in prerequisite, and all math and science courses; references</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Physics (MS) 24 hours undergraduate physics</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Psychology (PhD) Community GRE (verbal and quantitative); 4 references; departmental application; biographical statement; application deadline for following fall, March 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Community/clinical GRE (verbal and quantitative); 4 references; departmental application; biographical statement; application deadline for following fall, February 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Human Factors GRE (verbal and quantitative); 4 references; departmental application; biographical statement; application deadline for following fall, March 1</td>
</tr>
<tr>
<td>600</td>
<td>250</td>
<td>Public administration (MPA) Microcomputer application experience</td>
</tr>
<tr>
<td>370</td>
<td>230</td>
<td>Public health (MPH) GRE or post-baccalaureate degree; 3.0 GPA; 1 year work experience or health degree; departmental application; resume; 3 recommendation forms; statement of purpose</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>School psychology (EdS) GRE (verbal, quantitative and possible writing assessment); resume; 3 reference letters; statement of professional goals; statement of research interests; master's degree in counseling or educational psychology or related area</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Social Work (MSW) GPA 3.0 last 60 hours; strong undergraduate preparation in liberal arts and sciences; departmental application; application deadline: January 1 for fall</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Sociology (MA) 15 hours sociology, college algebra; 3 reference letters; statement of purpose and research interests</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Spanish (MA) 24 hours intermediate/advanced Spanish; 12 hours advanced for native speakers; GPA 3.0 in Spanish courses</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Special education (Med) GPA 3.0 last 60 hours or acceptable GRE or MAT scores; eligible for Kansas Teaching Certificate; application deadlines: April 15 for summer, July 1 for fall, December 1 for spring</td>
</tr>
<tr>
<td>550</td>
<td>213</td>
<td>Sport administration (Med) Letter of application; resume; 3 recommendation letters; GRE may be required</td>
</tr>
</tbody>
</table>

For addresses for entrance exam information and applications for graduate degree programs, see next page.
# Graduate Certificate Programs

<table>
<thead>
<tr>
<th>TOEFL</th>
<th>Programs</th>
<th>Certificates</th>
<th>Certificate descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 250</td>
<td>Communication</td>
<td>Applied Communication</td>
<td>Provides concentrated study in a core of 14 hours of related, upper-level skills courses in applied communication. Covers established practices of professional communication and practical ways communication theory can be applied in work-related situations.</td>
</tr>
<tr>
<td>550 213</td>
<td>Education</td>
<td>Educational Technology</td>
<td>A program of 15 hours for competency in technology for educators seeking positions involving computers in education or who are interested in adding this area of expertise to their credentials. Students advance their knowledge of computers in an educational setting, integrate technology into classroom instruction, and utilize technology for communication with students, parents, and the community. Current students in the Master of Education program in curriculum and instruction may choose this certificate to achieve documentation of expertise in educational technology.</td>
</tr>
<tr>
<td>550 213</td>
<td>Industrial Engineering</td>
<td>Quality Engineering and Management</td>
<td>A 12 hour program primarily for graduate students with industrial affiliation who are interested in enhancing their Quality Engineering Management skills. A 12 hour program of advanced knowledge and methodology of production system design, evaluation, and operation for practitioners in industry who are responsible for the development and management of production systems in the workplace.</td>
</tr>
<tr>
<td>550 213</td>
<td>Nursing</td>
<td>Acute Care Nurse Practitioner</td>
<td>Includes 12-20 hours of the existing Master of Science in Nursing curriculum depending on the specialty as an opportunity to gain additional graduate education in another nursing specialty option.</td>
</tr>
<tr>
<td>550 213</td>
<td>Physical Education</td>
<td>Coaching</td>
<td>A 15 hour program of study in exercise physiology, risk management and sport safety, motor development and skill acquisition, sport psychology, and organization and administration. A 13 hour program of study of the nature and scope of the physiological aspects of aging and issues related to designing the environment for older adults.</td>
</tr>
<tr>
<td>570 230</td>
<td>Public Health</td>
<td>Public Health</td>
<td>A 15 hour program of core public health training in basic public health competencies, including biostatistics, epidemiology, environment health sciences, health services administration and policy, and social and behavioral sciences.</td>
</tr>
<tr>
<td>600 230</td>
<td>Public Administration</td>
<td>Economic Development</td>
<td>A 12 hour program offering advanced study in economic development by state and local governments. The program enhances student career opportunities and provides state and local practitioners in economic development and policy to improve their skills. A 12 hour program offering advanced study in public finance. The program enhances student career opportunities and provides public finance practitioners an avenue to improve their skills.</td>
</tr>
</tbody>
</table>

Addresses for entrance exam information and applications for graduate degree programs (see previous page):

<table>
<thead>
<tr>
<th>Graduate Record Examinations</th>
<th>Graduate Management Admissions Test</th>
<th>Miller Analogies Test</th>
<th>TOEFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Testing Service</td>
<td>Educational Testing Service</td>
<td>Controlled Testing Center Supervisor</td>
<td>Educational Testing Service</td>
</tr>
<tr>
<td>P.O. Box 6000</td>
<td>P.O. Box 6103</td>
<td>The Psychological Corporation</td>
<td>P.O. Box 6000</td>
</tr>
<tr>
<td>Princeton, NJ 08541-6000 USA</td>
<td>Princeton, NJ 08541-6103 USA</td>
<td>555 Academic Court</td>
<td>Princeton, NJ 08541-6000 USA</td>
</tr>
<tr>
<td><a href="http://www.gre.org/">www.gre.org/</a></td>
<td><a href="http://www.gmat.org/">www.gmat.org/</a></td>
<td>San Antonio, TX 78204-2488 USA</td>
<td><a href="http://www.toefl.org">www.toefl.org</a></td>
</tr>
</tbody>
</table>

*Grades for entrance exam information and applications for graduate degree programs (see previous page).*

**Graduate Certificate Programs**

The Graduate Record Examination (GRE) is a test that assesses the academic readiness of prospective graduate students. It is widely used in the United States and around the world to evaluate the readiness of students for graduate programs. The GRE is administered by the Educational Testing Service (ETS) and is available in both General and Subject versions.

**Graduate Management Admissions Test (GMAT)**

The GMAT is a standardized test used by business schools to evaluate the readiness of prospective MBA students. It is administered by ETS and consists of four sections: Analytical Writing Assessment, Integrated Reasoning, Quantitative, and Verbal. The GMAT is designed to measure critical thinking and analytical skills, which are important for success in graduate management programs.

**Miller Analogies Test (MAT)**

The MAT is a standardized test that measures verbal reasoning and critical thinking skills. It is widely used in the United States as a measure of academic readiness for graduate programs, particularly in education and human services.

**TOEFL**

The Test of English as a Foreign Language (TOEFL) is a standardized test that measures the English language skills of non-native speakers. It is administered by ETS and is widely used in the United States and around the world to evaluate the English language proficiency of prospective graduate students.

**The Psychological Corporation**

The Psychological Corporation is a test development and research company that specializes in the development and administration of educational and psychological assessments. It is known for its standardized tests, including the GRE, GMAT, and MAT.

**Academic Court**

Academic Court is a residence hall located on the campus of the University of Kansas in Lawrence, Kansas. It is a coeducational residence hall that provides a supportive and academic environment for students pursuing graduate degrees at the University of Kansas.

**Wichita State University (WSU)**

Wichita State University is a public research university located in Wichita, Kansas. It was founded in 1963 as a response to the needs of the state and the region, and it has grown to become one of the largest universities in Kansas. WSU offers a wide range of undergraduate and graduate programs, including engineering, business, education, and health sciences.
Graduate School

Offices: 107 Jardine Hall
Susan Kovar, dean
Pawan Kahol, associate dean
Margaret Wood, assistant to the dean

The Graduate School at Wichita State University (WSU) supervises graduate study at the University, establishes standards for admission to graduate work, and recommends students who have completed requirements for graduation to the Kansas Board of Regents.

The Graduate School provides opportunities to pursue advanced study in 56 master's, one educational specialist, and nine doctoral programs. More than 3,500 students—roughly one of every five WSU students—are graduate students.

The University, classified by the Carnegie Foundation as a Doctoral/Research Intensive institution, annually grants approximately 35 doctoral degrees and more than 700 master's degrees. The Graduate School, an affiliate member of the National Association of Graduate and Professional Students, is a member of the Council of Graduate Schools and the Midwestern Association of Graduate Schools.

Academic programs include master's, specialist, doctoral programs, and graduate certificate programs. Doctoral degrees are awarded in applied mathematics; chemistry; communicative disorders and sciences; educational administration; psychology; human factors; community/clinical, and community psychology; and in aerospace, electrical, industrial, and mechanical engineering.

The primary goals of the Graduate School are to encourage independent scholarship and to develop competence in research or other creative activity. Students are expected to master special fields as well as to develop appropriate methods of inquiry for future professional growth.

Graduate Study Defined

The graduate experience involves specialized knowledge and concentrated study in one area. In this respect it differs from undergraduate study, which introduces students to a wide range of subjects and develops general intellectual skills.

A graduate program is generally more focused on a specific area of interest and on accruing specialized skills to practice a profession or to do advanced research. There are two types of graduate degrees, professional degrees and research degrees.

At the master's level, a professional degree provides a specific set of skills needed to practice a particular profession. It is generally a final degree. The research master's provides experience in research and scholarship, and it may be a final degree or a step toward a doctoral degree.

Wichita State University's master's degrees include a minimum of 30 graduate hours and usually take one or two years of full-time study to complete. Students have six years to complete their degree. The professional master's degrees often involve some type of internship or fieldwork. The research degree may involve the writing of a thesis or the completion of comprehensive exams.

The doctoral degree typically involves both course work and a major research project. Students admitted to a doctoral program usually spend four to six years of full-time study completing their degree. Depending upon the field of study, the first two to three years involve classes, seminars, and directed readings to provide a comprehensive knowledge of an academic field. During this time, students may also begin independent research projects.

As a candidate for a doctoral degree, a student starts work on a project that involves original research and reports on the research through the production of a dissertation. Depending upon the field, the dissertation project may take one to two years to complete.

Students pursuing graduate certificates are scholars, who for academic, personal, or professional reasons desire graduate-level education without the commitment to a graduate degree program, or who desire interdisciplinary coursework to complement a graduate degree program.

Graduate certificates are awarded by departments, colleges, and the Graduate School to recognize graduate-level accomplishment in a cluster of related graduate courses on a topic, skill, theme, or method, as defined by the appropriate faculty. The courses serve as the student's record of coherent academic accomplishment. Graduate certificate programs are not degrees, concentrations, minors, or certification programs.

Graduate Council

The Graduate Council consists of the dean of the Graduate School, ten members of the graduate faculty elected by the graduate faculty, one member appointed by the graduate dean, and one graduate student. The council is responsible for the development of general policies for the Graduate School. The council also advises with the dean on matters submitted by the dean and serves as a committee on exceptions.

Doctoral Sub-Council

The Doctoral Program Sub-Council exists for the general advocacy of doctoral programs throughout the University community and to review, determine, and recommend policies for doctoral programs. Membership consists of the graduate dean; one representative from each doctoral program; and one member elected from the Graduate Faculty.

Graduate Faculty

The graduate faculty consists of the University president, the vice president for academic affairs and research, the deans of the Graduate School and academic colleges, and regular faculty members nominated and approved for graduate faculty status.

Regular faculty are recommended for appointment to the graduate faculty by the chairs of their departments and approved by the Graduate Council. Recommendations for graduate faculty status are based on rank (above instructor); degree in the field, or training or experience; scholarly or professional work; and the need for the faculty member to hold graduate faculty status.

The graduate faculty at Wichita State University, by virtue of their qualifications, contribute to graduate education by teaching and advising graduate students; guiding master's theses and doctoral dissertations; by participating in examinations and evaluations; by engaging in a program of research, scholarship, or creative activity; and by sharing in the administration of their programs and in the governance of the Graduate School. All regular graduate faculty hold the terminal degree in their discipline.

At Wichita State, regular faculty are not automatically members of the graduate faculty. Department chairs nominate faculty for membership on the graduate faculty by submitting an application with a current academic resume. Applications are reviewed and acted upon by the Graduate Council. Regular faculty are normally appointed either as full members or as associate members, while adjunct faculty are appointed in the acting ad hoc category. Full members of the graduate faculty who work in doctoral programs are recommended for appointment by the Doctoral Program Sub-Council for the privilege of chairing doctoral dissertations.

Full membership reflects the highest level of scholarly attainment and is defined as regular faculty ranking above instructor, with substantial interest in graduate education, and for whom a demonstrable departmental or program need exists. Faculty nominated for membership in this category shall be expected to hold the terminal degree or its equivalent in training and/or experience (with criteria and documentation supplied in cases for which equivalency is claimed) and be judged qualified to bear all designated academic responsibilities of the graduate program(s) in which they serve. It is expected that significant scholarly and/or artistic or creative achievement will be evident in the academic and professional resume presented in support of nominations and renewals for full membership in the graduate faculty.

Full members of the graduate faculty are the only faculty eligible to chair thesis committees. Full membership in the graduate faculty is also a prerequisite for doctoral dissertation chairing status.

Doctoral Dissertation Chairing Status is defined as full membership on the graduate faculty along with a demonstrable departmental or program need for the
faculty member to hold dissertation chairing status. Substantial and sustained scholarly and/or artistic or creative achievement over the most recent five to seven years will be evident in the resumes of faculty nominated for this category. The extent of previous experience in serving on and supervising theses and/or dissertation committees, at WSU or elsewhere, will also enter into the consideration of dissertation chairing status and should be reflected in the resume accompanying the nomination.

Graduate Faculty Associate Membership is available to adjunct faculty whose relationship with an academic department exceeds the usual visiting or joint appointment type of association. Nominations for membership in this category are approved by the Graduate Council and must be accompanied by a detailed statement of the nominee's involvement with the department, including the extent to which the nominee will interact with regular faculty; be involved in department affairs; and be engaged in teaching, advising and supervising students, and research. Other criteria are the same as for the full membership category. Appointments to this category are for one year and are renewable upon request by the department with approval of the Graduate Council.

Associate Membership is defined as regular faculty ranking above instructor, with substantial interest in graduate education, and for whom a demonstrable departmental or program need exists. Faculty nominated for membership in this category shall be judged qualified, because of academic and/or professional experience, to teach graduate credit courses and serve on theses and/or dissertation committees. Normally, new faculty who have not had the opportunity to demonstrate scholarly activity will be nominated for the associate membership category and, if requested, may be authorized to chair thesis committees for a period of three years.

Acting Ad Hoc Membership is defined as regular faculty or participating faculty in various temporary or part-time assignments. Nominees are judged qualified to teach graduate-level courses according to academic and or professional experience. Appointment may not exceed the term of one year, but can be considered for annual renewal.

A complete listing of graduate faculty is available in the Graduate School Office. Departmental lists are available in the main office of each department. Students are advised to consult this list when selecting faculty advisors for theses and dissertations.

Faculty Restriction - faculty members of WSU who hold the rank of assistant professor or higher cannot earn graduate degrees from Wichita State except for unassigned faculty (not attached to a particular college) or faculty members granted specific approval by the Graduate Council. Full-time faculty members may not pursue more than 6 hours of graduate credit per semester.

Graduate Coordinators
The Graduate School works closely with the individual program areas to ensure that program operations function in compliance with Graduate School policies and regulations. As part of this process, a graduate faculty member is recommended by their department chair to the Graduate Dean for appointment as the graduate coordinator, to serve as the program representative to the Graduate School in matters of graduate education.

Although the nature of graduate coordinator appointments and responsibilities varies throughout program areas, they have a primary role in working with students and faculty in their academic programs.

As a standard of expectation, graduate coordinators are charged with the responsibility for overseeing the evaluation of applications for admission and the transmittal of departmental recommendations for admission, academic performance, degree completion, and exceptions to graduate school regulations.

Graduate coordinators also have a primary role in coordinating information between their program and the Graduate School office, working with their departmental chair or other administrators in maintaining the quality and viability of their graduate program, and serving as the local agent for the graduate faculty in their program areas.

Graduate coordinators may also serve on graduate committees in their programs or academic colleges.
Admission to Graduate Study

Two admission statuses, degree and nondegree, are available to accommodate qualified students desiring to pursue graduate degrees as well as those simply desiring to earn graduate credit for personal and professional reasons.

To be considered for degree or nondegree graduate status, students must request and submit a completed Application for Admission and appropriate credentials to:

Graduate School
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0004

Students may apply on-line through the graduate school Website at http://webs wichita.edu/gradsch. Application forms may be requested by calling the Graduate School at (316) 978-3055, e-mail at gradings@wichita.edu, or through the Web site: www.wichita.edu

In order to receive graduate credit at Wichita State University, students must be admitted to the Graduate School. Admission is based primarily upon an applicant's previous academic record; therefore, two official transcripts of all previous academic work, except work completed at WSU must be received along with the Application for Admission to the Graduate School. Wichita State University transcripts do not need to be ordered, but academic work and degrees from WSU must be declared on the application form. The fact that courses completed at one institution may be included on a transcript from another institution is not sufficient. Transcripts must be mailed directly from the institution where the work was completed.

Credentials other than official transcripts will be considered for admission as a visiting guest student or nondegree, category B student. Please refer to page 12 regarding the details of these options.

Admission Application

Applications for graduate study are made through the Wichita State University Graduate School regardless of the program. In addition to the WSU Application for Admission to Graduate School, certain program areas will also require a departmental application.

Records required for admission evaluation for programs without application deadlines, and from applicants not requiring visa status, should reach the Graduate School at least three weeks before registration for the semester when admission is desired. Materials received after this date will be processed as the time of staff and faculty permits, but the Graduate School cannot guarantee final action can be taken in time to allow enrollments for graduate credit.

Because of possible limitations in the number of faculty and available facilities, there are restrictions on the number of students admitted to some graduate programs. These limits may prevent some qualified students from being admitted. Since departments with enrollment limitations generally take action on new applicants in February or March for fall admission, early application is recommended. Preference usually is given to degree-seeking applicants.

An admission to the Graduate School remains valid only if students enroll and complete at least one class as graduate students within one calendar year of their admission semester.

All application materials in the folders (at the Graduate School and departmental levels) may be reviewed by the applicant upon request, except recommendation form/letters where the applicant has waived his/her right to see the recommendations.

Admission Application Fee

All applicants to the Wichita State University Graduate School must pay a nonrefundable application fee. The application fee for degree applicants is:

- $50 for students who will require a visa status
- $35 for American citizens or lawful permanent residents (proof of green card will be required)

The application fee for non-degree applicants is $35.

Admission Deadlines

The following are deadlines for submission of complete application materials for all applicants seeking on-time registration except those applying for admission to programs in business administration, chemistry, communicative disorders and sciences, counseling, educational administration, educational psychology, liberal studies, physical therapy, psychology, school psychology, and social work. Applicants to the program areas identified above should refer to departmental information in this Bulletin for admission deadlines.

Admission Requirements

Degree Admission

To pursue a graduate degree at WSU, students must be admitted to the specific program for which they are seeking a degree. Students may not be admitted to more than one degree program at a time.

Specialist and Master's Programs

Applicants for full-standing degree admission to the specialist and master's programs must meet the following requirements:
1. The applicant must have earned a bachelor's degree from a regionally accredited institution or a recognized institution in another country whose requirements for the bachelor's degree are substantially equivalent to an American four-year bachelor's degree. The basis on which credits are awarded for the bachelor's degree must be consistent with the policies and procedures for the award of such credit at Wichita State.

2. Specific grade point average (GPA), entrance exam requirements, and prerequisite course work for degree-seeking students at the master's or specialist level:

A grade point average of at least 2.75 based upon the last 60 hours of course work (or nearest semester or term break to this), including any post-bachelor's graduate work, and no more than 9 hours of background deficiencies in the desired field of graduate study. Some departments may require a higher minimum grade point average.

Although an entrance exam is not a requirement for admission to Graduate School, certain program areas require either the Graduate Record Exam (GRE), the Graduate Management Admission Test (GMAT), or the Miller Analogies Test (MAT). Applicants should refer to the program summary on pages 6 and 7 to determine if a specific program requires an entrance exam.

**Doctoral Programs**

Applicants for full standing degree admission to the doctoral programs must meet the following requirements:

1. The applicant must have earned a bachelor's degree from a regionally accredited institution or a recognized institution in another country whose requirements for the bachelor's degree are substantially equivalent to an American four-year bachelor's degree. The basis on which credits are awarded for the bachelor's degree must be consistent with the policies and procedures for the award of such credit at Wichita State.

2. A grade point average of at least 3.00 in the last 60 hours or nearest two years when the bachelor's degree is the admissions credential. Applicants with a master's degree or with completed graduate course work must have at least a 3.25 grade point average and no more than 9 hours of background deficiencies in the desired field of graduate study.

3. Acceptable scores on the General Aptitude Test of the Graduate Record Examination (within the last five years).

**Application Packet**

Early application is recommended when seeking admission to a graduate degree program. See the Graduate Program Requirements list (pages 6 and 7) for departmental application deadlines.

Include in the application packet:

1. A completed and signed application form

2. A check or money order payable to Wichita State University
   
   | American citizen | $35 |
   | Non-resident alien (see 4 below) | $50 |
   | Permanent resident (see 5 below) | $35 |

3. Two (2) official transcripts in sealed envelopes from the institutions where the bachelor's or master's degree was received or is expected to be received and where other academic work was completed.

Applicants who are not American citizens and who do not have Permanent Residency Status also require:


Applicants who are not American citizens but who have Permanent Residency Status also require step 5:

5. A notarized copy of both sides of your Resident Alien card.

**Nondegree Admission**

Persons who already possess a graduate degree, who do not want to seek a graduate degree at Wichita State University at this time, or who wish to take graduate courses for professional advancement or personal satisfaction, should apply for nondegree admission. Students originally admitted to a nondegree category may later request the department to consider a transfer to degree status or reapply for admission if the degree program is in a different department. A maximum of 12 hours of graduate credit taken while in a nondegree category may be counted toward a degree program, provided students have obtained the approval of their major departments and the graduate dean. There is no application fee for nondegree admission.

**Nondegree, Category A**

Admission to this category provides students the opportunity to take any level of graduate course work for which they have the prerequisites. Students in this category are not restricted and may take courses at the 800-level and above. Nondegree applicants seeking graduate certificates must be admitted under this category. Upon satisfactory completion of a course, credit is placed on a Wichita State University graduate transcript. However, only credit earned in courses numbered 500 and above is counted as graduate credit work.

Students applying for admission in this category must meet the following requirements:

1. A bachelor's degree from a regionally accredited institution.

2. A grade point average of at least 2.750 based upon the last 60 hours of course work (or nearest semester or term break to this), including any post-bachelor's graduate work. Some departments require higher grade point averages and other admission credentials.

Students who do not meet the 2.750 grade point average requirement may be admitted to this category on probation if reasonable evidence exists to indicate their ability to perform satisfactorily in 800-level or above course work.

Although there is no application deadline for nondegree, category A admission, applicants are encouraged to provide the following items no later than three weeks prior to the start of the semester in which they wish to enroll:

1. A completed and signed application form

2. Two (2) official transcripts in sealed envelopes, from the institutions, of all academic work including the bachelor's or a previous master's degree.

**Nondegree, Category B**

This category is specifically for students who do not want to seek a graduate degree but who want to continue personal and professional development beyond the bachelor's level. Entrance is through graduate course work, not leading to a graduate degree. This category is specifically for students who do not want to seek a graduate degree but who want to continue personal and professional development beyond the bachelor's level. Entrance is through graduate course work, not leading to a graduate degree. This category provides students the opportunity to take any level of graduate course work for which they have the prerequisites. Credit earned in category B status is placed on a Wichita State University graduate transcript; graduate credit is awarded for courses numbered 500 through 799.

Students applying for admission in this category must meet the following requirements:

1. A bachelor's degree from a regionally accredited institution. Some departments may require a minimum grade point average.

2. Although there is no application deadline for nondegree, category B admission, applicants are encouraged to provide the following items no later than three weeks prior to the start of the semester in which they wish to enroll:

   A completed application packet must contain the following:

   1. A completed and signed application form

   2. Two (2) official transcripts in sealed envelopes, from the institutions, of a bachelor's degree from a regionally accredited institution or a copy of a teaching certificate.

**Graduate Certificate Programs**

Graduate certificates are awarded to students who desire interdisciplinary course work to complement their graduate degree program or to students who, for academic, personal, or professional reasons, desire graduate-level education not leading to a graduate degree.

Students seeking graduate certificates must be admitted to the Graduate School in a degree program or, in nondegree, category A status. All Graduate School policies related to the admission criteria mentioned above apply.

Students completing the requirements for a Graduate Certificate program must submit the Graduate Plan of Study Form and the Application for Degree Form no later than the 20th day of the fall of...
Spring semester or the 10th day of the eight-week summer term when certificate completion is anticipated.

The Graduate Plan of Study is prepared in conjunction with the advisor of the Graduate Certificate program area and is forwarded to the Dean of the Graduate School. Graduate departments offering Graduate Certificates should have a process for knowing who is completing certificate work. Certificate advisors are expected to inform students that a plan of study and certificate degree card is required according to the above deadlines.

**Graduate Guest Admission**

Graduate students in good standing at another regionally accredited graduate school may be admitted as a visiting guest. Such admission is valid for only one semester. Admission requires the submission of a completed Application for Admission and a signed letter from the graduate dean or the dean or the representative at the home institution certifying the student's status as a graduate student in good standing. Visiting guests must have their school's permission to take up to one semester's work for transfer back to their home institutions.

If enrollment is desired beyond one semester, the student must obtain regular admission.

**Graduate Readmission Following Academic Dismissal**

Following academic dismissal, students who wish to be considered for readmission to Graduate School must first complete a minimum of 9 hours of upper-division letter-graded course work, selected with appropriate advisement. These 9 hours cannot include repeat courses of which graduate credit was previously awarded. Such course work must be completed with a grade point average of 3.00 or higher for the readmission application to be considered. Meeting this standard, along with both Graduate School and program-specific requirements, will permit readmission to a graduate program. Previously dismissed students who are recommended for admission under this policy will enter on probation.

**Senior Rule Admission**

Seniors at Wichita State or other bachelor's-degree-granting institutions may qualify to take work for graduate credit under the Senior Rule option. This opportunity applies to students 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 10 hours of completing the bachelor's degree. Work must go beyond the requirements for the bachelor's degree, and the degree must be completed within the semester in which a student takes the graduate courses.

Students who wish to earn graduate credit under the Senior Rule must apply to the Graduate School for regular graduate admission and also complete a Senior Rule application form no later than two weeks before the semester in which they intend to enroll under the Senior Rule option.

Approval is needed from the student's major advisor, the chairperson or graduate coordinator in the department in which the work is to be taken, the undergraduate dean of the student's college, and the dean of the Graduate School before any courses can be taken for graduate credit. In addition, students from other institutions must be admitted as undergraduates (possibly as guest students) through the WSU undergraduate admissions office.

**Supplemental Information for International Applicants**

International students presently in the United States on a student visa obtained by admission to another U.S. university will not be considered for admission to Wichita State University unless they have attended the institution issuing their original I-20 for at least one semester. Exceptions to this policy require the concurrence, in writing, of the institution issuing the original I-20.

The first semester enrollment of all international students must be in the program to which the student is admitted.

The formal admission of international applicants is a two-part process. The first part evaluates academic admisibility based upon the application form and transcripts or mark sheets provided. Applicants recommended for admission will be notified by the Graduate School of their eligibility for admission and the application will begin the second part of the admission process.

The second part requires the demonstration of sufficient English proficiency (TOEFL) and financial resources (WSU Statement of Financial Responsibility) to support graduate work in America.

**Transcripts**

Two (2) official copies of the undergraduate transcript translated into English are required. If the transcript does not indicate the award of a bachelor's degree or its four-year equivalent degree, official copies of the degree statement or diploma are required.

International applicants who have completed undergraduate work or have attended an American university will need to submit two (2) official transcripts showing that work.

The Graduate School must receive official transcripts or mark sheets showing the actual award of the degree before applicants from abroad can be considered for admission.

**TOEFL Examination**

Applicants whose native language is not English must request the Educational Testing Service (ETS) to send their Test of English as a Foreign Language (TOEFL) scores. An official copy of the TOEFL score—less than two years old—showing a minimum score of 550 for the paper-based test or 213 on the computer-based test is required. Photocopies of the TOEFL scores are unacceptable.

Waivers will be considered if applicants have attended a university in the United States as a full-time student. Full-time is defined as enrollment in academic courses for a minimum of one year.

Waivers will also be considered if the bachelor's degree was awarded from a U.S. university within two years of the proposed semester of admission at WSU.

The following programs currently require a higher score than the minimum score:

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<thead>
<tr>
<th>Paper-based</th>
<th>Computer-based</th>
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<tr>
<td>Chemistry</td>
<td>570 250</td>
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<td>Communications</td>
<td>600 250</td>
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<td>Creative Writing</td>
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<td>English</td>
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<td>Gerontology</td>
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<td>History</td>
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<td>Public Administration</td>
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<tr>
<td>Public Health</td>
<td>570 230</td>
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If you are interested in studying English at WSU prior to beginning your graduate studies, write to:

Intensive English Language Center
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0122
USA

Application forms may also be requested by e-mail at international@wichita.edu or through the Web site, www.wichita.edu

**WSU Official Statement of Financial Responsibility**

International applicants must demonstrate sufficient financial resources in order to support their graduate work in the United States. The WSU Official Financial Statement for International Graduate School Applicants is the form that must be used to demonstrate the resources. Bank statements or letters from relatives or employers will not be considered as a substitute for the WSU Official Financial Statement form.

International Students transferring from universities in the United States must present the following items:

1. A completed and signed application for admission.
2. A non-refundable application fee.
3. Two (2) official transcripts from each college or university attended in the United States, plus two (2) official copies of the undergraduate transcript translated into English. If the transcript does not indicate the award of a bachelor's degree or its four-year equivalent degree, official copies of the degree statement or diploma are required.
4. Official certification of the minimum TOEFL requirement. A waiver will be considered if the
applicant has attended an American university in the United States as a full-time student in academic courses for a minimum of one year, or the bachelor’s degree was awarded from an American university within two years of the proposed semester of admission at Wichita State University.


Mandatory Health Insurance
Wichita State University requires that all non-immigrant international students have a specified minimum amount of medical insurance protection for every semester they are enrolled as a student at Wichita State University.

Each non-immigrant international student must obtain and maintain medical insurance from a company authorized to do business in the United States, with the following minimum coverages:

a. Basic injury and sickness benefits amounting to at least $10,000.

b. Major medical coverage in an amount of at least $100,000.

c. Coverage to provide for medical evacuation of the student to the student’s home country.

d. Coverage to provide for repatriation of the student’s remains to the student’s home country in the case of death.

Failure to obtain and maintain such coverage during the student’s time of enrollment will be grounds for discipline up to and including expulsion.

WSU Former Graduate Students in Inactive Status
Students who have completed graduate course work at Wichita State University but who do not enroll for more than 12 months are placed in an inactive status on the Registrar’s computer database. To enroll again, such students need to call the Graduate School office, (316) 978-3059, and ask to have their records reactivated. Such notification needs to be done at least one month in advance of any planned enrollment. Because of changes in program requirements, periods of non-enrollment may result in the need to complete an application for readmission to the program.

Exceptions to Regulations
Departures from the rules and regulations stated in the Graduate Bulletin require the filing and approval of a Request for Exception to Graduate School Regulations form. Such requests must have the approvals indicated on the form and must state in a logical and coherent manner a rational basis for the requested exception. Forms for such requests are available from the Graduate School and graduate program areas and may be downloaded from the Graduate School Web site. Unusual and/or substantial deviations from stated rules and regulations require action by the Graduate Council.

Among Wichita State University’s numerous graduate programs are master’s programs in music, music education, studio art, and theatre/drama.
Enrollment

Audit Credit
Graduate students may take any course for which they have the prerequisites and which is open to them on the basis of their admission category on an audit (no credit) basis. The tuition and fees are no different for auditing courses than for taking them for credit, but a student's load (total credit hours) does not include audit enrollments. Courses taken on the audit basis may be repeated for credit and if repeated may be used to fulfill degree requirements if the repeated grade is acceptable. Use of the audit basis for a course must be declared at the time of enrollment.

Grade Reports
At the end of each semester, students may access their final grades through the Shocker Line for Student Access by calling (316) 978-6500 and listening for the grade option. Students may also view their grades from the Shocker One Step (SOS) option on the Web site (www.wichita.edu). Students desiring a printed report of their grades may make such a request through both systems.

Load Definitions
At least 9 hours of graduate credit course work is defined as full-time graduate enrollment during the fall or spring semester. During the summer session, a minimum of 6 hours is considered full-time graduate enrollment. Load (total credit hours) does not include audit enrollments. Students enrolling in all or a majority of courses that carry undergraduate credit only must meet the undergraduate requirement for certification as a full-time student (12 hours).

Graduate students may not enroll for more than 196 hours per semester (doctoral dissertation credit excluded), or 10 hours during an eight-week summer session. Exceptions will be considered for students admitted to programs requiring more than the maximum hours allowed. International students must enroll as full-time students (at least 9 hours of graduate credit course work) each semester. While the Graduate School sets no official maximum number of hours, other than the 16-hour limit, students holding assistantships should work with their advisors to arrive at a load appropriate to their situations.

Graduate students holding assistantships during a fall or spring semester are expected to enroll in at least 9 credit hours of course work. Exceptions to allow graduate assistants to be enrolled in 6-8 hours may be approved by the department where the student is admitted. Special consideration for thesis and research enrollments may be obtained by petitioning the Graduate School.

Registration, Drops and Adds, Late Fees
The Registrar establishes procedures for registration.

Graduate students must enroll according to the procedures published in the Schedule of Courses and available on the University's Web site at www.wichita.edu for any given semester.

Some restrictions cannot be overridden including nondegree, category B students enrolling in courses beyond the 75% level.

Once a student has enrolled and paid, classes can be changed only by filing a Drop and/or Add Form with the necessary signatures. Changes of sections also require such action. If these forms are not submitted, a grade of F could be recorded for failure to attend the class shown on the original enrollment records.

Fees are charged for late enrollments. Only partial refunds are made after certain cutoff dates. Late enrollments or adds normally will not be approved after the 20th class day. Drops of classes with a grade of W (withdrawal) are also subject to a time limit established by the Registrar.

Students who find it necessary to completely withdraw from the University must process a drop form for each class.

Payment
Tuition and fees are required to be paid in full, including any financial aid or loans a student may have, before enrollment is complete and the student is eligible to attend classes.

A short-term loan program is available to assist students in making tuition payments through an installment payment plan. Any student who does not have financial aid from other sources sufficient to pay tuition and fees is eligible if the student has paid all previous obligations to the University. These interest free loans are limited to 75 percent of a student's total tuition and fees, plus a $30 nonrefundable administrative fee. Loans are available to students at the time of enrollment.

Residency
The residence of students, for tuition purposes, is determined by the acts of the Kansas State Legislature rather than University policy. The legislature has also granted the Kansas Board of Regents certain authority to adopt regulations and guidelines for the determination of residence. This law and these 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.

Certain exceptions are authorized by state law to pay the equivalent of resident fees:
(a) regular employees of the University and their spouse and dependent children (does not apply to student assistants and graduate assistants)
(b) persons on full-time active military duty stationed in Kansas, and their spouse and dependent children
(c) persons who were in active military service who were discharged or retired in Kansas
(d) persons who graduated from a four-year program at an accredited Kansas high school within six months of their enrollment at a state university, and who were Kansas residents for fee purposes at, or within 12 months of, high school graduation
(e) dependent students as long as at least one parent is a Kansas resident for fee purposes
(f) persons who were recruited to or transferred to Kansas within the last 12 months for a full-time job, and their spouse and dependent children.

Residents of Kansas, for fee purposes, who leave the state retain their residency as long as they return to Kansas in a permanent status within 12 months of departure.

The above information is a partial list of residency exceptions. The details about each of these exceptions are critical. None of the exceptions are automatic. Several require certification of appropriate information on specific forms. Contact the Office of the Registrar, (316) 978-3672, for more information.

Senior Citizen Enrollment
People wishing to enroll under the Senior Citizens Program in courses numbered 800 and above must first obtain the written permission of the instructor.

Special Fees and Refunds
The registration fee, required of all students enrolled on the Wichita State campus, supports the Educational Opportunity Fund, parking, student union, athletics, Heskett Center, Student Health Services, forensics, Student Government Association, University Forum Board, student publications, and other student activities.

Prior to each semester, the Registrar establishes enrollment dates. Late registration is a special service resulting in extra costs for special staff and facilities.
Library, Heskett Center, Athletic Ticket Office, Student Government, Student Health Services, WSU Police Department, and the Shocker One Stop (SOS) system.

Transcripts

Transcripts may be ordered in person at the Registrar’s Office or by written request. Official transcripts are $5 per copy with the fee waived for currently enrolled WSU graduate students. Current enrollment for a semester/term starts with the first day of classes for a given semester/term, and extends until classes begin for the upcoming semester/term. A $10 fee for immediate service will be charged for all requests.

When ordering a transcript through the mail, include your full name, student ID number, birth date, first and last semester and years enrolled at WSU, complete information as to where to mail the transcript, your signature, and a check or money order for the appropriate amount ($5 per copy) payable to WSU. Mail the written request to:

Attention: Transcripts
Registrar’s Office
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0088

Withdrawal—Administrative

Administrative withdrawal may be initiated by the Graduate Dean for the following reasons:

1. The student's class attendance is so irregular that in the instructor's opinion full benefit cannot be derived from the course.
2. The student fails to withdraw from one or more classes by the official procedure given in the Wichita State University Schedule of Courses.
3. The student does not meet the conditions for enrollment in courses numbered 800 and above.
4. The student's behavior is prejudicial to Wichita State University.

Exceptions to Regulations

Departures from the rules and regulations stated in the Graduate Bulletin require the filing and approval of a Request for Exception to Graduate School Regulations form. Such requests must have the approvals indicated on the form and must state in a logical and coherent manner a rational basis for the requested exception. Forms for such requests are available from the Graduate School and graduate program areas and may be downloaded from the Graduate School Web site. Unusual and/or substantial deviations from stated rules and regulations require action by the Graduate Council.
Academics

Graduate Advisors
Various patterns exist for advising degree-bound graduate students. Some departments have a central plan for new graduate students, after which individual advisors are assigned. Other departments assign new graduate students to advisors early in their graduate program.

Students in nondegree status within a program area may also be assigned faculty advisors for consultation purposes. Course work taken without the advisor’s expressed approval is not automatically applicable toward a graduate degree.

In all instances, advisors should be familiar with Graduate School rules and regulations as well as program and department requirements. While graduate students have the primary responsibility to know the rules and regulations and to fulfill the program requirements for their graduate degree, advisors’ knowledge and expertise can assist students in their progress toward the degree.

An advisor assigned at the time of admission to a doctoral program will assist the student in completing initial tasks such as enrollment, coordination of examinations, submission of a Plan of Study, and the formation of a Supervisory Committee. Depending on individual department procedures, the advisor may chair an Advisory Committee which also will be involved in the advising activities above. It is possible for the advisor to be named as Chairperson of the Supervisory or Dissertation Committee.

Students with assigned advisors should consult their advisors for information on course prerequisites, content, and similar matters.

Graduate Courses
Courses carrying graduate credit are listed in the Graduate Bulletin. Only courses numbered 500 and above can carry graduate credit and only for students admitted to the Graduate School at the time of enrollment.

Courses numbered under 500 carry undergraduate credit only and may be taken as supporting or prerequisite courses, but may not be counted toward an advanced degree and are not computed in a student’s graduate grade point average.

Courses numbered 500 to 699 are aimed primarily at juniors and seniors, but graduate students may also receive graduate credit for these courses if the student was admitted to Graduate School prior to enrollment in the course. Some graduate programs do not allow courses numbered 500 through 699, which carry graduate credit, to meet degree requirements and students should be aware of such restrictions before enrolling. In such mixed classes, a discernably higher level of performance by graduate students is expected with the nature of this differential performance set by the professor.

Graduate students enrolling in such classes automatically earn graduate credit unless the professor requests the Graduate School to have the enrollment designated on the transcript as “undergraduate credit only.”

Courses numbered 700 to 799 are structured primarily for graduate students, but upper-division undergraduate students may be admitted if they meet course prerequisites. In such mixed classes, a discernably higher level of performance by graduate students is expected with the nature of this differential performance set by the professor. Graduate students enrolling in such classes automatically earn graduate credit unless the professor requests the Graduate School to have the enrollment designated on the transcript as “undergraduate credit only.”

Courses numbered 700-899 are designed primarily for Graduate I students (students who ordinarily have not accumulated more than 30 hours in a graduate program). Courses numbered 900-999 are designed primarily for Graduate II students (those who ordinarily have completed more than 30 hours in a graduate program).

Courses numbered 800 and above are restricted to graduate students only or undergraduate students approved for enrollment under the Senior Rule option.

In special cases, courses in areas where advanced degree programs are not currently available may carry graduate credit and apply toward an advanced degree in a related field or simply count as graduate credit for some nondegree purpose. Any of these courses applied toward an advanced degree program must have the approval of the student’s advisor and the chairperson of the department involved in advance of enrollment.

Grievance Procedures
The following statements are designed to provide guidance to graduate students in protesting an actual or supposed circumstance in which they feel they have been wronged.

Conflicts eligible for resolution under these procedures are restricted to academic matters other than grades. Disputes about grades are resolved through the Student Court of Academic Appeals.

These procedures do not include conflicts covered by other policies in the University.

Grievances can be initiated for circumstances which are within one year from the time of occurrence.

Steps in the process:
1. A student with a grievance should first consult with the faculty member of administrator perceived to be causing the circumstance which has resulted in the feeling of being wronged and attempt to resolve the conflict at that level.

2. Failure to resolve the conflict in the first step may lead to an appeal at the chairperson or college dean level, depending on who is perceived to be causing the circumstance. If available, the student should attempt to resolve the grievance through discussions with the department chairperson, college dean, or through utilization of departmental structures which may exist for this purpose.

3. If the student has exhausted the remedies provided in steps 1 and 2 without success, he/she should schedule a meeting with the Dean of the Graduate School or his/her designee (See Role of the Graduate Dean below). Grievances or appeals must be in writing.

Role of the Graduate Dean: The Dean of the Graduate School or his/her designee receives complaints or protests and decides whether to take direct administrative action to resolve the conflict or refer the grievance to the Graduate Council. A decision of the graduate dean may be appealed to the Graduate Council.

The decision of the Dean of the Graduate School on recommendations received from the Graduate Council is final.

Role of the Graduate Council: In addition to being the elected representative of the Graduate Faculty, the Graduate Council serves as the Committee on Exceptions in an advisory capacity to the Dean of the Graduate School. This responsibility may be discharged by the Council acting as a Committee of the Whole, through Subcommittees, or Ad Hoc Committees consisting of selected members of the Graduate Faculty and graduate student body.

Conclusions reached by the Graduate Council will be transmitted as recommendations to the Dean of the Graduate School.

The Graduate Council also serves as a Committee on Appeals if the student is dissatisfied with direct administrative action taken by the graduate dean. In such cases, the judgment of the Council is final.

Independent and Directed Study Courses
A primary goal of the Graduate School is to encourage independent scholarship. Thus, graduate students have many opportunities to engage in self-initiated independent study under the supervision of an individual member of the graduate faculty.

In addition to traditional titles, such as thesis, research project, internship, and practicum, various departments use independent study, special problems, directed readings, independent projects, directed study, and so forth to identify opportunities for individual study. The following requirements govern enrollment in independent study offerings:

1. Consent of the instructor must be obtained before enrollment.
Students admitted on probation are automatically placed in full standing if they attain a cumulative grade point average of at least 3.000 after the completion of 9 hours of graduate credit course work. Students placed on probation after admission are automatically returned to full standing if they attain a cumulative grade point average of at least 3.000 within 9 additional hours of graduate credit course work.

Dismissal

Students in any category may be dismissed from the Graduate School if they fail to maintain a grade point average of at least 2.000 in all work taken (including undergraduate courses) after admission. Students may be dismissed from their degree program or nondegree category A and placed in nondegree category B if they fail to attain a cumulative grade point average of at least 3.000 upon the completion of 9 graduate credits after admission on probation or placement on probation after admission.

Students also may be dismissed from a graduate degree program if, in the opinion of the graduate faculty offering the program, they are unable to carry on advanced work or make satisfactory progress toward the degree. Students dismissed for following academic dismissals, students who wish to be considered for readmission to Graduate School must first complete a minimum of 9 hours of upper-division, letter-graded course work, selected with appropriate assignment. These 9 hours cannot include repeat of courses for which graduate credit was previously earned. Such course work must be completed with a grade point average of 3.000 on a 4.000 scale or higher for the readmission application to be considered. Meeting this standard, along with both Graduate School and program-specific requirements, will permit readmission to a graduate program. Previously dismissed students are recommended for admission under this policy will enter on probation.

Repeats

Graduate credit courses in which grades of C or above are earned beginning fall 2001 may be repeated. Grades below C may not be used to satisfy degree requirements, but such grades earned beginning fall 2001 may be repeated. The last grade of record is used to determine a student's grade point average.

Satisfactory/Unsatisfactory Graded Courses

Certain approved courses that carry graduate credit are graded SU (Satisfactory/Unsatisfactory) for all students enrolled. Such courses are identified in the Schedule of Courses, or students enrolling in special offerings for graduate credit will be informed of the SU grading by the instructor if this system is to be used. Students wishing to transfer graduate course work graded SU to a degree program at another institution should, before enrolling, inquire of that institution's willingness to accept credit graded in this manner.

No more than 6 hours of work graded S may be used toward the requirements of a graduate degree.

Transfer of Credit from Another University

Students may transfer, with departmental approval, graduate credit from an accredited graduate school under the following conditions:

1. (a) The credit-offering institution is accredited by the cognizant regional accrediting association to offer graduate degree programs appropriate to the level of credit to be transferred; (b) the credit is fully acceptable at the other institution in satisfaction of its advanced degree requirement; (c) the credit is applicable in terms of content to the student's program of study at WSU, and must carry a minimum grade value of 3.000 on a 4.000 point scale. Grades lower than B-, including B-, will not be accepted.

2. Master's and specialist degree programs requiring fewer than 40 hours may include no more than one-third of the total hours or 12 hours whichever is greater, of graduate work completed at another accredited graduate school (exclusive of hours in a previous master's degree). Departments may require lower limits on transfer credit and therefore students should consult individual program descriptions. Doctoral, Master of Fine Arts (MFA), Master of Business Administration (MBA), and other more lengthy programs have special transfer credit allowances, as indicated in their program descriptions.

3. Doctoral programs may include a maximum of one-third of the course work hours required, exclusive of acceptable hours in a master's degree.

4. An official transcript containing the requested transfer work must be on file in the Graduate School. If such work is shown on the transcripts provided in support of the original admission to the Graduate School, no new record need be provided. Approval by the graduate degree program is necessary to ensure that the course work has been accepted as an integral part of the candidate's program. Students assume responsibility for initiating the request for transfer of graduate credit as part of their degree plan.

5. Transfer credit that is accepted must have been in courses started six years or less before the semester in which the degree work is completed.

Graduate credit work from another university which has been accepted for transfer is not transferred or entered on a Wichita State University transcript except for students completing degree programs, and only then after completion of all work for the degree, as defined on an approved Plan of Study.
Cooperative Education and Work-Based Learning Program

Cooperative education is an academic program for undergraduate and graduate students who wish to combine classroom studies with academically related employment by being placed in paid work experiences closely related to their academic majors. Cooperative education places students locally and nationally.

Enrollment in cooperative education courses for graduate credit can be made only through those departments who have an approved course numbered 781 and titled Cooperative Education. No other course titles such as independent study, special topics, and so forth can be used for cooperative education enrollment.

Graduate students desiring to participate in cooperative education classes should first consult with their major department and the Graduate School. The Cooperative Education and Work-Based Learning Program office is located in 223 Grace Wilkie Hall. The telephone number is (316) 978-3686.

Workshop, Extension, Correspondence Credit, and Credit by Exam

Workshops and extension graduate credit courses may be accepted for graduate credit as a part of a graduate degree program under the following conditions:

1. The work is approved by the major department.
2. The work is approved by the dean of the Graduate School.
3. The work is an integral part of a program planned by the candidate and the advisor and listed on an approved Plan of Study.

Graduate credit cannot be earned under a credit by examination program, and correspondence courses cannot be accepted for graduate credit.

Exceptions to Regulations

Departures from the rules and regulations stated in the Graduation Bulletin require the filing and approval of a Request for Exception to Graduate School Regulations form. Such requests must have the approvals indicated on the form and must state in a logical and coherent manner a rational basis for the requested exception. Forms for such requests are available from the Graduate School and graduate program areas and may be downloaded from the Graduate School Web site. Unusual and/or substantial deviations from stated rules and regulations require action by the Graduate Council.
Degree and Certificate Completion

Commencement

WSU holds two commencement ceremonies each year, one in December and one in May. All baccalaureate and master’s degree candidates for spring ceremonies are eligible to participate in the May ceremony and all baccalaureate and master’s degree candidates for the fall semester are eligible to participate in the December ceremony. Baccalaureate and master’s degree candidates for the summer semesters are eligible to participate in either the preceding May or following December ceremony. Doctoral degree candidates are eligible to participate in their commencement ceremony held in the semester during which they complete their degree requirements (May or December). Doctoral candidates who complete their program during the summer semesters are only eligible to participate in the following December ceremony.

Diplomas are available for distribution approximately one month following the close of a given semester. All degree recipients may obtain their diplomas from the Registrar’s office. Diplomas will be mailed from that office upon a written request that includes the name and student identification number of the degree recipient, the complete address where the diploma is to be mailed, and a copy of the degree recipients’ driver’s license or Shocker ID card.

Committee Structure

Committees for program completion exams are recommended by the major department and approved by the dean of the Graduate School. Each committee must include at least three members chosen from the graduate faculty.

In master’s programs, final oral examinations are required of all students presenting theses or research projects. Thesis committees include a minimum of three and a maximum of five voting members. Voting members are full or associate faculty or people from outside the faculty judged to have exceptional competence in the field of research covered in the thesis and who have been approved by the dean of the Graduate School.

In doctoral programs, the Supervisory (Dissertation) Committee is composed of a minimum of five graduate faculty, with at least four having full membership, including the chairperson who also must have authorization to chair doctoral committees. At least one member, the graduate dean’s representative, must be from an academic department outside the major department.

Credit Required

All master’s degrees require a minimum of 30 credit hours of graduate credit work, including 18 hours in courses numbered 700 and above, excluding workshops. Some programs require more than 30 credit hours, in which case at least 60 percent of the courses must be numbered in the 700 level or above, excluding workshops.

The total number of hours for the doctoral degree varies with the major department offering the program, including the division between course work and dissertation hours. At least 60 percent of the hours beyond the master’s degree must be in courses numbered 800 and above. Specific program requirements are listed in the individual department’s section of the Graduate Bulletin.

Concentrations in Graduate Programs

Concentrations, consisting of 9-12 credit hours, are offered within existing degree programs where the 9-12 credit hours constitute a coherent academic topic or theme. The concentration may include required and/or elective courses as long as the listing of elective courses (from which the concentration courses are selected) forms a coherent academic topic or theme.

The Graduate Council and the graduate dean must approve concentrations. Once approved, the program area may 1) use the word “concentration” in their publications and 2) have the concentration identified on the student’s transcripts and diplomas (for example, Master of Accountancy/Taxation).

The graduate Plan of Study, filed with the Graduate School, must specify the name of the concentration and the courses to be taken as concentration courses.

Certificates in Graduate Programs

Students completing the requirements for a Graduate Certificate program must submit the Graduate Plan of Study form and the Application for Degree Form no later than the 20th day of the fall or spring semester or the 10th day of the eight-week summer term when certificate completion is anticipated.

The Graduate Plan of Study is prepared in conjunction with the advisor of the Graduate Certificate program area and is forwarded to the Dean of the Graduate School. Graduate department offering Graduate Certificates should have a process for knowing who is completing certificate work. Certificate advisors are expected to inform students that a plan of study and certificate degree card is required according to the above guidelines.

Degree Application

An Application for Degree card must be filed with the Graduate School within four weeks (20 class days) after the beginning of any fall or spring semester in which students plan to finish all requirements for the degree.

Students planning to graduate at the end of the Summer Session must file an Application for Degree card within two weeks (10 class days) after the beginning of the regular eight-week session or if they plan to enroll for the second four-week session only. In the latter case, the degree card must be filed by the second week with an indication of intent to enroll for the second four weeks.

If, after a student files a degree card, the degree is not completed, a new card must be filed within the time frame just described for the semester in which requirements for the degree are again expected to be completed.

Failure to meet these deadlines will result in a delay in graduation and in the awarding of the diploma. In these cases, if all work is completed and reported to the Graduate School, students need not enroll for the following semester.

Examinations

Preliminary examinations are administered by several departments to determine students’ qualifications for further graduate study. Qualifying and/or comprehensive examinations are required in all doctoral programs. The candidate passes if no more than two negative votes are cast in a five-member committee.

Most master’s programs also require written or oral comprehensive examinations. The candidate passes if no more than one negative vote is cast in a three-member committee.

Candidates should refer to the appropriate department’s section of the Bulletin or consult with the department for additional information about exams.

Plan of Study

In order to officially define a program of study for a graduate degree, students must submit the Plan of Study form leading to admission to candidacy. The proposed plan identifying the completion option must be on file in the Graduate School office no later than the 20th day of the fall or spring semester, or the 10th day of the eight-week summer term, during the semester of graduation. Program deadlines for submitting the Plan of Study may be earlier.

Students must meet the program requirements in effect at the time the Plan of Study option is officially approved. It is recommended, therefore, that the Plan of Study completion form be submitted as soon as possible for master’s students and by the end of the semester of completion of qualifying examinations for doctoral students.

A Plan of Study, the advisor, and all members of the examination committee prepare the Plan of Study (and advise of any changes) prior to the Graduation Examining Committee meeting. The Plan of Study must be approved by the Graduation Examining Committee.

The program and examinations for the Degree Certificate program are as described in the Graduate School. Students must meet the requirements for the Degree Certificate program in order to complete the program.

More extensive information on filing a new application is provided in the Bulletin.

Failure to enroll for a Plan of Study submission results in a loss of credit.

Progression

Degree-seeking students who are not expected to complete their degree or certificate within the time limit of nine years are not permitted to take academic actions by themselves.

Students who fail to make official progress in their degree or certificate program as defined by the Graduate School office are subject to dismissal. Graduation deadlines are posted in the Graduate Bulletin.

Residency

Doctoral students continue to meet residency requirements.

Time Limits

Courses for which a student elects to complete a program.

For doctoral students, a Plan of Study must be completed after the fall semester. For master’s students, a Plan of Study must be completed after the spring semester.
A Plan of Study is developed in conjunction with the advisor and signed by the candidate, the advisor (and advisory committee members, if applicable), the chairperson of the major department, and the dean of the Graduate School. All academic work completed and planned for the degree must be included in the Plan of Study at the time of submission.

The process of filing an acceptable Plan of Study is not completed until the student has received a Degree Check Sheet of the plan from the Graduate School. If the Degree Check Sheet has not been received approximately three weeks following submission, students should check with the Graduate School office.

Students may make changes to the Plan of Study that are necessary because of enrollment problems or other circumstances by submitting the Plan of Study form and showing only the necessary revisions. More extensive changes may be accomplished by filing a new Plan of Study marked “revised plan.” Failure to meet the deadline for filing an acceptable Plan of Study may result in a delay in graduation or loss of credit planned for use in the program.

**Progress**

Degree-seeking graduate students and students completing graduate certificate programs are expected to make satisfactory progress toward their degree or certificate in a timely manner (six-year time limit for master’s and specialist degrees; six to nine years for doctoral degrees). Some departments take action to dismiss students who absent themselves for periods of a year or more.

Students who complete graduate degrees at Wichita State University are transferred to nondegree, category A, status in the academic field of their graduate degree which allows continued enrollment for graduate credit at WSU. Should such students desire to undertake a new academic program or change advising areas, a new application for admission to the desired area of work in the Graduate School must be filed with the Graduate School office.

**Residency Requirement**

Doctoral students are required to spend at least two continuous semesters (summer excluded) as a full-time student.

**Time Limits**

Courses started more than six years before the semester in which the master’s degree work is completed may not be used as part of a degree program. For doctoral programs requiring a master’s degree for admission, the doctorate must be completed within six years from the effective date of admission. In those programs permitting admission directly after the bachelor’s degree, the doctorate must be completed within nine years after the semester of admission.

In cases where the above time limits are exceeded and in which the student desires to have such courses count toward degree completion, the outdated course must be validated or substituted with a course within the time limits, or a Request for Exception to Graduate Regulations must be filed and approved to waive the time limits for the course in question. To have courses validated, students must submit a Validation Request Form to the Graduate School for validation approval. The instructor must identify on the form the process that will be used to certify B or better performance by the student.

Transfer courses and work that originally received a grade of C or below may not be validated. Courses completed 10 or more years before the degree is granted, even if previously validated, may not be used to meet degree requirements.

**Thesis or Research Credit**

When a thesis is part of a student’s master’s degree program, and for all doctoral students, thesis or dissertation or research project credit must show on their graduate transcripts. The transcript will normally carry the grade of I (incomplete) until the thesis or dissertation is completed and the student has met the requirements of the supervisory committee and the Graduate School. An S (satisfactory) or grade of B or better is required for an acceptable thesis/dissertation. Thesis or dissertation hours in excess of the minimum required for the degree will be graded S.

Students writing a thesis or dissertation or engaged in research must be enrolled in courses entitled Thesis, Dissertation, or Research each semester in which they receive advice, counseling, or research direction from their advisors. This includes the semester of graduation unless all degree requirements are met prior to the first day of classes of the semester of graduation. Enrollment is for the number of hours that accurately reflects demands of the students on University faculty and facilities.

**Thesis Preparation**

Three copies of the thesis/dissertation must be bound on white 8 1/2 x 11 inch paper. All copies must be on acid-neutral, 20-24 weight bond with a minimum rag content of 25 percent. Digital materials that are considered a part of the document must be included in a pocket attached by the binding to the inside back cover.

The Graduate School will transmit two copies of the document to the University Library. The third bound copy will be presented by the student to the academic department that supervised the work.

For additional information about the preparation of the thesis, the student is referred to the Graduate School publication, Guide to the Preparation of Theses and Dissertations, which can be purchased in the WSU Bookstore.

**Tool or Language Requirements**

The Graduate School has no overall tool or language requirements, although such requirements have been established by some departments. Students should consult an individual department’s section of the Graduate Bulletin for information regarding such requirements.

Any tool subject (e.g., foreign language, computer programming, statistics, etc.) required by the major department must be identified in the student’s Plan of Study. The completion of this tool is not required prior to submission of the Plan of Study but is required prior to graduation.

**Supplementary Degree Program Regulations**

1. To pursue a graduate degree at Wichita State, students must be admitted to the specific program for which they are seeking a degree. Students may not be admitted to more than one graduate degree program at a time.

2. To remain in good standing in a graduate degree program, students must maintain a grade point average of at least 3.00 in all courses on the student’s WSU Plan of Study (excluding transfer work) and for all graduate work taken at WSU. Grades below C may not be used to satisfy degree requirements, but such grades earned, beginning Fall 2001, may be reported.

Demonstrated suitability for professional practice, as determined by faculty, is also a consideration for remaining in good standing in graduate programs leading to advanced certificates or other endorsements indicating advanced professional practice or achievement.

3. Upon the advice and consent of the major department, a maximum of 6 semester hours of work in one earned master’s degree program may be applied to a second master’s degree. Such hours must meet the time limit requirement.

4. No more than 6 hours of independent study course work (excluding dissertation, thesis, and other independent study activities that are terminal requirements for a degree) can be used in a degree program.

5. Master’s and specialist degree programs requiring fewer than 40 hours may include no more than one-third of the total hours or 12 hours whichever is greater of graduate work completed at another institution accredited to offer graduate degree programs (exclusive of hours in a previous master’s degree). Departments may require lower limits on transfer credit and, therefore, students should consult individual program descriptions.

Doctoral, Master of Fine Arts (MFA), Master of Business Administration (MBA), and other more lengthy programs have special transfer credit allowances, as indicated in their program descriptions.

6. Transfer credit that is accepted must have been in courses started six years or less before the semester in which the degree work is completed.
7. Graduate students must be enrolled in the semester of graduation unless all degree requirements are met and reported to the Graduate School prior to the first day of classes of the semester of graduation.

8. Doctoral students are required to spend at least two continuous semesters (summer excluded) as a full-time student.

9. Faculty members of Wichita State University who hold the rank of assistant professor or higher cannot earn graduate degrees from Wichita State except for unassigned faculty (not attached to a particular college) or faculty members granted specific approval by the Graduate Council. Full-time faculty members may not pursue more than 6 hours of graduate credit per semester.

Exceptions to Regulations
Departures from the rules and regulations stated in the Graduate Bulletin require the filing and approval of a Request for Exception to Graduate School Regulations form. Such requests must have the approvals indicated on the form and must state in a logical and coherent manner a rational basis for the requested exception. Forms for such requests are available from the Graduate School and graduate program areas and may be downloaded from the Graduate School Web site. Unusual and/or substantial deviations from stated rules and regulations require action by the Graduate Council.
Financial Opportunities

Students wishing to be considered for assistantships, fellowships, scholarships, or other forms of financial awards should indicate their interest to their graduate coordinator or department chair as soon as possible after notification of admission.

Students admitted on probation or placed on academic probation following admission are not eligible for assistantship or fellowship awards.

Assistantships

Each year Wichita State University awards a number of assistantships for advanced study. Grants are made in most departments offering advanced degrees. Assistantships are awarded primarily on the basis of a student's academic record and demonstrated teaching, research, and leadership abilities, together with any other available supporting evidence.

Students must be admitted to a degree program in either full standing or conditional status. Students admitted on probation or placed on academic probation following admission are not eligible for assistantship awards. Undergraduate students admitted under the Senior Rule option are not normally considered for assistantship awards.

Recipients of a full-time graduate assistantship may not hold appointments totaling more than 20 hours per week and may not hold other WSU remunerative employment without the written approval of the department chairperson and dean of the Graduate School.

A graduate teaching assistantship may qualify the recipient for up to a 100 percent waiver of tuition. Graduate students must provide service from the 20th day of the semester through the remainder of the semester to be eligible for the non-resident tuition waiver. Only courses numbered 500 and above are eligible for full or partial waiver of in-state tuition for graduate teaching assistants.

Potential applicants for graduate teaching assistantships who are non-native speakers of English must first attain a score of 50 or above on the Test of Spoken English (TSE)/SPEAK. The department chair or graduate coordinator should be contacted for further information. The actual dollar amount of an assistantship varies according to the length of the appointment, the number of hours worked per week, and the funding base within each department. At Wichita State University, assistantships for 20 hours of work per week for a nine-month period range from $5,000 to $12,000.

Graduate students holding assistantships during a fall or spring semester are expected to enroll in at least 9 credit hours of coursework. Exceptions to allow graduate assistants to be enrolled in 6-8 hours may be approved by the department where the student holds admission. Special consideration for thesis and research enrollments may be obtained by petitioning the Graduate School.

Fellowships

Fellowships are awarded to a limited number of graduate students in good academic standing who are admitted to a program of study leading to a doctoral degree and to certain programs at the master's level. Awards are made primarily on the basis of the academic achievement and potential of the student as a degree candidate. Credentials including transcripts of all previous academic work, scores on national or local exams, experience related to the field of study, and evaluations by former teachers, advisors, or employers are used in determining the awards. Selections are made on a competitive basis without regard to race, creed, sex, or national origin and are generally announced by April 15 for the following fall. Award amounts are determined by the individual program area.

Students desiring a listing of departmental graduate assistantships, fellowships, and scholarships are encouraged to obtain a copy of the Graduate School publication, Financial Opportunities for Graduate Students, or to contact the program area of their interest.

General Awards

The Graduate School oversees and distributes general awards and certain fellowships activities as described below. Inquiries about these awards and additional eligibility requirements should be made to:

Graduate School
107 Jardine Hall
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0004
Phone: (316) 978-3095
E-mail: gradinfo@wichita.edu

Dora Wallace Hodgson Outstanding Graduate Student Awards

Established through a donation to the WSU Foundation from the Dora Wallace Hodgson estate, awards are given annually for the following categories: Outstanding Doctoral Dissertation, Outstanding Master's Thesis, Outstanding Doctoral Student, Outstanding Master's Student, and Outstanding Master's Non-Thesis Award. Students nominated for any of the Dora Wallace Hodgson Awards must meet general eligibility requirements including good standing in a degree-bound program, nomination by a faculty member, and approval by the Graduate School awards committee and Associate Dean of the Graduate School.

Michael P. Tilford Graduate Fellowship

The Michael P. Tilford Graduate Fellowship, established in memory of former WSU Graduate School Dean Michael P. Tilford, is awarded to a currently enrolled full-time graduate student in good academic standing in any graduate degree program.

Preference is for a minority student who is a U.S. citizen. Financial need is also considered. Deserving students are nominated by faculty.

Dr. Laiten L. and Verna Nye Camien Fellowship

The Dr. Laiten L. and Verna Nye Camien Fellowship is awarded to a fully admitted graduate student in good academic standing in a graduate degree program in social science, foreign language, or education. Deserving students are nominated by faculty.

WSU Foundation and City of Wichita Assistantships

In addition to the regular teaching and research awards, a number of graduate assistantships are provided by Wichita State University Foundation and from the City of Wichita and Sedgwick County mill levy funds. These awards require full-time study or a combination of research assistance and study equivalent to full-time study. The awards are made in graduate program areas judged to have a special need for graduate student support and are based primarily upon a student's academic record, experience, and other available supporting evidence. All such awards are made by the graduate dean upon recommendation of the selected departmental chairpersons and may include programs at both the master's or doctoral program level.

Educational Opportunity Fund

Funds are provided by the Student Government Association from student fees for new and continuing part-time students with financial need. Tuition awards are made contingent on annual funding to full-standing degree-bound students who are enrolled in at least 3 hours but not more than 8 hours, and who qualify for financial assistance. Applications are due by the first Monday in June for fall; first Monday in October for spring. A financial statement form is part of the application.

Research Fellowships

Delano Maggard, Jr., Graduate Research Grant

The Maggard Research grant supports graduate students in their pursuit of independent research and investigation in their field of major interest. Funds are provided through the WSU Foundation, Delano Maggard, Jr. endowed account.

Applicants must be in full-standing in a degree program. Applicants must be enrolled in the semester prior to the semester of award and show satisfactory academic progress in course work related to the proposed course of study. Applications are due by the first Monday in October for fall; first Monday in February for spring.
The Robert and Darlene Anderson Fellowship
The Robert and Darlene Anderson Fellowship is awarded to a school nurse pursuing graduate study in any graduate program. The award is made without regard to financial need and may be renewable based on satisfactory academic progress.

Special Research Fellowships
Special Research Scholarships encourage research among graduate students and recognize their superior achievement by providing financial support to students who present the results of their scholarly research at professional meetings and conferences.

Applicants must be in good academic standing, have a comprehensive Plan of Study on file with the Graduate School, and submit documentation that the presentation has been accepted for presentation at a professional meeting. One award per student per calendar year may be considered. The application deadline is ongoing, but the application must be received in the Graduate School office four weeks prior to the presentation.

Dora Wallace Summer Research Award
The Dora Wallace Summer Research Award provides one-time summer support for master’s and doctoral candidates enrolled in at least 1 hour of research courses. Nominations are accepted from faculty advisors with awards made upon availability of funds. Programs will be notified of fund availability on an annual basis.

Need-Based Financial Aid
WSU’s Office of Financial Aid helps graduate students secure federal and state financial aid on the basis of need. Need is the difference between the cost of education—which includes tuition, fees, room, board, books, supplies, and other expenses—and the amount the student and their family can afford to pay.

The amount the student and their family can pay is the Expected Family Contribution. The Expected Family Contribution is determined by evaluating the information provided on the financial aid application submitted to the government. The federal processing agency considers income, assets, family size, and the number in family attending college to determine the need for aid.

The first step in applying for these programs or loans is to complete a financial assessment form and to request the results be sent to the Wichita State University Office of Financial Aid. If need-based financial aid is required, the Graduate School strongly recommends that the completed application for admission to Graduate School is received in the Graduate School by February 1 for the following fall semester. Graduate students admitted on probation or placed on academic probation following admission are not eligible for need-based financial aid.

Application Deadlines
To ensure federal aid is processed before the end of the semester, please adhere to the schedule below. Financial aid applications and all required documents must be in the Office of Financial Aid by the dates below.

<table>
<thead>
<tr>
<th>Enrollment Period</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Spring</td>
<td>November 1</td>
</tr>
<tr>
<td>Summer</td>
<td>April 1</td>
</tr>
<tr>
<td>Fall</td>
<td>March 15</td>
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Work Opportunities
The Kansas Career Work-Study Program is administered by Wichita State’s Office of Cooperative Education and Work-Based Learning Program. This state-funded program increases the number of off-campus jobs available to students. Besides earning money to help with graduate school expenses, graduate students also earn academic credit and gain practical degree-related experience. The earnings from a work-study program are figured into the total financial assistance package.

Many graduate students also participate in the University’s Cooperative Education and Work-Based Learning Program. In this program, students work at the local, state, or national level in a well-paying job that complements their academic field of study. Students earn academic credit while learning degree-related skills and earn money to support their graduate studies.

Exceptions to Regulations
Departures from the rules and regulations stated in the Graduate Bulletin require the filing and approval of a Request for Exception to Graduate School Regulations form. Such requests must have the approvals indicated on the form and must state in a logical and coherent manner a rational basis for the requested exception. Forms for such requests are available from the Graduate School and graduate program areas and may be downloaded from the Graduate School Web site. Unusual and/or substantial deviations from stated rules and regulations require action by the Graduate Council.

Student

Students are expected to:
1. To consult the catalog for information pertaining to registration.
2. To obtain information about courses and changes in curricula from the Graduate School bulletin.
3. To attend classes and participate fully in the beginning and end of each semester.
4. To fulfill all academic requirements.
5. To be advised regularly by their faculty advisor or department head.
6. To file the Graduate Bulletin within the first two weeks of the first week of the fall and spring semesters.
7. To earn the stated grade point average and maintain satisfactory academic standing.
8. To complete and submit all required documents and reports by the specified due dates.
9. To attend all meetings and complete all assignments.
10. To submit all required reports and documentation.
11. To maintain a cumulative grade point average of at least 3.0 on a 4.0 scale.
12. To keep their advisor notified of any problems or changes in plans.
13. To maintain good standing in their academic program.
14. To obtain permission before taking any courses outside the University.

The National Institute for Aviation Research, located on the main campus, is one of the University's research and instructional facilities. Graduate students have opportunities to use the equipment in all laboratories for their research projects.
General University Policies

Human Relations

Notice of nondiscrimination. Applicants for admission and employment, students, parents, and employees are hereby notified that Wichita State University does not discriminate on the basis of race, religion, color, national origin, gender, age, marital status, sexual orientation, status as a Vietnam-era veteran, or disability in admission or access to, or treatment or employment in, its programs and activities. Any person having inquiries concerning Wichita State University’s compliance with the regulations implementing Title VI, Title IX, or Section 504 is directed to the Office of Equal Employment Opportunity, Wichita State University, 1845 Fairmount, Wichita, Kansas 67260-0145. The Office of Equal Employment Opportunity has been designated by Wichita State to coordinate the institution’s efforts to comply with the regulations implementing Title VI, Title IX, Section 504, and Americans with Disabilities Act. Any person also may contact the Assistant Secretary for Civil Rights, U.S. Department of Education, regarding the institution’s compliance with these regulations. The WSU Graduate Bulletin is available in other formats. Inquiries should be addressed to the Office of Disability Services.

Student Responsibility

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

Students also should comply with the principles in the following statement:
Wichita State University reaffirms the principle of intellectual freedom in scholarly activity for University students, and it recognizes the full citizenship rights of students in inquiry, discussion, and such actions as they may choose to take on public issues.

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

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

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

Academic Honesty

Opportunities for learning at Wichita State University involve the students’ rights to express their views and to take reasoned exception to the views of faculty; to examine all questions felt to be inappropriate 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 discernment toward faculty or fellow students.

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

Access to Records (Privacy Law)

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

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

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

Within the Wichita State University community, only those members, individually or collectively,
acting in the students’ “legitimate educational interests” are allowed access to student education records. These members include personnel in the offices of Admissions, Registrar, Controller, Computing Center, Dean of Students, Financial Aid, Career Services, Cooperative Education, Planning, Testing, Library, College deans, academic advisors, and other administrative and academic personnel within the limitation of their need-to-know. “Legitimate educational interests” means 1) the information or records requested is (are) relevant and necessary to accomplishment of some task or determination; 2) the task or determination is an employment responsibility for the inquirer or is a properly assigned subject matter for the inquirer’s employment responsibility. Social Security number and student status data may be provided to other state agencies for use in detection of fraudulent or illegal claims against state monies.

Public Notice Designation

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

Wichita State University hereby designates the following student information as public or “Directory Information.” Name, address(es), telephone number(s), dates of attendance, classification (freshman, sophomore, etc.), courses load (full-time, half-time, less than half-time) class type (day, day/anything, weekend only) previous institution(s) attended, major field(s) of study, awards, honors (includes Dean’s list), degrees conferred (including dates), past and present participation in officially recognized sports and activities, physical factors (height, weight of athletes). Currently enrolled students may withhold disclosure of “Directory Information” (on an all or none basis) to non-institutional persons or organizations. You have an option to protect your privacy and not have such information as your address and telephone number released. Forms requesting the withholding of this information are available in the Registrar’s Office, 117 Jardine Hall, and are returned to that office. Otherwise, the University assumes that you approve of disclosure of that information. The completed form must be received at the Registrar’s Office by the end of the second week of the fall semester if you do not want to be included in the Campus Directory, which is published each fall and which is available to people outside WSU. Requests to withhold “Directory Information” must be filed annually. Other than the Campus Directory, the University does not give or sell lists of students to private companies.

Family Educational Rights and Privacy Act

1. Definitions

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

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

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

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

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

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

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

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

(5) Employment records of any person if maintained in the normal course of business and used only for purposes relating to the employment, unless the person is employed at the University only because of her/his status as a student (that is, student hourly). In such cases, student employment records are education records but are to be maintained separately from other education records.

E. Legitimate Educational Interests: the interests of University personnel who have a demonstrably legitimate need to review records in order to fulfill their official professional responsibilities. Such responsibilities must involve the University in its primary educational and scholarly functions and/or secondary administrative functions of maintaining property, disbursing funds, keeping records, providing living accommodations and other services, sponsoring activities, and protecting the health and safety of persons or property in the University community. If a question arises concerning the legitimacy of a request to review records, such question shall be referred to the Vice President for Student Affairs.

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

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

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

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

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

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

2. Student Access to Education Records

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

B. The student has the right to a reasonable request for explanation of the records and to copies of the records where necessary to provide full inspection and review. Such copies will be provided at the student’s request and expense; however, the charge to the student for any such records may not exceed $25 per page. The University may not charge a fee to a search for or retrieve a record. If any question arises to the identity of the holder of the records, the student shall be notified of the identity of the holder.

D. The University will not inspect the following records:

(1) Final examination written answers

(2) Counseling and testing information

(3) Records containing medical information

(4) Records containing information about an individual that is entirely confidential and that the student specifically requests the University not inspect

E. An individual who is denied access to the the University a written statement

(1) The name, address, and telephone number of the person requesting the access

(2) The basis for the denial

(3) The right to appeal the decision

3. Waiver of Rights under FERPA

The University, its students, and student employees may waive the rights of a student to inspect and review his or her educational records. Agreements to waive rights must be in writing and signed by the student. Waivers may include:

(1) The name, address, and telephone number of the person to whom the waiver is given

(2) The reason for the waiver

(3) The period of time the waiver is in effect

All waivers must be executed by the student or by the student’s legal guardian and must be in writing. Waivers are subject to the information available in the Federal Regulations.
to the identity of the requesting student, the student shall be asked to provide his or her University identification card and/or other positive identification.

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

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

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

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

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

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

3. Waiver of Rights

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

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

Waivers may be made with respect to specified classes of education records and/or persons or institutions. The student may revoke any waiver in writing, the revocation to apply only to documents received or entered into the record after the date of execution of the revocation.

4. Disclosure of "Personally Identifiable" and "Directory" Information

The University shall obtain the written consent of the student before disclosing personally identifiable information from the education records of a student, other than directory information, except as otherwise provided in this policy.

The University may, without the consent of the student, disclose directory information, as described earlier.

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

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

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

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

5. Release of a Student's Grades

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

6. Notice to Third Parties

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

7. Providing Copies of Disclosed Records

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

8. Destruction of Records

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

9. Maintaining Records of Request and Disclosures

The University shall maintain records of requests and disclosures of personally identifiable information from a student's education record. The record shall include, whether requests are granted or not, the name(s) of the person(s) who requested the information and their legitimate interests in the information. Records of requests and disclosures will not be maintained: (1) for requests made by the student; (2) for requests for which the student has given written consent; (3) for requests made by school officials with legitimate educational interests; (4) for requests for directory information.
federal and state officials who have been given permission to access by the vice president for student affairs.

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

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

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

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

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

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

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

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

11. Complaint Procedure

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

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

Offender Registry

Law enforcement agency information concerning registered sex offenders who are employed by or who are currently enrolled at Wichita State University may be obtained from the University Police Department. This information is made available to the campus community pursuant to the requirements of the Campus Sex Crimes Prevention Act. Further information on any registered offender can be obtained from the Kansas Bureau of Investigation or the sheriff's office in the registrant's county of registration.

Accident or Injury

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

Safety

Campus safety is a priority at Wichita State, and based on FBI statistics reported by universities nationwide, WSU is one of the safest campuses of its kind in the state and nation. Our well-lit campus and parking lots are regularly patrolled by WSU police officers and student cadets. Beginning at 5:30 p.m., the University provides shuttle bus service from residence halls to the academic buildings, and student cadets are available to escort students in the evening. In case of emergencies, phones (designated by a blue light at the top of the pole) with direct access to the campus police station are strategically placed around the campus.

Campus crime statistics are reported in the Schedule of Courses and on the Web. Contact the Campus Police Department at (316) 978-3450.

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

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

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

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Accident or Injury

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

Safety

Campus safety is a priority at Wichita State, and based on FBI statistics reported by universities nationwide, WSU is one of the safest campuses of its kind in the state and nation. Our well-lit campus and parking lots are regularly patrolled by WSU police officers and student cadets. Beginning at 5:30 p.m., the University provides shuttle bus service from residence halls to the academic buildings, and student cadets are available to escort students in the evening. In case of emergencies, phones (designated by a blue light at the top of the pole) with direct access to the campus police station are strategically placed around the campus.

Campus crime statistics are reported in the Schedule of Courses and on the Web. Contact the Campus Police Department at (316) 978-3450.
W. Frank Barton School of Business

Office: 100 Clinton Barton
John M. Beehler, dean
James Clark, associate dean
Dianne Coleman, assistant dean, undergraduate student support
James Wolff, associate dean, graduate studies

School of Accountancy, (316) 978-3215—Bill D. Jarnagin, director

Departments
Economics, (316) 978-3220—Jen-Chi Cheng, chairperson
Finance, Real Estate, and Decision Sciences, (316) 978-3219—Sue Abdinnour-Helm, chairperson
Management, (316) 978-3214—Steven M. Farmer, chairperson
Marketing and Entrepreneurship, (316) 978-5367—Dean E. Headley, chairperson

Graduate Faculty

School of Accountancy
Professors: Paul D. Harrison, Bill D. Jarnagin (director), Phillip T. May
Associate Professors: Jeffrey J. Bryant, Richard Allitzer, Steven A. Harrast, Jeffrey J. Quirin, Michael Flores

Economics
Professors: Dong W. Cho, Philip L. Hersch, Martin M. Perline
Associate Professors: Jen-Chi Cheng (chairperson), James E. Clark, Maurice Pfannstedt
Assistant Professors: Jodi Messer, William Miles

Finance, Real Estate, and Decision Sciences
Professors: Mohammad Dadashzadeh, Ace Abidinnour-Helm (chairperson), Richard L.B. LeCompte, Stanley Longhofer
Assistant Professors: Mehmet Barut, John Conlee, Timothy Craft, Stephen Henry, Achita Nath, Patrick Arroyo

Management
Endowed Professor: Gerald H. Graham (R.P. Clinton Distinguished Professor of Management, occupies the R.P. Clinton Endowed Chair of Management)
Professor: Dharma deSilva
Associate Professors: Nancy A. Bereman, Steve Farmer, John M. Maslyn, Kimberly Merriman, James A. Wolff (associate dean and director, graduate studies)
Assistant Professors: Sam Beldona, Edith Busija, Timothy Pett

Marketing and Entrepreneurship
Professor: Charles L. Martin
Associate Professors: Vincentia Claycomb, Donald W. Hackett (director, Center for Entrepreneurship), Dean E. Headley (chairperson), Frederick B. Kraft, Terry Noel, Stephen Porter, Robert H. Ross

The mission of the W. Frank Barton School of Business is to prepare individuals to be business leaders in the global entrepreneurial marketplace. In this effort, we will:

- provide quality undergraduate, graduate, and professional educational programs in business that encourage lifelong learning;
- engage in scholarly research to develop business and economic knowledge and enhance its applications; and
- practice good citizenship by serving our constituencies and the University community.

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

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

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

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

Faculty: Faculty are the means by which the University creates a learning environment. The quality of the faculty and the opportunities provided to faculty for continuous improvement are of paramount importance to the success of the Barton School.

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

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

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

The school is accredited by AACSB-International, The Association to Advance Collegiate Schools of Business.

Graduate degree programs in the school lead to the Master of Business Administration (MBA), Master of Accountancy (MACC), Master of Science (MS) in business, and the Master of Arts (MA) in economics.

Programs:

Master of Accountancy

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

The School of Accountancy recognizes students need differing technical requirements to enter a diverse work environment. Starting fall 2002, two specialized concentrations are offered to complement the traditional emphasis: Accounting Information Systems (AIS) and Taxation. The AIS concentration satisfies students' need for increasing technical competence in the area of accounting systems analysis and development, and implementation. The taxation concentration focuses on advanced issues in taxation, including the area of research.

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 graduate coordinator of the School of Accountancy to learn the approximate length of time it would take to earn the degree. For example, if your bachelor's degree is in accounting, then basically you would have one more year of full-time study to obtain the MACC degree.

Admission Requirements

Admission to the MACC professional curriculum is available to (1) qualified students who have not yet completed a bachelor's degree, and (2) qualified students who have completed a bachelor's degree (not necessarily in business or accounting) from an accredited college or university.

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

1. Completion of the preparatory 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 on the last 60 hours plus the GMAT score.

Students who meet all the requirements above, except for not having no less than 9 hours of preparritional curriculum, may be admitted on a conditional basis. These 9 hours must be completed in the first semester following conditional admission or as soon thereafter as the school scheduling permits.

Students holding a bachelor’s degree in any field (not necessarily business or accounting) from a regionally accredited institution may be admitted to the School of Accountancy if they meet the minimum scholastic requirements (a total of 1,100 points based on the formula of 200 times the overall grade point average on the last 60 hours plus the GMAT score or a total of 1,050 points based on the formula of 200 times the overall GPA plus the GMAT score). They will be expected to take courses covering any portion of the preparitional curriculum for which they have not had an equivalency as soon as practicable.

All students are required to meet with the School of Accountancy’s graduate advisor prior to beginning course work.

Probationary Admission—All Students

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 MACC program requirements and have the potential for a successful career in professional accounting.

Degree Requirements

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

Preparitional Curriculum

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

1. The candidate must complete the general education requirements for Wichita State University, plus additional nonbusiness courses for 63 semester hours. Students planning to sit for the CPA exam are encouraged to take an upper-division economics course as part of the nonbusiness courses. The following courses are specifically required by the School of Accountancy and may be counted within this 63 hours:

Courses Hrs.
ECON 201Q, Principles of Macroeconomics ..........3
ECON 202Q, Principles of Microeconomics ..........3

ECON 231, Introductory Business Statistics ..........3
ECON 232, Statistical Software Applications ..........3
COMM 111, Basic Public Speaking .....................3
ENGL 210, Composition: Business, Professional, and Technical Writing ..........3
MATH 111, College Algebra ..................................3
MATH 114, Business Calculus .........................3

2. The candidate must complete a minimum of 24 hours of the following Barton School of Business Core requirements:

Courses Hrs.
ACCT 210, Financial Accounting ....................3
ACCT 220, Managerial Accounting ..................3
ACCT 260, Introduction to Information Processing Systems ...........................3

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

Courses Hrs.
Preparitional Accounting Core
ACCT 310, Financial Accounting and Reporting: Assets .........................3
ACCT 320, Accounting for Decision Making and Control .........................3
ACCT 410, Financial Accounting and Reporting: Equities .........................3
ACCT 430, Introduction to Federal Income Tax ..3

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

A bachelor’s degree will be awarded at the time of conferring the MACC degree.

Professional Curriculum

Candidates in the professional curriculum who have completed the minimum preparitional curriculum outlined above, must complete 54 credit hours in the following courses while maintaining an overall grade point average of 3.000 or better.

Courses Hrs.
ACCT 560, Accounting Information Systems ..........3
ACCT 610, Financial Accounting and Reporting: Special Entities and Complex Issues .....3
ACCT 620, Accounting for Strategic Support and Performance Evaluation ..........3
ACCT 630, Taxation of Business Entities ..........3

ACCT 641, Principles of Auditing ..........3
Remaining Barton School of Business Core requirements * ..................................6-9
ACCT 815, Financial Accounting and Reporting: Contemporary Issues ..........3
ACCT 825, Management Control Systems ..........3
ACCT 835, Tax Research and Selected Topics ..........3
ACCT 840, Advanced Principles of Auditing ..........3
ACCT 860, Advanced Accounting Systems ..........3
MGMT 885, Advanced Strategic Management ......3

Graduate electives outside accounting **................6
Other graduate electives (accounting or nonaccounting) ** ..................6

As a minimum, the candidate’s program must include 30 graduate-level hours, including 15 hours of accounting courses numbered 600 or above and a total of 21 semester hours of courses numbered 600 or above—excluding any courses which represent business core knowledge. A minimum of 15 credit hours (undergraduate and graduate) is required.

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

** Electives must be selected to conform with AACSB standards for master’s in accounting programs. See the graduate coordinator of the School of Accountancy for assistance in making selections.

Students Possessing a Bachelor’s Degree at Time of Admission

Total degree requirements for students granted admission after completion of a bachelor’s degree will vary and depend on the specific course content of the undergraduate degree program. As a minimum, the candidate’s program must total 30 graduate-level credit hours beyond the bachelor’s degree, including 15 semester hours of accounting courses numbered 600 or above and a total of 21 semester hours in courses numbered 600 or above**.

In general, we pursue an undergraduate degree in business and an accounting major, equivalent to that offered at WSU. The following courses, or their graduate equivalents, must be included as part of the MACC degree program if not covered in the student’s bachelor’s degree.

Courses Hrs.
ACCT 210, Financial Accounting ....................3
ACCT 220, Managerial Accounting ..................3
ACCT 250, Introduction to Information Processing Systems ...........................3
ACCT 310, Financial Accounting and Reporting: Assets .........................3
ACCT 320, Accounting for Decision Making and Control .........................3
ACCT 410, Financial Accounting and Reporting: Equities .........................3
ACCT 430, Introduction to Federal Income Tax ..3

Other preparitional coursework, including 6 clock hours of preparitional coursework.

MACC 885, Advanced Strategic Management ......3

The following courses complete the 63 hour requirement:

Courses Hrs.
ACCT 885, Financial Accounting and Reporting: Contemporary Issues ..........3
ACCT 895, Management Control Systems ..........3
ACCT 820, Tax Research and Selected Topics ..........3
ACCT 840, Advanced Principles of Auditing ..........3
ACCT 860, Advanced Accounting Systems ..........3
MGMT 885, Advanced Strategic Management ......3

Graduate electives outside accounting **................6
Other graduate electives (accounting or nonaccounting) ** ..................6

**Electives must be selected to conform with AACSB standards for master’s in accounting programs. See the graduate coordinator of the School of Accountancy for assistance in making selections.

Concern

Account

Students: Information on courses and requirements

Courses

Accounting

ACCT 661, Advanced
ACCT 610, Financial Accounting and Reporting: Special Entities and Complex Issues ..................3
ACCT 620, Accounting for Strategic Support and Performance Evaluation ..................3
ACCT 630, Taxation of Business Entities .................3
ACCT 640, Principles of Auditing ..................3
B LAW 431, LEGAL Environment of Business, or B LAW 435, Law of Commercial Transactions, and B LAW 436, Law of Business Associations ..................3-6
D 5 350, Introduction to Production and Operations Management ..................3
M I S 495, Management Information Systems .................3
ECON 201, Principles of Macro-Economics ..................3
ECON 202, Principles of Micro-Economics ..................3
ECON 231, Introductory Business Statistics ..................3
FIN 340, Financial Management I ..................3
MGMT 660, Management and Organizational Behavior .................3
IB 333, International Business ..................3
MGMT 681, Strategic Management ..................3
MKT 300, Marketing ..................3
MATH 111, College Algebra ..................3
MATH 144, Business Calculus ..................3

The following graduate-level course work must be completed:

Courses
ACCT 815, Financial Accounting and Reporting: Contemporary Issues ..................3
ACCT 825, Management Control Systems ..................3
ACCT 835, Tax Research and Selected Topics .................3
ACCT 840, Advanced Principles of Auditing ..................3
ACCT 860, Advanced Accounting Information Systems ..................3
Graduate electives outside accounting ..................9
Other graduate electives (accounting or nonaccounting) ..................6

Concentrations in Degree of Accountancy Degree Program

Accounting Information Systems

Students electing a concentration in accounting information systems (AIS) must take the following courses:

Courses
Accounting core courses (815, 825, 835, 840, 860) 15
ACCT 660, E-Business Security and Technology ..................3
One 600- or 800-level MIS course selected with consent of graduate advisor ..................3
Graduate electives, including 6 hours outside of accounting ..................9

Taxation

Students electing a concentration in taxation must take the following courses:

Courses
Accounting core courses* (815, 825, 835, 840, 860) 15
ACCT 830, Taxation of Business Entities—Advanced Topics ..................3

*Prerequisite

MBA Course Requirements

- Current resume (career-based work experience is desirable but not required).
- Final admission of qualified applicants may be based on space available in the MBA program.
- International students also are required to have a minimum score of 570 (paper-based) or 230 (computer-based) on the Test of English as a Foreign Language.
- Applications for degree admission are reviewed twice a year, in the fall and spring. Deadlines for submitting applications to the Graduate School are June 1 for consideration for fall admission and November 1 for spring admission. International applicants living outside the United States must submit their applications by April 1 for fall admission consideration and August 1 for spring admission consideration. Applicants who apply after these deadlines are considered in the order in which their completed application materials are received.

Degree Requirements

Advanced Standing

Students with strong backgrounds in mathematics and business administration may be granted advanced standing in the MBA program through equivalent credit for background fundamental courses for which a minimum grade of C was received in an undergraduate or graduate program. Most students entitled to such credit hold bachelor's degrees in business administration from accredited institutions. Students may be granted credit for any or all of the preparatory courses, depending on the depth of their undergraduate or previous graduate preparation. The MBA program may consist of as few as 36 hours for students who have no deficiencies in prerequisites and who receive equivalent credit for all of the background fundamentals.

Students Not Receiving Advanced Standing

Students with bachelor's degrees in nonbusiness fields usually will not have backgrounds warranting the granting of advanced standing through equivalency credit. There are some exceptions. Some students, for example, may have had enough work in economics or statistics to be granted credit for these courses. Determination regarding equivalency credit will be made following admission to the program.

MBA Course Requirements

- Current resume (career-based work experience is desirable but not required).
- Final admission of qualified applicants may be based on space available in the MBA program.
- International students also are required to have a minimum score of 570 (paper-based) or 230 (computer-based) on the Test of English as a Foreign Language.
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Students Not Receiving Advanced Standing

Students with bachelor's degrees in nonbusiness fields usually will not have backgrounds warranting the granting of advanced standing through equivalency credit. There are some exceptions. Some students, for example, may have had enough work in economics or statistics to be granted credit for these courses. Determination regarding equivalency credit will be made following admission to the program.
The MBA degree program is a general management program designed to enhance the general knowledge base by selecting a concentration from the following options provided in the MBA program.

MBA—Entrepreneurship

The MBA—Entrepreneurship concentration provides the foundation for developing one's own business, moving into a leadership role in a family business, or managing innovation and new business formation in a corporate setting. Building on the MBA curriculum, the entrepreneurship concentration enhances the ability to cope with the full range of issues in evaluating markets; developing business ideas, new product, and process innovation; and writing business plans. The specialized knowledge helps students understand the business startup process and related managerial issues.

The entrepreneurship concentration requires 9 semester hours of course work from a specified list of courses. Students may take no more than two 600- or 700-level courses.

Course requirements for the concentration in entrepreneurship:

Required

ENTRE 689, New Venture Feasibility Seminar or equivalent

Elective

ENTRE 608/MKT 608, Selling and Sales Force Management

ENTRE 610/FIN 610/810, Short-Term Financial Management

MBA—Health Care Administration

The MBA—Health Care Administration concentration offers the opportunity to study business administration at the graduate level with particular emphasis on health care management. Building on the MBA curriculum, this concentration provides an understanding and knowledge of the issues facing organizations in the health services industry. The specialized knowledge will help students cope with managerial processes in the dynamic health care industry.

The health care administration concentration requires 9 semester hours of course work from a specified list of courses.

Course requirements for the concentration in health care administration:

Required

PHS 812, Health Care Policy and Administration

PHS 814, Social and Behavioral Aspects of Public Health

MBA—Finance

The MBA—Finance concentration prepares students for a career in corporate finance, the investments field, or with financial institutions. The specialized knowledge provides the necessary foundation for understanding organizational financial management issues. Our curriculum blends theory with applied business practice to prepare students for the varied activities involved in financial management. Students also gain experience with many different financial analysis tools that facilitate problem solving. Most advanced courses involve cases or projects requiring computer modeling and analysis.

The finance concentration requires 9 semester hours of course work from a specified list of courses. FIN 850, Managerial Finance, must be taken prior to or concurrent with courses comprising the concentration. Students may take no more than two 600- or 700-level courses.

Course requirements for the concentration in finance:

Required

FIN 860, Cases in Financial Management and Investments

Elective

FIN 610/FIN 810, Short-Term Financial Management

FIN 620/FIN 821, Investment Analysis and Portfolio Management

FIN 622/FIN 822/ECON 847, Risk Management with Options and Futures

FIN 625/ECON 674, International Finance

FIN 632/FIN 830, Financial Institutions and Markets

FIN 650/FIN 870, Financial Modeling

Consult or see your advisor for additional electives.
MBA—International Business

The MBA—International Business concentration allows students to benefit from specific international business course work while completing MBA degree requirements. This concentration was created for students who want to obtain a solid foundation of knowledge with respect to international business. All students selecting this option will have grounding in the contemporary issues affecting global business and in the organizational issues facing firms operating in the global arena. Our curriculum blends theory with applied business practice to prepare you for the varied activities involved in conducting business in a global marketplace.

The international business concentration requires 9 semester hours of course work from a specified list of courses. Students may take no more than two 600- or 700-level courses.

Course requirements for the concentration in international business (IB):

Required
IB 836, International Business and Competitiveness 3
IB 600, International Management 3
IB 601, International Marketing 3
IB 625, International Financial Management 3
IB 891, Directed Study in International Business 3
IB 892, Internship in International Business 3
ECON 672, International Economics and Business 3
FIN 625/ECON 674, International Finance and Investment 3
POL S 835, Seminar in International Relations 3

Elective
IB 860, International Management 3
IB 870, International Marketing 3
IB 895, International Financial Management 3
IB 893, Internship in International Business 3
ECON 672, International Economics and Business 3
FIN 625/ECON 674, International Finance and Investment 3
POL S 835, Seminar in International Relations 3

EMBA Requirements

Admission Requirements

Admission to the EMBA is granted to students who hold mid- or upper-level professional positions in businesses and nonprofit organizations. All students must hold a bachelor's degree from a nationally accredited institution. Previous academic training in business is not required for admission to the EMBA program.

Although various criteria are considered in granting admission, special attention is given to the applicant's work experience, potential for advancement in their organization, and score on the Graduate Management Admissions Test (GMAT). All applicants are required to submit application materials including letters of recommendation and personal essays, and are required to complete a personal interview with Barton School of Business faculty and/or administrative staff.

International students also are required to have a minimum score of 550 on the Test of English as a Foreign Language.

Degree Requirements

All students must complete 36 hours of course work. Students progress through the program as a group. Of the required 36 hours of course work, 5 of those hours are special topics courses.

600- or 700-level courses.

Course requirements for the concentration in marketing:

Elective
MKT 601, International Marketing 3
MKT 607, Promotion Management 3
MKT 608/ENTRE 608, Selling and Sales Force Management 3
MKT 690, Principles of Online Marketing 3
ENTRE 669, Corporate Entrepreneurship 3
COMM 865, Organizational Communication 3

Master of Arts in Economics

The Department of Economics presents a curriculum leading to the Master of Arts (MA) degree. Courses of study allow a concentration in one of three tracks: economic analysis, financial economics, or international economics. All three seek to provide students with analytical skills useful in decision-making and a broader understanding of the overall economic environment. Options provide as much flexibility as is compatible with the student's background and career interests.

The economic analysis sub-specialties are particularly suitable for students who wish to continue their studies in economics at the doctoral level. Financial economics includes course work in financial management and areas related to money and capital markets, monetary policy, and financial and monetary institutions. It is particularly suited to those seeking employment in the financial sector. International economics is geared to those with an interest in the international economy, both from a business and policy perspective.

Admission Criteria

- Academic four-year undergraduate degree from a nationally accredited institution.
- Admission based primarily on grade point average (GPA) and background in economics.
- Admission to full standing requires a GPA of 2.750 for the last 60 hours of course work and all courses in economics and required mathematics.
- Must have completed intermediate level macro and microeconomics, plus one course in calculus and one in statistics, all with a grade of C or better. Those course deficiencies can be made up during the first year.
- The Graduate Record Examination (GRE) is not required.
- Non-native speakers of English must have received 550 on the paper-based or 213 on the computer-based Test of English as a Foreign Language.
(TOEFL), or have attended another U.S. university as a full-time student enrolled in academic courses for a minimum of one year; or have earned a bachelor's degree (or higher) from a U.S. university within two years of their proposed semester of admission.

Degree Requirements
All three tracks require either a thesis (30 credit hours) or an independent research project and an additional course in the student's area of interest (33 credit hours). The MA degree in economics is typically completed in four semesters, although completion in three semesters is not unusual. The graduate coordinator or the department chairperson must approve the candidate's plan of study. All plans of study must include at least 18 hours of graduate-level courses in economics or courses approved by the graduate coordinator. Courses identified as background fundamentals of the MBA program and other courses designated by the economics department may not be included in the hours required for the degree.

Core courses—15 hours
Hrs.
ECON 702, Mathematical Methods in Economics 3
ECON 734, Applied Econometrics I 3
ECON 801, Macroeconomic Analysis 3
ECON 802, Microeconomic Analysis or ECON 804, Managerial Economics (option not available in economic analysis track) 3
ECON 803, Analysis of Business Conditions and Forecasting or ECON 831, Applied Econometrics II 3
In all tracks, at least 70 percent of credit hours must be at the 700-800 level.

Economic Analysis Track
In addition to the core, a student must take either:
Five additional courses in economics or related areas and a 3-hour research project (18 credit hours) or four additional courses in economics or related areas and 3 hours of thesis (15 credit hours).

Financial Economics Track
FIN 850, Managerial Finance 3
ECON 740, Monetary Problems and Policy 3
Three additional courses in economics or finance and a 3-hour research project (12 credit hours) or two additional courses in economics or finance and 3 hours of thesis (9 credit hours).

International Economics Track
ECON 672, International Economics and Business 3
ECON 674, International Finance (cross-listed as FIN 629) 3
ECON 870, International Finance and Investment 3
Two additional economics/international related courses (such as International Management) and a 3-hour research project (9 credit hours) or one additional economics/international course and 3 hours of thesis (6 credit hours).

Accounting (ACCT)

School of Accountancy

Courses for Graduate/Undergraduate Credit

ACCT 560. Accounting Information Systems (3). A study of the content, design, and controls of accounting systems, emphasizing the use of computers for processing financial data. Prerequisites: ACCT 220 and 260; MATH 111 or 112; senior standing, advanced standing.

ACCT 610. Financial Accounting and Reporting: Special Entities and Complex Issues (3). Examines accounting concepts and techniques related to consolidated statements, governmental and not-for-profit entities, and partnerships. Includes accounting for foreign currency, hedges, financial instruments, and emerging issues in financial accounting and reporting. Prerequisites: ACCT 410 or equivalent; MATH 111 or 112; senior standing, advanced standing.

ACCT 620. Accounting for Strategic Support and Performance Evaluation (3). The use of accounting information to assist management in developing and identifying superior strategies to produce and sustain competitive and/or competitive advantages. Focuses on goal-congruent strategies and incentives. Prerequisites: junior standing; MATH 111 or 112; ACCT 620 and 330, advanced standing.

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

ACCT 640. Principles of Auditing (3). A study of the auditor's attest function, emphasizing auditing standards and procedures, independence, legal responsibilities, and codes of ethical conduct, and evaluation of accounting systems and internal control. Prerequisites: ACCT 220, 410, 560; MATH 111 or 112; senior standing, advanced standing.

ACCT 660. E-Commerce (3). Studies e-commerce technology, risk management, security, and control. Accounting background not required. Prerequisites: junior standing, advanced standing.

ACCT 690. Seminar in Selected Topics (2-3). Repeatable for credit with School of Accountancy consent. Prerequisite: advanced standing.

ACCT 777. Review for Professional Examinations (1-6). Prepares students for professional certification examinations in accounting, including the CPA, CFA, and CIA examinations. Enrollments govern whether course is offered. Graded SU and may be repeated for credit. Registration for up to 6 semester hours is permitted. Credit for this course does not count for degree credit in the School of Accountancy or Barton School of Business. Prerequisite: permission of the School of Accountancy.

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

ACCT 800. Financial Accounting (3). A study of the basic structure of accounting, income determination, asset valuation, liability recognition, and accounting for ownership equity. Includes the interpretation and analysis of financial statements. Prerequisite: no previous credit in accounting or permission of the School of Accountancy.

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

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

ACCT 825. Management Control Systems (3). Studies accounting in the context of management control systems. Focuses on how accounting interacts with management in achieving an organization's strategic and operational objectives. Emphasizes contemporary challenges in accounting related to broadening the types of information captured, measured, and reported. Prerequisites: graduate standing and ACCT 620 or 801 (or equivalent), or permission of the School of Accountancy.

ACCT 830. Taxation of Business Entities—Advanced Topics (3). Analyzes various advanced topics in the taxation of business entities and business planning. Focuses on the use of various entities forms to achieve optimal tax and business objectives. Also considers the tax consequences of conducting business internationally.

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

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

Business Department Decision Courses

ACCT 890. Accounting Systems (3). A study of the design and implementation of accounting systems. Prerequisite: permission.


ACCT 899. Seminar (3). Seminar on current issues in accounting. Prerequisite: permission.

Courses

B LAW 650. Business Law Contracts and Transactions. Credit will not be given for both B LAW 650 and 651. Prerequisite: permission.

B LAW 651. Business Law—Advanced Topics. Credit will not be given for both B LAW 650 and 651. Prerequisite: permission.

B LAW 661. Business Law—Advanced Topics. Credit will not be given for both B LAW 650 and 651. Prerequisite: permission.

B LAW 667. Business Law—Advanced Topics. Credit will not be given for both B LAW 650 and 651. Prerequisite: permission.

Decisions

D S 651. Depth Views in Economics. Credit will be given for one of DS 651 or 653. No credit transferred. Prerequisite: permission.
ACCT 840. Advanced Principles of Auditing (3). An advanced study of auditing emphasizing EDP auditing statistical sampling and ethics. Prerequisites: graduate standing and ACCT 410 and 640 (or equivalent), or permission of the School of Accountancy.

ACCT 850. Advanced Accounting Information Systems (3). A study of the concepts of information systems, their design and operation, and the relationship of these concepts to the economic information requirements, information flows, decision criteria, and control mechanisms in the business organization. Prerequisites: graduate standing and ACCT 650 (or equivalent), or permission of the School of Accountancy.

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

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

ACCT 892. Internship in Accounting (3). Offered CR/NC only. Prerequisites: 3.00 GPA in accounting; graduate standing, and School of Accountancy consent.

B LAW 635. Law of Commercial Transactions (3). Law of contracts, bailments, sales, commercial paper and secured transactions. Credit will not be granted for both B LAW 435 and 635. Prerequisite: junior standing, advanced standing.

B LAW 636. Law of Business Associations (3). Law of agency, partnerships, and corporations. Studies the organizational and relational aspects of both small, closely held businesses and large corporate enterprises. Prerequisite: junior standing, advanced standing.

B LAW 639. Seminar in Selected Topics (1-5). Repeatable with departmental consent. Prerequisites: junior standing, advanced standing.

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


DS 652. Operations Planning Systems (3). An advanced study of the short-term or operational aspects of goods or service-producing systems. Includes forecasting methods, inventory control models, material requirements planning, aggregate planning and scheduling, and current issues. Prerequisites: DS 550, advanced standing.

DS 690. Seminar in Selected Topics (1-5). Repeatable with departmental consent. Prerequisites: junior standing, advanced standing.

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

Courses for Graduate Students Only

D S 850. Operations Management (3). Develops an understanding of the operations function in a business and how it interfaces with other major functions in business. Students gain an appreciation of the strategic importance of operations and how a firm can gain competitive advantage through world-class performance by operations in delivering high-quality, cost-competitive products and services. Builds a knowledge base of the concepts, tools, and techniques related to designing, managing, and improving operations. Helps managers, regardless of functional specialization, gain an "operations perspective." Prerequisites: calculus and statistics.

D S 851. Intermediate Production Management (3). Theory of productive systems; decision making under uncertainty, and advanced technological forecasting methods for business and industry. Application of forecasting methods and some operations research models to real-world productive systems. Prerequisite: DS 350 or 550.

D S 875. Management Science (3). Provides quantitative bases from which the student may develop analytical abilities for use as a decision maker. Areas of study include mathematical programming, game theory forecasting, queuing theory, and simulation.

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

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

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

ECON 611. Economics of Sports (3). An inquiry into the economic aspects of professional and intercollegiate sports. Includes industrial organization of sports, public finance of sports, and the labor economics of sports, as well as the unique competitive nature of the sports enterprise. Not applicable toward the MA in economics. Prerequisites: advanced standing.

ECON 614. Industrial Economics and Antitrust Policy (3). Examines the behavior of firms within industries emphasizing antitrust policy. Includes pricing behavior, distribution policies, entry deterrence, advertising, and mergers. Prerequisites: ECON 201 and 202, junior standing, advanced standing.

ECON 615. Economics of Transportation (3). A study of how businesses can effectively use transportation both nationally and internationally. Includes the physical and economic characteristics of transportation modes, basic concepts of logistics, and problems and policies related to transportation. Prerequisites: ECON 201 and 202, or ECON 800, junior standing, advanced standing.

ECON 617. Economics of Regulation (3). A study of the theory and practice of regulation. Includes both the traditional regulation of public utilities and communications and the newer forms of regulation, such as safety and environmental regulations. Prerequisites: ECON 201, 202, or 800, junior standing, advanced standing.


ECON 625. Economic History of Europe (3). Cross-listed as HIST 614. An analysis of the development of economic institutions; the rise of capitalism and its influence on overseas expansion, technology, precious metals, politics, and war; changes in economic ideologies; and cultural effects of economic change. Prerequisites: ECON 201, junior standing, advanced standing.

ECON 627. Economic History of the United States (3). Cross-listed as HIST 515. An analysis of the basic factors in economic growth, including agriculture, trade, and commerce; industrial development; and the changing role of the government in economic activity. Prerequisites: ECON 201, junior standing, advanced standing.

ECON 660. Labor Economics (3). An introduction to labor economics surveys both theoretical and empirical research in this field. Includes labor markets, wage determination, and human capital theory. Prerequisites: ECON 201, 202, or 800, junior standing, advanced standing.

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

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

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

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

ECON 672. International Economics and Business (3). Cross-listed as MGMT 561. A survey of the economic foundations of international trade, finance, and investment. Includes foreign exchange markets, regional integration, trade theory, and instruments, U.S. trade policies and treaties, multinational companies, corporations, and differences in cultural, political, and economic systems. Includes current events. Prerequisites: ECON 201, 202, or 800, junior standing, advanced standing.

ECON 674. International Finance (3). Cross-listed as FIN 625 and I B 625. A study of the international financial and monetary system, emphasizing currency markets. Examines market instruments and techniques, including synthetic and derivative securities and their application to the management of currency risk in international trade and finance. Prerequisites: FIN 540, ECON 201, 202, or 800, junior standing, advanced standing.

ECON 675. Industrial Economics (3). Cross-listed as P. Adm. 765. An analysis of fiscal and financial institutions and decision making in the public sector of the American economy, budget planning and execution, taxation, debt, and fiscal policy. Prerequisites: ECON 201, 202, or 800, junior standing, or instructor's consent.

Courses for Graduate Students Only

ECON 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.


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

ECON 803. Analysis of Business Conditions and Forecasting (3). An intensive study of research methodologies and forecasting for real life business decision-making. Covers formulation of research questions, specification of models, collection of time series and survey data, application of forecasting techniques, and interpretation and communication of the results. Prerequisites: ECON 400 or equivalent and one semester of introductory statistics.

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

ECON 805. Applied Econometrics I (3). Introduces mathematical methods in economics. Introduces mathematical tools that are especially useful in economics, econometrics, and finance. Includes a review of differential and integral calculus, an introduction to matrix algebra, and various constrained optimization and economic modeling techniques. Emphasizes economic applications and modeling. Prerequisites: ECON 201, 202, or 800, and MATH 144 or equivalent, and junior standing.


ECON 847. Speculative Markets (3). Cross-listed as FIN 825. Analysis of the markets for speculative securities such as futures, options, and commodities. Evaluates underlying theories explaining speculative markets in which such securities are traded. Discusses trading strategies such as hedging and arbitrage. Prerequisite: FIN 840 or equivalent.

ECON 867. Seminar in Contemporary Labor Issues (3). An intensive analysis of contemporary problems in the field of labor. The specific nature of the problems is determined by the interest of those enrolled in the course. Repeatable for credit with departmental consent. Prerequisite: instructor's consent.

ECON 880. Analysis of Economic Theory (3). Cross-listed as FIN 820. A case study of the contemporary and business-related issues of international finance and investment. Includes foreign exchange markets, European integration, international trade organizations and monetary systems, and emerging markets. Prerequisite: one of the following courses: ECON 672 or 674, MGMT 561, or FIN 625.

ECON 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.

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

ECON 896. Thesis (1-2).

Entrepreneurship (ENTRE)

Department of Marketing and Entrepreneurship

Courses for Graduate/Undergraduate Credit

ENTRE 605. New Product Marketing (3). Cross-listed as MKT 605. Addresses identifying, evaluating, developing, and commercializing new products within both smaller and larger firms. Explores the role of the product/brand manager and the person who acts as an internal entrepreneur. Prerequisites: MKT 300, advanced standing.
ENTRE 608. Selling and Sales Force Management (3). Cross-listed as MKT 608. An analysis of current behavioral concepts of personal selling and the problems and policies involved in managing a sales force. Prerequisites: MKT 300, advanced standing.


ENTRE 620. Growing and Managing an Entrepreneurial Firm (3). Focuses on the organization, operation, marketing, and financial management of an on-going entrepreneurial firm. Emphasizes the strategic management of growth associated with a rapidly changing business, as distinguished from "small business management," which could include small enterprise units that are static. Teaches the practical aspects of managing a growing business on a day-to-day basis. Practical application to "entrepreneurship," such as growing a division or department within a larger organization. Prerequisites: ENTRE 310C or 320, junior standing or instructor's consent, advanced standing.

ENTRE 660. Developing a Successful Business Plan (3). Focuses on the development of a comprehensive business plan which incorporates financial and organizational principles associated with entrepreneurial financing including financial structuring of the firm, pro forma development of financial statements and the capitalization of the firm. Explains and illustrates strategies for exiting and surviving the business. Prerequisites: ENTRE 420, senior standing, or instructor's consent, advanced standing.

ENTRE 690. Special Topics in Entrepreneurship (3). Advanced course with in-depth study of emerging topics in entrepreneurship. Repeatable with departmental consent. Prerequisites ENTRE 310C or 320, junior standing or instructor's consent, advanced standing.

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

Courses for Graduate Students Only

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

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

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

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

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

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

E MBA 806. Using Accounting Information to Understand Financial Performance (2). Focuses on the nature and purpose of accounting, principal accounting information, and valuation problems. Prerequisite: admission to Executive MBA program.

E MBA 807. Corporate Finance (2). Focuses on the strategic decision that an organization makes leading to capital spending also includes the risk element in financial decision making and the financial instruments that have evolved to facilitate risk in the economy. Prerequisite: admission to Executive MBA program.

E MBA 808. Using Accounting Information to Improve Strategic and Operational Performance (2). Focuses on the use of financial information in management decision making. Includes internal reporting systems, cost management systems, planning and budgeting, performance measurement issues, and activity-based management. Prerequisite: admission to Executive MBA program.

E MBA 809. Information Technology (2). Focuses on information as a resource and the links between business strategy and information technology, the organizational implications of technology, and how to successfully incorporate information technology into organizations to support management decision making and control. Prerequisite: admission to Executive MBA program.

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

E MBA 811. Managerial Strategy (2). Integrates the other courses in the program by addressing the strategic management of an organization. Focuses on developing a strategic plan that maximizes shareholder value, generates commitment and effective action from others in the organization for implementing the plan, and developing a strategy consistent with the organization's resources while increasing shareholder value by satisfying customers better than do competitors. Prerequisite: admission to Executive MBA program.
Finance (FIN)
Department of Finance, Real Estate, and Decision Sciences

Courses for Graduate/Undergraduate Credit


FIN 611. Real Estate Finance (3). Cross-listed as RE 611. Real estate financing instruments, institutions, traditional and creative financing techniques. Risk analysis, mortgage financing and underwriting, primary and secondary mortgage markets. Prerequisites: FIN 340, advanced standing.

FIN 615. Real Estate Investment Analysis (3). Cross-listed as RE 615. Equity investor decision criteria, institutional and ownership entity investment constraints, financial leverage opportunities, cash flow analysis, and creative income tax strategies. Prerequisites: FIN 340, advanced standing.


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

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

FIN 630. Money and Capital Markets (3). A study of domestic and international financial markets, instruments, and institutions and the determinants of the general level and structure of interest rates and security prices. Also covers management of interest rates and portfolio risk using a variety of techniques. Prerequisites: FIN 340, junior standing, advanced standing.

FIN 632. Bank and Financial Institution Management (3). Presents and analyzes asset and liability management by banks and financial institutions. Also covers financial institution structure, management, regulation, and operations. Covers risk management topics in detail. Prerequisites: FIN 340, junior standing, advanced standing.

FIN 650. Financial Modeling (3). Provides students experience in solving a variety of financial problems using a modern computer spreadsheet program. Assignments, covering topics from both corporate finance and investments, closely simulate the types of projects faced by financial managers and practitioners. Prerequisites: FIN 440, ACCT 260, advanced standing.

FIN 660. Cases in Finance (3). An exploration of the problems and operations for which the financial officer is responsible, emphasizing controversial aspects of financial analysis. This is the capstone course in the finance major and should be taken at the end of a finance program. Prerequisites: FIN 340, 440, 6 hours of accounting, or departmental consent, junior standing, advanced standing.


FIN 870. Financial Modeling (3). Prepares students to model various financial transactions and decision-making analysis using computer analysis and spreadsheets. Students build models to analyze corporate finance problems, portfolio and investment problems, derivative securities pricing problems, including real option analysis and fixed-income security valuation and duration problems. Studies technical issues in financial modeling and uses Visual Basic for financial analysis. Students gain tools needed to participate fully, creatively, and with technical proficiency in the resolution of many financial issues facing the firm. Prerequisite: FIN 850.

FIN 890. Seminar in Selected Topics (1-3). Repeatability with departmental consent. Prerequisite: FIN 840.

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

Human Resource Management (H R M)
Department of Management

Courses for Graduate/Undergraduate Credit

H R M 664. Labor Relations (3). Presents the philosophy underlying labor law and the function of collective bargaining in labor-management relationships. Prerequisite: junior standing, advanced standing.

H R M 666. Human Resource Selection (3). Analysis of all phases of the selection process as implemented in private and public sector organizations. Includes an analysis of the impact of federal and state anti-discrimination legislation on selection practices, as well as human resource planning, recruiting, job analysis, and selection techniques, including testing and interviewing. Also validation of selection techniques. Prerequisites: H R M 466 or instructor's consent, advanced standing.

H R M 668. Compensation (3). Approaches to compensation processes in organizations. Discusses job evaluation techniques, wage level and wage structure determination, individual performance analysis, individual wage rate decisions, incentive plans, and benefits. Considers the legal constraints on compensation practices. Prerequisites: H R M 466 or instructor's consent, advanced standing.

H R M 669. Training and Development (3). Analyzes the training and development function as applied in private and public sector organizations. Considers the role of training and development in today's business environment, needs assessment, learning objectives, learning theory, instructional methods and techniques, and evaluation of training effectiveness. Prerequisites: H R M 466 or instructor's consent, advanced standing.

Human Resource Management (H R M)
Department of Management

Courses for Graduate/Undergraduate Credit

H R M 664. Labor Relations (3). Presents the philosophy underlying labor law and the function of collective bargaining in labor-management relationships. Prerequisite: junior standing, advanced standing.

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H R M 668. Compensation (3). Approaches to compensation processes in organizations. Discusses job evaluation techniques, wage level and wage structure determination, individual performance analysis, individual wage rate decisions, incentive plans, and benefits. Considers the legal constraints on compensation practices. Prerequisites: H R M 466 or instructor's consent, advanced standing.

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Human Resource Management (H R M)
Department of Management

Courses for Graduate/Undergraduate Credit

H R M 664. Labor Relations (3). Presents the philosophy underlying labor law and the function of collective bargaining in labor-management relationships. Prerequisite: junior standing, advanced standing.

H R M 666. Human Resource Selection (3). Analysis of all phases of the selection process as implemented in private and public sector organizations. Includes an analysis of the impact of federal and state anti-discrimination legislation on selection practices, as well as human resource planning, recruiting, job analysis, and selection techniques, including testing and interviewing. Also validation of selection techniques. Prerequisites: H R M 466 or instructor's consent, advanced standing.

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H R M 669. Training and Development (3). Analyzes the training and development function as applied in private and public sector organizations. Considers the role of training and development in today's business environment, needs assessment, learning objectives, learning theory, instructional methods and techniques, and evaluation of training effectiveness. Prerequisites: H R M 466 or instructor's consent, advanced standing.
H R M 750. Workshop in Human Resources (1-4). Prerequisite: junior standing.

Courses for Graduate Students Only

H R M 867. Seminar in Personnel Administration (3). An in-depth study and analysis of several critical and/or major current problems in human resources and a review of significant literature. The direction of the course could be determined by the interests of the class. Prerequisite: H R M 466.

H R M 688. 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: H R M 466 or instructor's consent.

H R M 890. Seminar in Special Topics (1-5). Repeatable with different consent.

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

International Business (I B) Department of Management

Courses for Graduate/Undergraduate Credit

I B 660. International Management (3). Studies management concepts and practices applicable to business operations in an international setting. Examines a wide range of problems associated with business operations across national boundaries. Discusses cultural differences, language barriers, rationalization, protectionism, technology transfer, and trade policies. Prerequisites: MGMT 360 or concurrent enrollment, junior standing, advanced standing.

I B 661. International Marketing (3). Cross-listed as MKT 661. Problems and procedures of marketing in foreign countries. Includes the effects of foreign cultures and marketing systems on the design of marketing programs. Prerequisites: MKT 300, junior standing, advanced standing.

I B 625. International Financial Management (3). Cross-listed as ECON 674 and FIN 625. A study of the international financial and monetary system, emphasizing currency markets. Also examines market instruments and techniques, including synthetic and derivative securities and their application to management of foreign currency exposure in international trade and finance. Prerequisites: FIN 340; ECON 201, 202, or 300; junior standing, advanced standing.

I B 690. Special Topics in International Business (3). Covers emerging topics within the field of international business. Prerequisites: completion of or concurrent enrollment in all required IB courses, advanced standing.

Courses for Graduate Students Only

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

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I B 891. Directed Studies in IB (1-6). Prerequisite: departmental consent.

Management (MGMT) Department of Management

Courses for Graduate/Undergraduate Credit

MGMT 561. Introduction to International Economics and Business (3). Cross-listed as ECON 672. A survey of the economic foundations of international trade and investment. Studies international trade, theory, and policy (the international economy), then explores the operations of the multinational firm within that environment. Prerequisites: ECON 201 and 202, junior standing, advanced standing.

MGMT 660. Designing Effective Organizations (3). Studies how work and workers can be structured to best accomplish the goals of an organization. Explores the interplay of design, technology, strategy, and environment, and discusses frameworks that promote growth, market responsiveness, innovation, and global competitiveness. Emphasizes skills necessary for managing change for maximum effectiveness of individuals, work groups, and the organization as a whole. Prerequisites: MGMT 360 or concurrent enrollment, junior standing, advanced standing.

MGMT 661. Coaching, Developing, and Mentoring (3). Managers and leaders of all kinds are judged not on what they do but upon how well their subordinates perform. Course develops positive, supportive management skills for helping individuals and groups achieve their potential. Covers the importance of identifying and hiring superior performers, orienting them to the group, coaching, and developing subordinates to their fullest, maintaining motivation at high levels, and merging individuals into a cohesive group. Prerequisites: MGMT 360 or concurrent enrollment, junior standing, advanced standing.

MGMT 662. Managing Workplace Diversity (3). Modern organizations face the challenge of managing employees with diverse backgrounds and talents to provide products and services to diverse customers. Course examines work force diversity from the perspective of maximizing its benefits to group and organizational effectiveness, including developing skills to facilitate the constructive resolution of conflict, encouraging cooperation and teamwork, and enhancing motivation with the work unit. Prerequisites: MGMT 360 or concurrent enrollment, junior standing, advanced standing.

MGMT 663. Building Effective Work Teams (3). Significant changes in the business environment have motivated widespread support for the use of teams to accomplish work-related tasks. Course promotes an understanding of the organizational context of a team culture through an analysis of how teams form and group processes that enhance goal accomplishment. Emphasizes skills necessary to manage the organization's culture, improve group performance, and increase collaboration among team members. Prerequisites: MGMT 360 or concurrent enrollment, junior standing, advanced standing.

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

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

MGMT 790. Seminar in Selected Topics (1-5). Repeatable with departmental consent. Prerequisites: junior standing, advanced standing.

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

Courses for Graduate Students Only

MGMT 803. Business Decision-Making and Analysis (3). A study of business decision-making and problem-solving methodologies including problem definition, research design, data-gathering techniques, analytical techniques, reporting strategies, and communication issues. Prerequisite: ECON 251 or equivalent.

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

MGMT 862. Organizational Behavior (3). The study of individual and group behavior as it affects organizational functioning. Applies concepts such as motivation, personality, interpersonal relations, upward management, conflict management, and leadership to organizational settings, emphasizing analysis and action-planning. Prerequisite: MGMT 860 or departmental consent.

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

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

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

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

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

Management Information Systems (M I S)

Department of Finance, Real Estate, and Decision Sciences

Courses for Graduate/Undergraduate Credit

M I S 600. Database Management Systems (3). Introduces various methodologies for conceptual data modeling including Entity-Relationship Data Modeling and Object-Oriented Database Design. Covers relational database management systems, the SQL standard, and data administration issues. Students obtain hands-on development with SQL servers in a client/server environment in a required database programming project. Covers electronic commerce transaction processing, data warehousing, data mining, and distributed database management. Prerequisites: M I S 350, advanced standing.

M I S 610. Database and Web Programming (3). Uses ASP.NET as the programming tool to teach Web application development. Includes HTML forms and SQL-based data sources for developing interactive and dynamic Web applications within a server-based scripting environment. Covers advanced topics such as ADO and Implementing Security in ASP. Prerequisites: M I S 325 and M I S 600, advanced standing.

M I S 650. Knowledge Management (3). Introduces the design and implementation of systems for leveraging organizational knowledge and intellectual capital. Includes the role of expert systems, data warehousing and knowledge discovery tools, knowledge repositories, e-learning applications, and discussion and chat technologies for knowledge creation and sharing in support of decision making and problem solving in business. Prerequisites: MIS 600, advanced standing.

M I S 690. Advanced Topics in MIS (1-3). Repeatable with departmental consent. Prerequisites: senior standing, departmental consent, advanced standing.

M I S 696. Management of the IS function (3). Addresses the issues of managing the information systems (IS) function. Includes the role of IS as a corporate entity, developing a strategic plan for IT Investments, organizing the IS department, IS personnel management, IS project management, the role of IS as a user-support entity, auditing the IS function, and emerging issues in managing the IS department. Prerequisites: M I S 600 (or concurrent enrollment), advanced standing.

Courses for Graduate Students Only

M I S 874. Management Information Systems (3). Focuses on information as an organizational resource to be managed. Explores the links between business strategy and information technology, and addresses the organizational implications of investing in information systems. Goal is to prepare today's manager with the necessary know-how to successfully manage with information technology.

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

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

Marketing (MKT)

Department of Marketing and Entrepreneurship

Courses for Graduate/Undergraduate Credit

MKT 601. International Marketing (3). Cross-listed as IB 601. Problems and procedures of marketing in foreign countries. Includes the effects of foreign cultures and marketing systems on the design of marketing programs. Prerequisites: MKT 300, junior standing, advanced standing.

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

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

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

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

MKT 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 6 additional hours of marketing, advanced standing.

MKT 690. Seminar in Selected Topics (1-3). Repeatable with departmental consent. Prerequisite: junior standing, advanced standing.

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

Courses for Graduate Students Only

MKT 801. Marketing Management (3). Develops an understanding of the differences between a sales/marketing department and a marketing orientation. Emphasizes the integral role of a marketing orientation throughout the modern organization. Prerequisite: MKT 800 or equivalent.

MKT 803. Marketing Analysis (3). The application of the scientific method to the solution of marketing problems. Prerequisites: MKT 800 or equivalent.

MKT 805. Consumer Decision Processes (3). An examination of different aspects of the behavior of consumers under the influence of the factors that help explain their behavior. Includes an analysis of various new concepts and models. Prerequisite: MKT 800 or departmental consent.

MKT 807. Services and Nonprofit Marketing (3). Examines the characteristics of commercial and nonprofit services that pose unique marketing challenges for these types of organizations. Prerequisite: MKT 800 or equivalent.

MKT 812. Introduction to Total Quality Management (3). Cross-listed as ENTRE 812 and MGMT 812. Introduces the philosophy of quality improvement and compares/contrasts these views with traditional management thought. Also introduces the basic components of the quality improvement process. Includes application exercises in quality improvement techniques and experience with lean concept.
Master of Business Administration (MBA)
Graduate Studies in Business

Courses for Graduate Students Only

MBA 800. Financial Statement Analysis (3). Studies financial statements and related footnote disclosures. Includes tools and procedures common to the interpretation and analysis of financial statements. Prerequisites: graduate standing and permission of a Barton School graduate studies advisor.

MBA 801. MBA Basics: Management and Marketing (3). Highlights foundation knowledge from the disciplines of management and marketing integrated with a strong component of communication skills. Primarily, provides students with a knowledge base in management and marketing from which to build in their MBA coursework. Secondly, builds oral and written communication skills necessary for success in the MBA curriculum and beyond. Prerequisites: graduate standing and permission of Barton School Graduate Studies advisor.

Real Estate (RE)
Department of Finance, Real Estate, and Decision Sciences

Courses for Graduate/Undergraduate Credit

RE 611. Real Estate Finance (3). Cross-listed as FIN 611. Real estate financing instruments, institutions, traditional and creative financing techniques. Risk analysis, mortgage financing and underwriting, primary and secondary mortgage markets. Prerequisites: FIN 340, advanced standing.

RE 614. Real Estate Appraisal (3). Analysis of factors that create real estate value. Cost, sales comparison, and capitalized income approaches to market value. Highest and best use analysis. Prerequisites: RE 310, advanced standing.

RE 615. Real Estate Investment Analysis (3). Cross-listed as FIN 615. Equity investor decision criteria, market and ownership entity investment constraints, financial leverage opportunities, cash flow analysis, and creative income tax strategies. Prerequisites: FIN 340, advanced standing.

RE 616. Real Estate Investment Analysis (3). A hands-on course to familiarize students with all aspects of land development, including supply and demand analysis, site selection, feasibility analysis, development financing, cash-flow budgeting, and marketing strategies. Prerequisites: RE 310 or 611 or 618, advanced standing.

R E 690. Seminar in Selected Topics (1-3). Repeatable with departmental consent. Prerequisites: junior standing, advanced standing.

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

Courses for Graduate Students Only

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

RE 891. Directed Studies (1-5). Prerequisite: departmental consent.
College of Education

Offices: 104 Corbin Education Center
Jon M. Engelhardt, dean
Randolph A. Ellsworth, associate dean for administration and technology

Departments
Administration, Counseling, Educational, and School Psychology, (316) 978-3326—Charles Romig, chairperson
Communicative Disorders and Sciences, (316) 978-3240—Kenn Apel, chairperson
Curriculum and Instruction, (316) 978-3332—Jeri Carroll, chairperson
Kinesiology and Sport Studies, (316) 978-3340—Pat Bechler, chairperson

The College of Education offers programs leading to the Master of Arts (MA) in communicative disorders and sciences; the Master of Education (MEd) in counseling, curriculum and instruction, educational administration, educational psychology, physical education, sport administration, and special education; the Specialist in Education (EdS) in school psychology; the Doctor of Education (EdD) in educational administration; and the Doctor of Philosophy (PhD) in communicative disorders and sciences.

Graduate offerings include courses which help students meet requirements for state certification or licensure as principals, supervisory personnel, district school administrators, school counselors, professional counselors, early childhood teachers, English-as-a-Second-Language/bilingual education teachers, special education teachers, reading specialists, school psychologists, speech and language pathologists, and audiologists. Other programs are available to support the continued academic and professional development of teachers. Graduate offerings also are available to support careers in sport-related businesses and exercise-related programs at all age levels.

Admission Requirements
Specific admission requirements for each degree specialization are described in each department's section of the Graduate Bulletin. Applicants for admission should review admission criteria well in advance of intended enrollment dates since some program admissions are determined by a faculty committee once a year or once each semester. Several programs require submission of scores from examinations (e.g., Graduate Record Examination), as well as transcripts and letters of reference.

Minimum admission requirements for full standing are a bachelor's degree from a regionally accredited institution and a grade point average of at least 2.750 based upon the last 60 credit hours of course work (including any post-bachelor's graduate work). The student should have no more than 9 credit hours of background deficiencies in the major field of graduate study desired. For most College of Education degree programs, admission requirements exceed these minimums.

Degree Requirements
Each advanced program of study specifies the number of semester hours of graduate course work required, elective courses, practica, comprehensive examinations, portfolio, project, and/or thesis requirements. Specific degree requirements are listed on program sheets available from departmental offices or departmental Web sites.

A thesis option in most MA or MEd programs (check departmental descriptions) may be elected. Appropriate thesis topics range from basic to applied to action research, and approaches vary from historical to descriptive to experimental, both qualitative and quantitative. Thesis programs typically require a minimum of 30 credit hours, approval of the thesis proposal by the student's graduate advisor and thesis committee, and an oral examination over the thesis topic. The committee is appointed by the graduate dean from nominees submitted by the student's advisor.

Candidates not choosing to do a thesis are expected to complete a portfolio, comprehensive examination, or project, depending on specific program requirements. The Degree Requirements section of the Graduate Bulletin for each department lists any specific non-thesis requirements.

To remain in good standing in a graduate degree program requires a grade point average of at least 3.000 in all courses on the student's WSU Plan of Study and in all graduate work taken at WSU. Demonstrated suitability for professional practice, as determined by faculty, is also a consideration for remaining in graduate programs leading to advanced certificates, licenses, or other endorsements indicating advanced professional practice or achievement.

Financial Assistance
Some financial assistance to support graduate study is available, including federal traineeships, assistantships, and Wichita State University fellowships. Full degree status is required to receive financial assistance.

Applications for graduate program admission must be submitted by departmental deadlines to be eligible for student loans and scholarships.

Initial Teacher Certification
Both undergraduates and degree/nondegree graduate students may pursue initial teacher certification/licensure as a teacher (K-12 schools) through Wichita State University. Interested individuals should contact the Office of Education Support Services in the College of Education, (316) 978-3300, to inquire about teacher education as a graduate student.

Administration, Counseling, Educational, and School Psychology
Graduate Faculty
Professors: Linda Bakken, Raymond Calabrese, Randolph A. Ellsworth (associate dean), W.C. Joseph Mau, James J. Rhatigan (senior vice president), Charles A. Romig (chairperson), Marlene Schommer-Akins

Associate Professors: Ian Gibson, Ruth A. Hitchcock, Nancy A. McKellar, Randall Turk
Assistant Professors: Marc R. Giron, Jean A. Patterson

Degrees and Areas of Specialization
The Department of Administration, Counseling, Educational, and School Psychology offers programs leading to the Master of Education (MEd) in educational administration for students pursuing certification endorsement at the building level, the MEd in counseling, the MEd in educational psychology, the Specialist in Education (EdS) in school psychology, post-master's work for students pursuing certification endorsement at district-level administrators or school counselors, and the Doctorate of Education (EdD) in educational administration.

Master of Education Requirements
The Master of Education (MEd) in counseling and in educational psychology may be earned under a thesis or nonthesis option. The nonthesis option in counseling requires 46 credit hours of course work and a written comprehensive examination. The thesis option in counseling requires 54 credit hours of course work plus an oral examination over the thesis. For state licensure recommendation in elementary or secondary school counseling, 46 credit hours are required under the nonthesis plan and 54 credit hours are required under the thesis plan. The MEd in educational psychology may be earned under a thesis or nonthesis option. The nonthesis option requires 36 credit hours of course work and a written comprehensive examination. The thesis option requires 32 credit hours of course work plus an oral examination over the thesis.

The Master of Education (MEd) in educational administration and supervision is a 33-credit-hour nonthesis program. Students pursuing licensure as building leaders must complete this program in its entirety. A comprehensive written examination is required.

Candidates for the nonthesis MEd in educational psychology and in counseling are required to pass a written comprehensive examination in their major area. Within the first three weeks of the semester in which students take the exam, an Application for Comprehensive Examination Should be filed with the department office. Applications will not be accepted if submitted less than two weeks prior to the scheduled examination. The written comprehensive exami-
Admission Requirements

Counseling

In addition to the general requirements, students seeking admission to the counseling program are required to have a 3.000 grade point average based upon the last 60 credit hours of course work (including any post-bachelor's graduate work). They must also submit: (a) names, addresses, and telephone numbers of three people to serve as references; (b) a statement of professional goals; (c) a resume; and (d) evidence of completion of 9 credit hours of undergraduate psychology, plus 6 additional undergraduate hours in the behavioral sciences.

Admission to the MEd in Counseling does not require the teaching certificate; however, students whose career goals include Kansas school Counseling licensure must hold a Kansas teaching certificate and have two years of teaching experience prior to application for the school counselor licensure. Only people who have been admitted to and have completed the MEd in counseling program at the 46-hour credit-hour level or at the 54-credit-hour level, hold a Kansas teaching certificate, and have two years teaching experience may be recommended for licensure as a school counselor.

Educational Administration and Supervision

Applicants must have a minimum 3.000 grade point average in their last two years (60 hours) of college course work from accredited institutions and score approximately 480 or above on any two of the three general tests of the GRE or above on the Miller Analogies Test. In addition, applicants must have validated strengths on the multiple indicators listed below.

1. Official transcripts of all college-level work completed and indication of a degree conferred.
2. Three Reference Report Forms from supervisors and/or professional peers of which at least one must be from a supervisor that attests to the applicant's potential as a building administrator.
3. Evidence of certification for a role in the public/private schools and at least one year of accredited experience.

4. A resume or curriculum vita of educational and professional experience.
5. A brief statement of professional goals related to completion of the master's degree and/or certification as a public school administrator.
6. A letter signed by a building principal indicating he or she is willing to serve as the student's mentor and will allow the student to fulfill the practicum requirements of the program.

Educational Psychology

To be considered for admission to the MEd in educational psychology, students must provide their grade point average for the most recent 60 credit hours of undergraduate course work; Graduate Record Examination scores (verbal and quantitative); Graduate Record Examination writing assessment score; a resume; names, addresses, and phone numbers of three people to provide letters of reference; a statement of research interests. The Graduate Record Examination (GRE) and grade point average (GPA) will be evaluated using the following index:

Ordinarily, applicant's scores on this index will equal or exceed 5.5. This index of 5.5 could be achieved by a student who attained a combined verbal and quantitative score on the GRE of 1,000 and a B average over the last 60 credit hours of undergraduate course work.

Specialist in Education Requirements

The Specialist in Education (EdS) in school psychology requires 39 credit hours of course work beyond the MEd. The degree is awarded upon completion of course work and practice. For full licensure in school psychology, students must apply for a conditional license, register for a 4-credit-hour post-specialist internship, and complete the full-time, one-year internship in a public school.

Applicants for admission to the EdS in school psychology are reviewed when they become complete throughout the year. Candidates who apply are considered in the order in which their applications are completed until all openings are filled.

Admission Requirements

School Psychology

Students who have completed a master's degree in educational psychology, counseling, or a directly related area may apply for admission. Students must provide graduate degree transcripts; undergraduate grade point average for the last 60 credit hours; Graduate Record Examination scores (verbal and quantitative); Graduate Record Examination writing assessment score (unless applicant already completed a master's thesis); a resume; names, addresses, and phone numbers of three people to provide letters of reference; a statement of professional goals; and a statement of research interests. Undergraduate grade point average (GPA) and Graduate Record Examination (GRE) scores will be evaluated using the following index:

Ordinarily, applicant's scores on this index will equal or exceed 5.5. The GPA and GRE index of 5.5 could be achieved by a student who attained a combined verbal and quantitative score on the GRE of 1,000 and a B average over the last 60 credit hours of undergraduate course work.

Following admission to the EdS program, each student will meet with a faculty advisor to determine whether prerequisite requirements have been met or how remaining prerequisites can be met. All students must complete the introductory professional issues course at WSU, and all students must have either completed a thesis as part of their master's program or prepare a thesis equivalent as part of the EdS program. A thesis equivalent differs from a thesis only in procedures for enrollment and in form of recognition. Faculty will apply all thesis criteria for advisement, proposal review, human subjects review, and final oral examination.

Endorsement Requirements

District Educational Administration

Applicants must have a minimum 3.250 grade point average for the first 30 hours of graduate course work leading to a building-level license from a accredited institution and a score of approximately 500 or above on any two of the three general tests of the GRE or approximately 46 or above on the Miller Analogies Test. In addition, applicants must have validated strengths on the multiple indicators listed below.

1. Official transcripts of all college-level work completed and indication of a degree conferred.
2. At least three recommendations from supervisors and/or professional peers of which at least one must be from a supervisor that attests to the applicant's potential as an administrator.
3. Evidence of experience at the building level for a role in the public/private schools and at least three years of accredited experience.
4. A resume or curriculum vita of educational and professional experience.
5. A brief statement of professional goals related to the completion of licensure as a public school administrator.

School Counseling

The school counseling endorsement program requires 32 credit hours of course work. For state licensure recommendation, students must have two years of full-time teaching experience. Applicants must have a minimum 3.000 grade point average for
the last 60 hours of course work (including post-bachelor’s graduate work). They must submit: (a) evidence of a current teaching certificate; (b) evidence of completion of a master’s degree in a related field; (c) names, addresses, and telephone numbers of three people to serve as references; (d) a statement of professional goals; (e) a resume; and (f) evidence of completion of 9 credit hours of undergraduate psychology; plus 6 additional hours in the behavioral sciences.

Doctor of Education
The Department of Administration, Counseling, Educational, and School Psychology offers courses leading to the doctor's degree in educational administration (EdD).

Admission Requirements
Students applying for admission to the EdD program must have completed graduate work equivalent to the master's degree at a regionally accredited institution.

Applicants must have a minimum grade point average of 3.500 on a 4.000 scale for all graduate-level hours and a score of 500 or above on any two of the three general tests of the GRE or a score of 46 or above on the Miller Analogies Test. In addition, applicants must have validated strengths on the multiple indicators listed below.

1. Official transcripts of all college-level work completed and indication of a degree conferral.
2. At least three letters of recommendation from supervisors and/or professional peers which attest to the applicant's potential for success as an administrator.
3. Evidence of building-level and district-level certification for a role as an administrator in the public/private schools and at least three years of accredited experience.
4. A resume or curriculum vita of educational and professional experience.
5. A brief statement of professional goals related to the completion of the doctoral degree in educational administration and certification as a public school administrator.
6. A professional portfolio which includes samples of written or media products disseminated to constituent groups.

Applications for admission are reviewed once a year. Applications must be submitted by November 1 in order for candidates to be considered for admission for the following summer. All completed applications are considered for admission by the end of the fall semester. In the event that all available openings are not filled from the pool of completed applications, candidates who apply are considered in the order in which their applications are completed.

A comprehensive screening process is used to select an annual cohort of six students. Students who are selected for the interview process need to ensure: (a) availability to meet all day on Wednesdays, and (b) availability of a Macintosh or PC notebook equipped to meet program requirements.

Degree Requirements
Completion of requirements includes core courses, a minimum of 15 dissertation hours, final examinations, and an approved dissertation.

The five-member dissertation committee will include at least two university professors holding graduate faculty membership, one Visiting Practitioner, and an outside department graduate faculty member who will serve as the Graduate Dean's representative.

State Licensure Programs
The Department of Administration, Counseling, Educational, and School Psychology provides degree programs and course work that lead to State of Kansas certification endorsement in the following areas:

1. 91-1-127a Supervisor
2. 91-1-128b Building Leadership (requires completion of the MEd program)
3. 91-1-129a District Leadership
4. 91-1-131 School Counselor
5. 91-1-132a School Psychologist

Counseling, Educational, and School Psychology (CESP)

Courses for Graduate/Undergraduate Credit

CESP 701. Introduction to Educational Research (3).
An introduction to research in education. Includes (1) a survey of current educational research, (2) the nature of research methodology, (3) the preparation of research reports, and (4) criticism of current research.

CESP 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.

CESP 707. Child Abuse and Neglect (1).
Acquaints students with the etiological factors, potential indicators, consequences, reporting procedures, and treatment strategies associated with child abuse and neglect. Covers DSM-IV diagnostic categories associated with abuse and neglect.

CESP 726. Theories of Human Development (3).
Describes what developmental theories are, what they do, where they come from, how they work, and how they are used to explain human nature. Uses theoretical assumptions and related research to systematically evaluate developmental theories in terms of their scientific worthiness and their ability to address characteristics of human development. Focuses on those theories which helped shape the way we currently view human development as well as significant new perspectives which may shape the way we view it in the future. Prerequisites: CESP 334, FSY 334 or equivalent, and CESP 701 or equivalent, or instructor's consent.

CESP 750. Workshops (1-6).

CESP 752. Special Studies in Education (1-5).
For students with personnel and guidance interests. May emphasize different preslected areas during a semester. Repeatable with advisor's consent. Prerequisite: instructor's consent.

Courses for Graduate Students Only

CESP 802. Introduction to Interaction Process (1).
This is a grade only. A laboratory approach to an examination of the counselor's role in the counseling process. Helps the prospective counselor develop basic interviewing skills as a foundation for more advanced techniques used in the counseling process. Prerequisite: counseling major or departmental consent. To be taken concurrently with CESP 804.

CESP 803. Counseling Theory (3).
A study of selected theories of counseling. Prerequisite: admission to counseling or school psychology program or instructor's consent.

CESP 804. Principles and Philosophy of Counseling (3).
The development of a guiding philosophy, including a study of the helping relationship and the services that are part of school, agency, and other institutional settings. Prerequisite: admission to counseling program or instructor's consent.

CESP 808. School Psychology Professional Issues (3).
Examines roles and functions of school psychologists within the context of historical foundations of the profession. Uses lecture, discussions, observations in schools, and presentations by field-based school psychologists to acquaint students with the kinds of problems with which school psychologists typically work, the methods they employ to deal with problems, social systems in which these endeavors occur, and professional issues that shape and characterize the profession.

CESP 810. Elementary School Counseling (3).
The role of the elementary counselor in providing individual and group counseling, group guidance, and consultation in the school setting. Prerequisites: CESP 701, 704, 803, and 804, or instructor's consent.

Issues and techniques for measurement and evaluation in the cognitive, affective, and psychomotor domains.

CESP 815. Career Development (3).
For master's-level students interested in assisting students and adults in career development and related concerns. Covers (1) career development of individuals across life span, (2) sources and organization of information, (3) assessment designs and career intervention techniques, and (4) career decision-making/planning processes. Includes hands-on experience with a variety of assessment methods and intervention techniques and theory-based career decision-making strategies for career interventions. Prerequisites: CESP 803 or 804 or instructor's consent.

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.
CESP 820. Learning Theory and Instruction (3). Applications of some major learning theories and learning principles. Prerequisites: CESP 701 or departmental consent.

CESP 821. Multicultural Issues in Counseling (3). Students acquire knowledge and skills that enable them to help clients make an individual or multicultural environment. Focuses on developing the student's own cultural identity, increasing sensitivity to cultural differences in helping attitudes, and behaviors, and understanding how the potential sources of cultural misunderstanding, biases, and prejudice may affect their counseling effectiveness. Prerequisites: CESP 701, 803 or 804, or instructor's consent.

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

CESP 823. Experimental Design in Educational Research (3). Focuses on the use of inferential statistics for various experimental designs. Parametric topics covered include one mean, one-way and factorial analysis of variance and covariance (with and without repeated measures), post-hoc comparisons, and simple and multiple regression. Also covers selected nonparametric statistics. Develops all statistics through practical application with computer programs. Prerequisite: CESP 704 or instructor's consent.

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

CESP 825. Group Counseling Techniques (3). Examines different kinds of groups, group selection, communication patterns in groups, and issues to be addressed in group settings. Prerequisites: CESP 728, 803 (or concurrent enrollment), 804, and counseling major or departmental consent.

CESP 833. Secondary School Counseling (3). Provides information and skills needed for counseling in secondary schools. Prerequisites: CESP 701, 704, 803, and 804, or instructor's consent.

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

CESP 840. Psychology of Exceptional Children (3). Study of the conceptual and theoretical formulations, empirical evidence, and research concerning behavioral characteristics of exceptional children.

CESP 852. Special Studies (1-4). Covers specific topics identified by the department in consultation with institutions or groups of graduate students. Course procedures vary according to topic. Repeatable. Prerequisite: instructor's or departmental consent.

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

CESP 855. Individual Intelligence Assessment (3). Use of individual tests for assessment of intelligence. Examines the nature of intelligence, intelligence and interpretation of selected individual tests, and critical issues related to the assessment of intelligence. Includes case simulation and practice activities. Prerequisites: CESP 822 and instructor's consent.

CESP 856. Counseling Practicum (3). Supervised practice in counseling. Requirements include at least 60 hours of applied experience. Repeatable for credit. Prerequisites: CESP 856 within the last calendar year, coordinator's consent, and counseling major or departmental consent.

CESP 857. Professional and Ethical Issues (3). Study of major ethical, legal, and professional issues in counseling, including those issues related to diagnosis and treatment of mental illness. Includes the DSM-IV. Prerequisites: CESP 803, 821, 822, or instructor's consent.

CESP 858. Diagnostic Testing (3). An in-depth examination of the assessment process. Studies the theory and uses of individual assessment techniques for evaluating learning difficulties of preschool and school-aged children. Emphasizes planning the assessment, interpreting and integrating assessment data, proposing relevant interventions, and communicating assessment findings to others. Prerequisites: CESP 822, 855, and instructor's consent.

CESP 859. School-Based Interventions (3). Focuses on planning, implementing, monitoring, and evaluating interventions in the school setting with students who are experiencing academic and/or behavioral problems. Prerequisites: CESP 822 or departmental consent.


CESP 862. Presentation of Research (1-2). A project submitted in thesis manuscript form. Repeatable for a maximum of 2 hours of credit. Prerequisite: CESP 860.

CESP 867. Practicum in Group Guidance and Counseling Methods (3). Supervised practice in group guidance and counseling. Repeatable for 3 hours of additional credit. The second practicum must be in a different area or have a different focus from that of the first. Prerequisites: CESP 825, 856, and instructor's consent.


CESP 890. Special Problems (1-3). Directed reading and research under the supervision of a graduate instructor. Prerequisite: departmental consent.

CESP 914. Consultation Techniques (3). Intensive study of the literature in counseling, school psychology, social psychology, and administration that provides a basis for consultation techniques in the interpersonal context of school and work settings.

CESP 934. Personality Assessment (3). Focuses on theory and interpretation of instruments representing three major approaches to personality assessment: projective techniques, behavioral techniques, and personality inventories. Includes alternative personality assessment approaches and reviews of personality theory and psychopathology. Includes supervised experience. Prerequisites: CESP 822, 855, post-master's standing or last 6 hours of master's program, and instructor's consent.

CESP 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 of applied experience per 5 retail hours of credit. Repeatable for a maximum of 6 hours. Prerequisite: departmental consent.

CESP 947. Internship in Counseling (2). The internship is a placement appropriate to the intern's career objectives in a position within an agency, institution, or school. The student and university supervisor develop goals and objectives that enhance the student's level of professional functioning. Repeatable up to 6 hours of credit.

CESP 977. Internship in School Psychology (2). Supervised experience as a school psychologist in a school or agency setting. Requires at least 600 hours of applied experience. Repeatable for a maximum of 4 hours. Prerequisites: CESP 946 and departmental consent.

CESP 990. Special Problems in Counseling and School Psychology (1-3). Directed problems in research for EdS students under supervision of a graduate instructor. Prerequisites: CESP 701 and instructor's consent.

Educational Administration and Supervision (E A S)

Courses for Graduate/Undergraduate Credit

E A S 750. Experienced Administrator's Workshop (1-6). Offers a variety of administrative topics.

E A S 752. Special Studies in Educational Administration and Supervision (1-3). Group study in a preselected special area of educational administration and supervision. Repeatable for credit with departmental consent. Prerequisite: departmental consent.
Courses for Graduate Students Only

E A S 803. Seminar: Professional Self-Assessment and Inquiry (3). Participants engage in self-assessment and readiness for becoming a school administrator. Includes discussing and learning issues and techniques for measurement in the cognitive, affective, and psychomotor domains. Also reviews the basics of educational research, the nature of research methodologies, and methods for preparing research reports. Prerequisite: admission to the MEd in educational administration or instructor's consent.

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

E A S 813. Seminar: Introduction to Educational Leadership and School Finance (3). Discuss educational philosophy, personal goal-setting, and educational administration models. Includes (a) an examination of educational foundations and the major theories of administration and application to specific problems; and (b) an overview of administration of the school district, especially problems involving the community and staff. Examine theoretical concepts related to financial planning and building resources. Review knowledge necessary to plan and organize work groups, projects, and the resources necessary to carry out day-to-day functional activities of school. Prerequisite: admission to the MEd in educational administration or instructor's consent.

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

E A S 823. Seminar: Interpersonal Relations and Supervision (3). Examine the theoretical concepts related to clinically oriented supervisory models and explicit teaching approaches. Study formative evaluation concepts focusing on performance issues related to actual teaching situations and the teacher's guided analysis of these issues. Review the responsibility of the supervisor for planning and organizing staff development activities. Examine processes involved in the development of interpersonal skills. Engage in simulated exercises to acquire interpersonal skills desirable for group collaboration and communication. Prerequisite: admission to the MEd in educational administration or instructor's consent.

E A S 825. Practicum: Interpersonal Relations and Supervision (3). Apply the concepts of clinical supervisory models and specific teaching approaches, emphasizing formative evaluation strategies which focus on performance issues generated from actual teaching situations and the teacher's guided analysis of these issues. Cover preparation of the supervisor's role in planning and organizing staff development activities. Apply concepts of formative evaluation and staff development using interpersonal and group process skills. Observe, analyze, and reflect upon supervisory techniques and interpersonal skills in the school setting. Prerequisite: admission to the MEd in educational administration or instructor's consent.

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

E A S 831. Seminar: Human Development and Managing the Learning Environment (3). Examine developmentally appropriate practices in the classroom for student learning and behavior management. Includes discussion of developmental psychology sufficient to interpret human developmental patterns and their behavioral implications. Prerequisite: admission to the MEd in educational administration or instructor's consent.

E A S 832. Practicum: School Opening 2 (1). For a second time, prepare to open a school for the fall semester with a principal/mentor, and participate in an inquiry project in the local school. Read and critique current research literature and analyze how that research can assist in the school. Prerequisite: admission to the MEd in educational administration or instructor's consent.

E A S 833. Seminar: School Law and Personnel Management (3). Examine concepts related to staffing issues, including selection and recruitment, certification, orientation, staff development, evaluation, transfer and dismissal, and retirement. Cover general concepts of law, interpretations of statutes and court decisions affecting education, and the legal responsibilities of school personnel and professional organizations. Prerequisite: admission to the MEd in educational administration or instructor's consent.

E A S 835. Practicum: School Law and Personnel Management (3). Apply the concepts related to selection, recruitment, certification, orientation, staff development, evaluation, transfer, dismissal, and retirement. Apply general legal concepts and statutes to various situations and personal/professional liability. Prerequisite: admission to the MEd in educational administration or instructor's consent.

E A S 842. School Law (3). General concepts of law, interpretations of statutes and court decisions affecting education, and legal responsibilities of school personnel.

E A S 843. Seminar: Curriculum and Learning Theory (3). Examine theoretical concepts related to curriculum philosophies and developmental processes. Examine recent programs and proposals as well as curriculum development at the building and school system levels. Review techniques of program evaluation and major learning theories and principles. Prerequisite: admission to the MEd in educational administration or instructor's consent.

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

E A S 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.

E A S 854. Finance and Facilities Management (3). For those preparing to become administrators at the school-building level. Focuses upon the knowledge and skills necessary to plan and organize work groups, projects, and the resources necessary to carry out day-to-day functional activities of schools.

E A S 858. School Plant and Facilities (3). Planning new educational facilities based upon educational programs. Includes the evaluation of existing schools, remodeling and operation and maintenance of present school plant. Prerequisite: master's degree or instructor's consent.

E A S 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.

E A S 947. Post Program District Level Internship (3). A two-semester course designed for individuals who have a conditional leadership certification license and a full time position in a district level program. The course focuses on the performance expectations of district-level administrators as identified in the ISLCC and KSDE certification guidelines. The student works under the guidance of a mentor, who, with the university, supervises, assesses the intern's performance level. Prerequisites: completion of district level certification program, conditional leadership license from KSDE, and must be currently in a district level position.


E A S 956. District-Level Personnel Administration (3). This course is designed for those students preparing to become district level school administrators in general and school superintendents in particular. The course focuses on the selection, retention, development, and evaluation of the personnel of personnel that comprise a typical school district. Particular emphasis is placed on hiring practices, staff development, conflict resolution, and contract management. Prerequisite: Admission into the district-level certification program.
EAS 963. Politics and Power in Education (3). An examination of the interaction of society and the school as it relates to administrative processes. Studies of systems of control, social class, power structure, human relations, and group dynamics. Prerequisite: instructor's consent.

EAS 969. Technologies for Academic Writing in Educational Administration (3). Allows practicing administrators to gain knowledge of the doctoral program process through the use of various software packages used to collect and analyze data in Educational Administration and Supervision. Also introduces expectations for academic writing at the doctoral level. Students must own a Macintosh computer (preferably a Powerbook) and be reasonably familiar with the Macintosh operating system, Microsoft Excel, EndNote Plus, and Microsoft Word. Prerequisite: admission to the EdD program in EAS.

EAS 970. Advanced Administrative Theory Seminar (5). Examines the relationship between theory and practice in educational administration. Participants consider various theoretical frameworks for empirical studies, program designs, and organizational implementation efforts, and take initial steps toward an integration of these frameworks. Class activities require the application of the constructs and propositions considered to be an increasing analysis of school-related problems and the conceptualization of action programs for addressing such problems. Prerequisite: admission to the EdD program in EAS.

EAS 971. Decision-Making and Problem-Solving Seminar (5). Focuses on approaches to identifying, clarifying, and solving various problems in elementary and secondary education. Decision-making and problem-solving models are reviewed, critiqued, and applied. Prerequisites: admission to the EdD program in EAS; 970 and 981, concurrent enrollment in EAS.

EAS 972. Administrative Leadership Seminar (5). Facilitates in-depth research of investigation relevant to leadership theory and practice. Activities include clarifying and developing personal leadership skills; identifying, fostering, and supporting the leadership skills of others; and conducting observations of leaders in action. Prerequisites: admission to the EdD program; EAS 970 and 971, and concurrent enrollment in EAS.

EAS 981. Applied Inquiry Seminar I (3). Provides doctoral students with an introduction to field-based inquiry/problem-solving strategies; begins the development of field-based issues; and provides practice in field research design, implementation, and reporting. Prerequisite: admission to the EdD program in EAS.

EAS 982. Applied Inquiry Seminar II (3). Continues EAS 981 and provides opportunities for more sophisticated and complex field-based studies. Prerequisite: admission to the EdD program in EAS.

EAS 983. Applied Inquiry Seminar III (3). Continues EAS 981 and 982. Focuses on the development of individualized research plans leading to small group or individual field-based experiences in the second year of doctoral study. Prerequisite: admission to the EdD program in EAS.

EAS 986. Field-Based Research I (3). This is the first in a sequence (Fall, Spring, Summer) that provides opportunities for field work leading to the EdD dissertation proposal. Prerequisites: admission to the EdD program; EAS 981, 982, 983, and concurrent enrollment in EAS 972.

EAS 987. Field-Based Research II (3). Follows EAS 986 and continues field-based research activities and development of dissertation proposals. Prerequisite: admission to the EdD program in EAS.

EAS 988. Field-Based Research III (1). Follows EAS 986 and 987 and culminates the field-based sequence. Prerequisites: admission to the EdD program; EAS 986 and 987.

EAS 989. Advanced Research Methods in Educational Administration (3). Prepares students to examine research design techniques appropriate for use in educational administration and specifically for doctoral dissertations. Includes qualitative and quantitative research methodology, statistical tools and techniques for analysis of data, and examination of software designed to assist researchers in educational administration. Prerequisites: EAS 981, 982, 983, and 986.

EAS 990. Special Problems in Administration (1-4). Directed research in problems for specialist and doctoral degree students under supervision of a graduate instructor. Prerequisite: instructor's consent.

EAS 992. Superintendent/Internship (6). Two-semester course designed primarily for individuals who are completing course work to obtain certification as a district-level administrator. Focuses on the role expectations of district-level administrators and includes field experiences designed to emphasize knowledge and skill in administrative practices and procedures. Work is designed for each student's project-specific administrative interest. Students must file an application for this terminal course.

EAS 999. Dissertation Research I (4). Taken concurrently with EAS 986, 987, and 988 for 4 credits each semester during the last year of enrollment. Provides students with dissertation proposal and dissertation advisement and may be taken for 4-6 credits per term for a maximum of 24 credits. Up to 17 credits may be counted toward program completion. Prerequisites: admission to the EdD program in EAS and required doctoral course work.

Communicative Disorders and Sciences (CDS)
Graduate Faculty
Professors: Kenn Apel (Chairperson), Barbara W. Hodson, Raymond H. Hull, Rosalind R. Scudder
Associate Professors: Harold T. Edwards, Julie W. Scherz
Assistant Professors: Anthony DiLollo, Zarin Mehta, Kathy Stratman

Degrees and Areas of Specialization
The Department of Communicative Disorders and Sciences offers courses of study leading to the Master of Arts (MA) and the Doctor of Philosophy (PhD). Academic and clinical education are provided for students who wish to become professionally qualified to work with children and adults. Instructional areas include communication sciences, speech-language pathology, and clinical and rehabilitative audiology. A graduate program culminating in a master's degree is required for professional certification as a speech-language pathologist or audiologist in the public schools and for work in hospitals, clinics, rehabilitation centers, or private practice. With an undergraduate professional major, students typically can complete the master's program in two years. Upon completion, students are eligible for Kansas licensure and certification by the American Speech-Language-Hearing Association.

Admission Requirements
Admission to the master's degree program is considered for students who have completed an undergraduate major of at least 30 credit hours in the area of speech, language, and hearing disorders or closely allied courses. Admission also requires an overall grade point average of 2.750 and 3.000 or above for the last 60 credit hours of the undergraduate degree program and the undergraduate major field. Scores for the general aptitude section of the Graduate Record Examination must be submitted. The Graduate Record Examination must be taken within the last five years and the sum of the verbal and quantitative portions of the exam should equal 900 or better, with a minimum score of 3.0 on the analytical writing section. Three letters of recommendation and a personal essay are required.

Consideration for admission to the doctoral degree program requires a master's degree and completion of at least one year of that graduate work with a grade point average of 3.500 or better. Scores for the general aptitude section of the Graduate Record Examination must be submitted. The Graduate Record Examination must be taken within the last five years and the sum of the verbal and quantitative portions of the exam should equal 1,000 or better, with a minimum score of 3.5 on the analytical writing section. Three letters of recommendation and a professional resume are required. The application deadline for summer and fall is February 1, October 1 for spring.

Master of Arts Requirements
The Master of Arts (MA) in communicative disorders and sciences may be earned with an emphasis in audiology (36-hour program) or in speech-language pathology (42-hour program). Both programs offer either a thesis option or a nonthesis option. A Plan of Study must be filed with the Graduate School after completion of 12 hours of graduate work.

The thesis option requires the presentation and oral defense of an acceptable thesis and the success-
ful completion of the minimum credit hours required for that emphasis. Enrollment in CDS 895, Thesis, or 899, Thesis Research, is required for each semester in which the student is working with a faculty member on thesis research.

The nonthesis option requires a passing score on the Praxis examination, completion of one research credit/project, and the successful completion of the minimum credit hours required for the program emphasis. The Praxis examination must be taken during the last semester of the student’s program and may not be taken during any semester in which the student is on academic probation. Examination results must be officially sent to the department from the testing service for validation. A copy of the student’s report will not be accepted as a substitute.

All degree program students must complete two tool subjects, each for 3 credit hours and with a minimum C letter grade. One course is in statistics, and the second is research methods. All students must enroll in a clinical practicum course each semester of enrollment. No more than 8 credit hours in clinical practice may count toward the minimum credit hour requirements for the MA. Clinical competence also must be demonstrated before the completion of the graduate program by meeting the ASHA clock hour practicum requirement for certification in the area of emphasis.

Participation in the department’s clinical practicum courses requires that students obtain medical clearance prior to the start of each practicum or methods course. Also, graduate students who participate in active clinical practice during the year must purchase professional liability insurance in an amount of not less than $1,000,000-$3,000,000. This must be done on a yearly basis, when appropriate. Details may be obtained from the departmental office, 113 Hubbard Hall, or the clinic office, 162 Hughes Metroplex.

**Doctor of Philosophy Requirements**

The doctoral program in Communicative Disorders and Sciences requires a minimum of 65 hours on the Plan of Study (including a maximum of 18 hours of dissertation). In addition, 12 hours of tool courses are required. A doctoral student becomes a “Candidate for the Degree” after passing the Qualifying Examination, which typically is taken during the semester the Plan of Study requirements are completed (exclusive of dissertation hours). Doctoral Candidates enroll in at least 2 dissertation hours each term (including the term of graduation). The final requirements for the PhD are the completion of original research, the dissertation, and an oral defense.

**General**

**Courses for Graduate/Undergraduate Credit**

CDS 518. Deaf Culture (3) Examines various cultural aspects of the deaf community. Presents the interrelationship of language and culture along with a study of socialization, norms, and values.

CDS 520. Poetry, Mime, and Song (3). Nonverbal way of communication which forms an integral base for communication in American Sign Language. Course emphasizes the use and understanding of facial expression, gestures, pantomime, and body language. Role play and acting out are required.

CDS 522. Deaf Heritage (3). Considers the history, nature, and uses of language and its effect upon human thought and action. Also covers the ideas and ideals expressed by deaf people over many periods of time through drama, philosophy, painting, and related areas.

CDS 540. Senior Seminar (2). An exploration of theories, principles, practices, and pitfalls of audiology and speech-language pathology emphasizing creating dynamic models for research interpretation, clinical interaction, and professional management. Examines the current educational, professional, and ethical issues in clinical practice.


CDS 625. Introductory Methods and Practice in Communicative Disorders and Sciences (2). Techniques and methods for development of clinical skills in a supervised practicum in a supervised practicum setting. Clients with speech, language, and/or hearing disorders are the primary focus. Development of a philosophy of clinical processes includes procedures for therapy, writing behavior objectives and progress, and conducting parent/spouse/significant other conferences. Prerequisites: 25 clock hours of observation; grade of C or better in CDS 304, 306, 351, 416, 510 (may be concurrent), and 354; 2.750 cumulative and 3.000 GPA in the major; departmental application required one semester prior to enrollment; medical clearance and insurance.

CDS 704. Graduate Issues in Ethics and Practice in Communicative Disorders and Sciences (1). Provides graduate students as future practitioners a forum to be acquainted with and to review professional clinical issues they may encounter in their careers. Covers issues such as professional ethics, parental rights, managed care, and credentialing. Individualized and group participation stresses need for professionals to deal competently with issues and to understand professional responsibility related to these topics.

CDS 705. Counseling in Communication Disorders (3). Provides information on the structure and conduct of interviews, basic counseling strategies, and consideration of the “helping” role as practiced by communication disorders professionals. Focuses on information supportive of developing effectiveness in these roles. Considers multicultural concerns.

CDS 740. Selected Topics in Communicative Disorders and Sciences (1-3). Individual or group study in specialized areas of communicative disorders and sciences. Repeatable.

CDS 750. Workshop in Communicative Disorders and Sciences (1-4). Offered periodically on selected aspects of communicative disorders and sciences. Repeatable.

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

CDS 781. Cooperative Education (1-8). A work-related placement that integrates theory with planned and supervised professional experience designed to complement and expand the student’s academic program. Prerequisite: 2.50 GPA. Repeatable for credit. Offered C/NC.

**Courses for Graduate Students Only**

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

CDS 890. Independent Study in Speech and Language Pathology or Audiology (1-3). Arranged individual, directed study in specialized content areas in speech and language pathology or audiology. Repeatable. Prerequisite: instructor’s consent prior to enrollment.

CDS 981. Non-Thesis Research Project (1). A directed research project which may include literature searches, data collection or interpretation of data. Topic of project to be determined by instructor. Repeatable, but total credit hours may not exceed three. Prerequisite: CDS 800 and department consent prior to enrollment.

CDS 982. Presentation of Research (1-3). A directed research project. Repeatable, but total credit hours may not exceed 3. Prerequisite: CDS 800 and instructor’s consent prior to enrollment.

CDS 985. Thesis Research (1-2). Repeatable, but total credit hours counted toward degree requirements must not exceed 2. Prerequisite: instructor’s consent.

CDS 989. Thesis (1-2). Repeatable, but total credit hours counted toward degree requirements shall not exceed 2. Prerequisite: instructor’s consent.

CDS 935. Advanced Practicum in Communicative Disorders and Sciences (1-4). Supervised internship in one or more of the following sections: Client Management, Clinical
Speech-Language Pathology

Courses for Graduate/Undergraduate Credit

CDS 501. Speech and Hearing Science (3). Examines the chain of events that lead to human communication. Studies speech production and perception at physiological and acoustical levels, emphasizing acoustics. Prerequisite: CDS 110.

CDS 510. Introduction to Diagnostics (3). Provides the principles underlying basic diagnostic procedures for speech/language disorders across the life span. Teaches observation techniques, how to take case histories, beginning interview techniques, and how to administer and interpret formal and informal assessment measures. Requires observation of diagnostic procedures in the speech-language-hearing clinic. Prerequisites: CDS 416 and 514.

CDS 514. Speech-Sound Disorders (3). Discusses basic methods and procedures of identifying, assessing, analyzing, and remediating speech-sound disorders. Practice in phonetic transcription of highly unintelligible speech samples. Prerequisite: CDS 306.

CDS 516. Language III: Introduction to Assessment and Intervention—Birth to School Age (3). Discussion of current language intervention strategies and programs for infants, toddlers, preschoolers, and school-age children, birth to 8 years. Examination of the development of individual and family plans. Discussion of the multidimensional nature of language and culturally different language patterns. Requires observation of clinical intervention and a laboratory experience. Prerequisites: CDS 416 and 510.

CDS 519. Genetic and Organic Syndromes (3). Introduces human genetics and the impact of chromosomal and structural anomalies of communication disorders. Assessment and remediation of cleft palate speech. Prerequisite: CDS 300.

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

CDS 616. The Science of Reading: Current Research in the Identification and Treatment of Dyslexia (3). Teaches students about the relationship between oral language and reading acquisition. Students will differ entially diagnose and apply treatment protocols appropriately to individuals who present with specific reading disabilities. Exposes students to the last quarter century of research from the National Institutes of Health and Development (NICHD) centers that demonstrate the significant relationship between explicit and direct teaching of oral language aspects of acquiring reading in a written alphabetic language system. Prerequisite: instructor’s consent.

CDS 780. Communication Disorders in Educational Settings (2). Organization, administration, and professional relationships in public schools and speech and language management programs on the elementary and secondary school levels. Emphasizes procedures and materials for surveying, scheduling, writing, IEPs, therapeutic management, record keeping, and utilization of various instructional media. Should be taken prior to student teaching, CDS 821. Prerequisite: prior or concurrent enrollment in CDS 510.

CDS 781. Cooperative Education (1-4). A work-related placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Prerequisite: 2.5 GPA. Repeatable for credit. Offered C/NC.

Courses for Graduate Students Only

CDS 801. Advanced Speech and Hearing Science (3). Advanced study of speech and hearing sciences, primarily in their normal aspects. Attention to current understanding of speech generation, the speech signal, and the normal function of hearing. Attention also to techniques of investigation of these processes. Prerequisite: CDS 501 or equivalent or departmental consent.

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

CDS 811. Dysphagia (3). Covers the disorder of dysphagia as it affects persons of all ages. Addresses normal swallowing in infants, children, and adults. Covers the etiologies which cause dysphagia as well as assessment procedures appropriate for various ages. Examines treatment procedures. Covers the importance of team interventions for dysphagia assessment and treatment. Addresses ethical and funding issues. Prerequisite: CDS 605.

CDS 812. Neurology of Speech and Language III: Normal Aging, Aphasia, and Dementia (3). Examines the continuum of communicative abilities (including speech, language, hearing, and cognition) which may be seen in older persons. Covers normal aging as well as the influence of stroke, dementia, and other neuropathologies on communicative function in the elderly. Prerequisite: CDS 605 or instructor’s consent.

CDS 813. Communication Disorders in Medical Settings (2). Provides the principles underlying a transdisciplinary training approach, emphasizing differential diagnosis and treatment of complex disorders found in medical settings. Discusses the fundamentals of private practice and legal issues in the practice of speech-language pathology. Prerequisites: CDS 810 and 812.


CDS 815. Assistive Technology for Special Populations (3). Provides information about assistive technology for persons with special needs across the life span (e.g., autism, cerebral palsy, and degenerative neurological disease). Considers physical, linguistic, and cognitive factors in the design and implementation of assistive technology resources. Studies augmentative and alternative communication systems and computer applications/modifications. Explores resources for funding.

CDS 816. Language Disabilities in Children and Adolescents (3). Examination of various approaches to working with children and adolescents with language disabilities. Practical application of language assessment procedures, individualized planning, and language intervention strategies. Language in the classroom for school-age children and adolescents and collaborative strategies. Multicultural literacy and the multidimensional nature of language in the classroom. Prerequisite: CDS 416 and 516 or departmental consent.

CDS 818. Fluency Disorders (3). Reviews current theories on the etiology and development of the disorder. Considers behaviorally based diagnostic procedures for children and adults, as well as methods for clinical intervention, including procedures for parent interviewing and counseling, and multicultural concerns. Provides opportunities for observation, one focus being demonstration of intervention methods. Prerequisites: CDS 300 and 510.

CDS 819. Acquired Brain Injury and Metacognitive Disorders Across the Life Span (3). Addresses issues of assessment and treatment of individuals with metacognitive, executive function, and behavioral disorders as a result of brain injury (traumatic, moderate, mild) and/or identified Attention Deficit Disorders (ADD), Attention Deficit with Hyperactivity Disorders (ADHD), Developmental Dyslexia (DD), Acquired Dyslexia (AD), and Specific Linguistic Impairments (SLI) influencing processing and production of narrative and discourse skills in oral and written language. Prerequisites: CDS 605 or equivalent and instructor's consent.

CDS 820. Graduate Methods and Practicum in Speech and Language Evaluation (2). Discusses clinical methods for evaluation and diagnosis of children and adults presenting with speech and/or language disorders. Prerequisites: CDS 510, medical clearance, and insurance.

CDS 821. Graduate Methods and Practicum in Educational Settings (7). Discussion and evaluation of student teaching experiences in public schools, demonstrations of applied clinical skills, counseling on the elementary and secondary school levels. Prerequisites: CDS 780 and 816, instructor's consent one semester prior to enrollment, medical clearance, and insurance.

CDS 822. Beginning Graduate Methods and Practicum in General Clinic (2-4). Provides an opportunity to relate theories and methods for students' assigned practice through discussion of various management techniques and methods with regard to different types of communication disorders and provides support for the present clinical experience. Prerequisites: CDS 625, medical clearance, and insurance.

CDS 823. Graduate Methods and Practicum in Medical Settings (4 or 6). Class discussions cover various topics pertaining to hospital and adult care practice experiences. Relates theory and methods to student's practical assignments. Prerequisites: CDS 813, department approval one year prior to enrollment, medical clearance, and insurance.

CDS 824. Graduate Methods and Practicum for External Placements (2). Techniques and methods for development of clinical skills in a supervised external practicum setting. Focuses on clients with language and speech sound disorders. Development of a philosophy of clinical processes involves procedures for therapy, writing behavior objectives and progress, and conduction of client conferences. Supervised practicum of clinical assignments in off-site settings. Prerequisites: department approval one semester prior to enrollment, medical clearance, and insurance.

CDS 825. Graduate Methods, Practicum, and Diagnostics in Autism Spectrum Disorders (2-4). Techniques and methods for development of clinical skills in a supervised practicum setting. Primary focus on children with social language disorders. Practicum issues relate to current client needs. Prerequisites: CDS 816, 816 (can be concurrent), instructor's consent, medical clearance, and insurance.

CDS 826. Graduate Methods, Practicum, and Diagnostics in Language and Literacy (2 or 4). Techniques and methods for development of clinical skills in a supervised practicum setting (in the WSU Language-Hearing Clinic, “After-School Program,” and the College of Education Assessment, Intervention Multi-Disciplinary (AIM) program). Primary focus on clients with language (oral and written) and literacy disorders. Development of a philosophy of clinical processes includes procedures for therapy, writing behavior objectives and progress, and conduction of client conferences. Prerequisites: departmental consent one semester prior to enrollment, medical clearance, and insurance.

CDS 827. Graduate Methods, Practicum, and Diagnostics in Voice (2-4). Techniques and methods for development of clinical skills in a supervised practicum setting (in the WSU Language-Hearing Clinic, “After-School Program,” and the College of Education Assessment, Intervention Multi-Disciplinary (AIM) program). Primary focus on clients with voice disorders. Development of a philosophy of clinical processes includes procedures for therapy, writing behavior objectives and progress, and conduction of client conferences. Prerequisites: departmental consent one semester prior to enrollment, medical clearance, and insurance.

CDS 827. Graduate Methods, Practicum, and Diagnostics in Voice (2-4). Techniques and methods for development of clinical skills in a supervised practicum setting (in the WSU Language-Hearing Clinic, “After-School Program,” and the College of Education Assessment, Intervention Multi-Disciplinary (AIM) program). Primary focus on clients with voice disorders. Development of a philosophy of clinical processes includes procedures for therapy, writing behavior objectives and progress, and conduction of client conferences. Prerequisites: departmental consent one semester prior to enrollment, medical clearance, and insurance.

CDS 828. Graduate Methods and Practicum in Fluency (2-4). Develops advanced clinical skills in the diagnosis and treatment of children and adults presenting fluency disorders. Prerequisites: CDS 818, departmental consent one semester prior to enrollment, medical clearance, and insurance.

CDS 829. Graduate Methods and Practicum in Accent Modification (2). Lecture and discussion of techniques for foreign accent and dialect modification. Relates techniques to students' practicum experience at CDS 570. Attendance in CDS 570 is required. Prerequisites: CDS 625, 822, departmental consent one semester prior to enrollment, medical clearance, and insurance.

CDS 830. Graduate Methods and Practicum in Early Language (4). Techniques and methods for development of clinical skills in a supervised early childhood interdisciplinary preschool practicum setting. Primary focus on preschool children with language disorders. Development of a philosophy of clinical processes includes procedures for group and classroom therapy, writing behavior objectives and progress, and conduction of client conferences. Prerequisites: departmental consent one semester prior to enrollment, medical clearance, and insurance.

CDS 831. Medical Audiology (3). Many hearing disorders require evaluation/treatment by both the audiology and medical professions. This course provides an overview of medical diagnosis and management of hearing disorders and hearing rehabilitation.
Admission Requirements
In addition to the Graduate School admission requirements, students seeking the MEd in curriculum and instruction must meet both of the following criteria:
1. GPA of 3.00 or higher in the last 60 hours; or GPA of at least 2.750 in the last 60 credit hours; or
2. (a) Graduate from the WSU teacher education program with a minimum GPA of 2.750 in the last 60 credit hours; or (b) Graduate from an NCATE accredited program with a minimum GPA of 2.750 in the last 60 credit hours; or (c) Take the Graduate Record Exam and score a minimum of 917 on any two of the subtests, or take the Miller Analogies Test and score a minimum of 40; or (d) Provide alternative evidence that documents academic aptitude.

Curriculum and Instruction (CI)
Graduate Faculty
Professors: Jeri A. Carroll (chairperson), Jon M. Englehardt (dean), Bryant P. Fillion, Michael A. James, Dennis J. Kerr
Associate Professors: Peggy J. Anderson, Frances L. Clark, Constance Haack, Tonya Huber (graduate coordinator, curriculum and instruction), Twyla G. Sherman, Johnnie Thompson, Catherine G. Yettis
Assistant Professors: Mara Alagic, Robbin A. Cook (graduate coordinator, special education), Sandra Emery, Kay L. Gibson, Rebecca C. Langrall, Linda M. Mitchell, Kathleen J. Sanders
Instructor: Robert Lane

Degrees and Areas of Specialization
The Department of Curriculum and Instruction offers courses of study leading to the Master of Education (MEd) in curriculum and instruction and the MEd in special education (early childhood, gifted, and mild exceptionalities). The department also provides course work leading to endorsement in early childhood education, early childhood handicapped, gifted education, middle level education, teaching English to speakers of other languages (TESOL), and reading.

CDS 865. Graduate Methods and Practicum in Aural Rehabilitation (2). Provides students with experiences in the provision of aural habilitation/rehabilitation on behalf of hearing-impaired children and adults. Prerequisites: CDS 864 (can be concurrent).

CDS 885. Advanced Methods in Auditory Assessment and Treatment (1-3). Methods in auditory evaluation for audiology students. Discusses procedures for diagnostic evaluation of a broad range of auditory disorders in infants, children, and adults in a weekly class meetings, along with procedures for hearing aid evaluation and fitting, counseling, and others as appropriate. Prerequisites: Audiology faculty's consent, medical clearance, and insurance.

CDS 886. Advanced Practicum in Auditory Assessment and Treatment (1-3). Practicum experiences encompassing diagnostic evaluations covering a full range of auditory disorders and types of evaluations in infants, children, and adults, including standard audiologic batteries, masking, site-of-lesion testing, electrophysiologic measurements, hearing aid fitting and dispensing, patient follow-up, and counseling. Prerequisites: Audiology faculty's consent, medical clearance, and insurance.

CDS 887. Internship in Auditory Assessment and Treatment (1-3). Placement in variable credit off-campus practicum experiences in audiology. Placement is contingent upon successful completion of didactic graduate program in audiology and three semesters of CDS 885 and 886. Prerequisites: application one semester prior to enrollment, medical clearance, and insurance.

Curriculum and Instruction (CI) 
Graduate Faculty
Professors: Jeri A. Carroll (chairperson), Jon M. Englehardt (dean), Bryant P. Fillion, Michael A. James, Dennis J. Kerr
Associate Professors: Peggy J. Anderson, Frances L. Clark, Constance Haack, Tonya Huber (graduate coordinator, curriculum and instruction), Twyla G. Sherman, Johnnie Thompson, Catherine G. Yettis
Assistant Professors: Mara Alagic, Robbin A. Cook (graduate coordinator, special education), Sandra Emery, Kay L. Gibson, Rebecca C. Langrall, Linda M. Mitchell, Kathleen J. Sanders
Instructor: Robert Lane

Admission Requirements
In addition to the Graduate School admission requirements, students seeking the MEd in curriculum and instruction must meet both of the following criteria:
1. Show potential to do graduate work by meeting one or more of the following:
   (a) Graduate from the WSU teacher education program with a minimum GPA of 2.750 in the last 60 credit hours; or
   (b) Graduate from an NCATE accredited program with a minimum GPA of 2.750 in the last 60 credit hours; or
   (c) Take the Graduate Record Exam and score a minimum of 917 on any two of the subtests, or take the Miller Analogies Test and score a minimum of 40; or
   (d) Provide alternative evidence that documents academic aptitude.

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   (d) Provide alternative evidence that documents academic aptitude.
The MEd in special education may be earned under a thesis option or a non-thesis option. The non-thesis option requires 40 credit hours of course work and a written comprehensive examination. The thesis option requires 37 credit hours of course work, 6 hours of thesis work, and an oral examination on the thesis.

**Graduate Certificate in Educational Technology**
This program offers computer technology training to educators who wish to advance their knowledge of computers in education; integrate technology into classroom instruction; and use technology for communication. While providing documentation that educators have achieved some expertise in the technology area, it can assist those seeking such positions as technology coordinator in a school. The 15 hours of courses or workshops cover basic skills, integrating computer skills, and specific topics to address the changing needs of educators.

**Courses for Graduate/Undergraduate Credit**

CI 501. Professional Writing for Educators (1-3). Helps students learn the writing skills, techniques and typical procedures required for developing manuscripts for possible publication in the field of education. Addresses manuscripts for a variety of publication outlets.

CI 541. Desktop Publishing I (3). Desktop publishers control the entire publishing process, from creation and typesetting to printing and distribution, with equipment from the desktop. Word processing on the personal computer and laser printing are the two technological achievements that make possible a desktop publishing revolution. Stresses the design, harmony, legibility, copy fitting, and layout fundamentals.

CI 542. Desktop Publishing II (3). An intermediate-level course which enhances, enriches, and develops further skills and techniques used in desktop publishing. Students select from software packages in which they need additional emphasis toward mastery-level. Prerequisite: CI 541.

CI 615. Learning and Reading Strategies (3). Students are provided with the understanding of the development of learning and reading strategies and explore instructional approaches for guiding secondary students in these strategies and their use in content areas.

CI 616. Literature for Adolescents (3). Students participate in extensive reading of literature in all genres consistent with studies of adolescents; reading interests, abilities, and responses to literature. Prerequisite: acceptance into teacher education. Currently and previously certified teachers meet prerequisites.

CI 621. Instructional Strategies: Middle Level Education (3). Students examine the middle school as an organization that takes its design specifically from the analysis of 10-14 year olds, their characteristics and needs. Students examine many curricular and instructional alternatives for middle grades education and learn to manage changes.

CI 701. Foundations of Education (3). Students survey the various foundations areas, including philosophical, historical, social, and comparative. This course is prerequisite to subsequent foundations courses. Prerequisite: graduate standing.

CI 702. Introduction to Exceptional Children (3). A survey of the characteristics of exceptional learners, including the handicapped and the gifted. Presents service delivery models and current practices. Fulfills certification requirements for teachers and serves as an introductory course in exceptionality for special education majors, administrators, and school psychologists. Prerequisite: bachelor’s degree or departmental consent.

CI 705. Knowledge and Beliefs About Reading (3). Helps students understand the theories of reading development, individual student differences, the nature of reading difficulties, and principles of assessment. Includes the standards developed by the International Reading Association concerning knowledge and beliefs about reading as the learning outcomes. Prerequisite: graduate standing.

CI 706. Reflective Inquiry into Learning, Teaching, and Schools (5). Fosters the reflective thinking ability of teachers about the relationships among learning, teaching, and schools. Explores various frameworks of growth and development, learning theory, social and multicultural education, and philosophical foundations. Students are engaged in initial reading and investigation into individualized research topics. Prerequisites: admission to graduate school, CI 701.

CI 708. Current Topics in Curriculum (1-3). Addresses a broad range of topical issues in curriculum development and implementation. A current issue will be covered under this course number, an umbrella number for a variety of topics/innovations in curriculum. Repeatable.

CI 709. Current Topics in Instruction (1-3). Addresses a broad range of topical issues in current practices for effective instruction. A current issue will be covered under this course number, an umbrella number for a variety of topics/innovations in instructional practices. Repeatable.

CI 710. Current Topics in Classroom Management (1-3). Addresses a broad range of topical issues in current classroom management practices. A current issue will be covered under this course number, an umbrella number for a variety of topics/innovations in classroom management. Repeatable.

CI 711. Multicultural Education (3). Emphasizes students understanding multiple perspectives in a global society and developing multiple modalities, culturally aware curriculum experiences. Provides disciplined inquiry and critical experience "to become more responsive to the human condition, cultural integrity, and cultural pluralism in society" (NCATE, 1982, p. 14). Emphasizes diversity issues in education and the development of a knowledge base to support culturally responsible pedagogy. Prerequisite: graduate standing or departmental consent.

CI 712. Environmental Education (3). Provides basic information on environmental issues which can be addressed in the classroom. Become familiar with a wide range of resources for both teachers and their students. Stresses applying environmental issues to everyday teaching.

CI 713. Agriculture in the Classroom (2). K-12 teachers learn about agriculture and develop ways to integrate this information into their everyday teaching. Includes presentations, field trips, and projects showing how the food chain industry touches every person’s life. Teachers learn to integrate agricultural information into existing teaching basic subjects like math, language arts, social studies, science, and art.

CI 714. Reading Instruction and Assessment (4). Helps students create instructional environments; teaches phonemic awareness, word identification (including phonics), vocabulary-building skills, strategies for comprehension and the construction of meaning, and study strategies; and assess student performance and progress. Prerequisite: CI 705 or departmental consent.

CI 716. Introduction to School Librarianship (3). Introduces the role of the library and the librarian in the school. Studies issues affecting school libraries and librarians. Prerequisites: teacher certification and acceptance into graduate study in curriculum and instruction or departmental consent.

CI 717. Qualitative Inquiry in Education (3). Through readings and guided exercises in acts of inquiry in qualitative research, students acquire the disposition of a reflective inquirer, becoming familiar with the knowledge base for qualitative inquiry. Prerequisite: instructor’s consent.

CI 718. Acts of Qualitative Inquiry in Education (3). Through guided exercises and fieldwork in acts of inquiry in qualitative research, graduate students develop and employ the skills of the reflective, qualitative inquirer. Prerequisite: CI 717 or departmental or instructor’s consent.

CI 723. Analysis and Management of Behavior (3). Covers behavior management strategies specifically needed by classroom teachers to affect academic and social outcomes. Addresses technical, theoretical, and practical aspects of applied behavior analysis. Prerequisites: CI 320 or 702 and CI 430 or 711 or equivalent.

CI 724. Methods I: Academic and Cognitive Skills, Mild Exceptionalities (3). Introduces students to specific techniques for improving the cognitive skills and academic performance of students with mild exceptionalities (learning disabilities, emotional disturbances/behavior disorders, or mental retardation). Includes competencies for (a) teaching readiness, cognitive, and academic skills as well as content to students with exceptional learning needs; (b) using instructional decisions on data; (c) determining where to begin instruction for students with special needs; (d) instructional management and monitoring strategies; and (e) strategies for working with students with exceptional learning needs in general and special education settings. Prerequisites: CI 320 or 702, CI 430 or 711, admission to the Teacher Education Program or to the graduate program in special education as a non-degree-seeking student, or instructor’s consent.

CI 725. Implications and Applications of Technology to Education (3). Introduces students to the applications of technology to education through the presentation of teaching and learning strategies, current issues, and emerging technologies. Prerequisites: CI 430 or 711, admission to the Teacher Education Program or to the graduate program in special education as a non-degree-seeking student, or instructor’s consent.

CI 726. Informal Assessment (3). Introduces students to the techniques, tools, and strategies for informal assessment in curriculum and instruction. Prerequisites: CI 430 or 711, admission to the Teacher Education Program or to the graduate program in special education as a non-degree-seeking student, or instructor’s consent.

CI 727. Inclusion of Students with Exceptionalities (3). Introduces students to instructional strategies for preparing students with exceptionalities for inclusion in curriculum and instruction. Prerequisites: CI 430 or 711, admission to the Teacher Education Program or to the graduate program in special education as a non-degree-seeking student, or instructor’s consent.
with children (preschool-elementary years) emphasizing extending literature and media through the reading environment, language arts, the arts, and creative expression. Prerequisites: CI 715 and graduate standing.

CI 730. Curriculum in the School Library (3). Gives students knowledge about the role of the school library in curriculum. Addresses how the school library specialist teaches information literacy to students and staff. Prerequisite: CI 716.

CI 731. The Reflective and Inquiring Educator (6). Builds a foundation for reflective thinking about (a) the role of the educational practitioner; (b) educational issues in curriculum, instruction, and change theory; and (c) principles and applications of teacher-based action research. Prerequisite: admission to MEd in curriculum and instruction.

CI 732. Library Management and Design (3). Provides information and examples on ways to effectively manage a library. Covers budgeting, grants, policies, procedures, and collection/selection/deselection. Prerequisite: CI 716, 726, 728.

CI 734. Literature-Based Reading Programs (3). Students examine specific methods for developing a literature program

CI 743. Alternative Certification Internship I (3). Beginning of the required student teaching assignment for purposes of certification. Students teach half-time or more with a provisional certificate. Credit is given for a combination of (a) the teaching experience and (b) attendance and the completion of assignments in the scheduled seminars. Prerequisite: a school district and completion of course work for provisional teacher certification.

CI 744. Alternative Certification Internship II (3). Continuation of CI 743. Prerequisites: employment by a school district, CI 743 and 744, and admission to MEd in CI.

CI 745. Alternative Certification Internship III and IV (1). Continuation of CI 746 and 747. Prerequisites: employment by a school district, CI 746 and 747, and admission to MEd in CI.

CI 746. Alternative Certification Internship III and IV (1). Continuation of CI 745 and 746. Prerequisites: employment by a school district, CI 745 and 746, and admission to MEd in CI.

CI 747. Practicum: ESL/Bilingual Education (K-12 or adult) (3). Provides full-time participation in an ESL class supervised by a master teacher and a University professor. Focuses on the application of teaching strategies for ESL/bilingual learners, the appropriate use of formal and informal assessment procedures, the development of cross-cultural teaching strategies, and the integration of language with content-area instruction. Prerequisites: CI 430 or 711, CI 755U, CI 676.

CI 748. Alternative Certification Internship III (3). Prerequisites: employment by a school district and completion of course work for provisional teacher certification.

CI 749. Alternative Certification Internship IV (3). Prerequisites: employment by a school district and completion of course work for provisional teacher certification.

CI 750. Workshops in Education (1-4). Prerequisites: instructor's consent.

CI 751, 752, 753, 754, or 755. Special Studies in Education (1-3). For elementary and secondary school teachers. Repeatable with advisor's consent. Prerequisite: teacher certification or departmental consent.

CI 760. Parent Education (3). An introduction to working with parents of preschool and elementary children and an analysis of formal and informal approaches emphasizing the teacher's role in developing these procedures.

CI 761. Early Childhood Education (3). Students examine programs, problems, and practices of educating children in the preschool years. Prerequisite: admission to the Teacher Education Program.

CI 762. Instructional Strategies: Preschool Education (3). Students examine the content and methods of instruction in preschools and observe/teach in a variety of settings. Students study teaching methods for preschool children and prepare materials to enhance the learning experiences of these children. Prerequisite: CI 761.

CI 765. How Computers Work (1). The basics of how computers process, store, and retrieve data. All educators seeking a computer specialization should take this course early in their sequence of course work toward that specialization. Educators who want to know more about computers gain a basic knowledge base that will be helpful in other computer-related courses.

CI 771. Technology in the Classroom (2). Introduces classroom teachers to new technologies and their use in the classroom. Uses field trips and speakers to expose teachers to leaders in specific technology. Includes telecommunications, multimedia applications, integrated media, and new hardware and operating systems. Prerequisite: CI 770M or CI 770P or instructor's consent.
CI 772. Integrating Technology into the Curriculum (3).
Covers skills and strategies needed for classroom teachers to use computers and computer-related technology to meet curricular goals and professional standards. Includes professional standards, classroom management, choosing appropriate software, assessment, teaching strategies and activities, and professional resources. A project-based course; educators develop materials and strategies to assist in integrating available technology into the curriculum.

CI 774. Teaching English as a Second Language (3).
Examines current objectives for teaching English as a second language and a variety of methods and specialized techniques for obtaining these objectives. Students will develop knowledge of criteria for evaluating curricula, teaching materials and professional literature related to teaching English as a second language and Bilingual Education. Students will examine methods of selecting and adapting curricular ways to enhance the curriculum through developing activation plans for involving parent and community resources in the ESL/BE curriculum. This course is designed to meet the standards required for ESL/BE endorsement or certification in TESOL.

CI 775. Applied Linguistics: ESL/Bilingual Teacher(s) (3).
Examines the various definitions and practical considerations in the ESL/BE classroom. Explores a variety of established principles of language assessment, procedures for identification of language-minority students, and applications for these procedures and techniques. Covers level placement, monitoring of language development, and exit criteria for language programs. Introduces the desirable qualities of test: validity, reliability, practicality, and beneficial backwash.

CI 777. ESL Assessment (3).
Examines legal, theoretical, and practical considerations in the ESL/BE classroom. Explores a variety of established principles of language assessment, procedures for identification of language-minority students, and applications for these procedures and techniques. Covers level placement, monitoring of language development, and exit criteria for language programs. Introduces the desirable qualities of test: validity, reliability, practicality, and beneficial backwash.

CI 779. Integrating Technology into the Curriculum (3).
Examines the various definitions and practical considerations in the ESL/BE classroom. Explores a variety of established principles of language assessment, procedures for identification of language-minority students, and applications for these procedures and techniques. Covers level placement, monitoring of language development, and exit criteria for language programs. Introduces the desirable qualities of test: validity, reliability, practicality, and beneficial backwash.

CI 780C. Computers and the Young Child (2).
Learn to use the computer with children in preschool through second grade. Appropriate software is evaluated and used in planning for instruction.

CI 780L. Computers in Language Arts (2).
Enables classroom teachers to utilize computers and related technology in the language arts curriculum. Appropriate software is evaluated and used in planning for instruction.

CI 780M. Computers in the Math Classroom (1).
Focuses on the integration of software programs designed for middle and high school mathematics classrooms. Explore software and instructional activities which support math at the middle and high school levels using Apple IIe and Macintosh systems.

CI 780S. Computers in Science (2).
Introduces classroom teachers to applications of computer technology, CD-ROM, and laserdisc technology in the science curriculum. Appropriate software is evaluated and used in planning for instruction.

CI 781. Cooperative Education (1-4).
Provides the student evidence of a work-related placement that integrates theory with a supervised professional experience designed to complement and enhance the student's academic program.

CI 782. Internet in the Classroom (3).
This project-based course requires students to identify Internet resources that best meet classroom curriculum goals and plan using those resources. This course is designed to be completed by all students and to prepare them for using computers to access a classroom computer to the Internet.

CI 783. Special Projects in Internet (1).
Explores and expands your knowledge of Internet. Complete a special project designed to utilize knowledge and experiences gained in CI 782. Students and instructor establish goals and activities appropriate for graduate-level study and applicable in an educational setting. Prerequisite: CI 782 or instructor's consent.

CI 784. Beginning Algorithms and Problem Solving (2).
Introduces the fundamental concepts of computer programming.

CI 790. Special Problems in Education (1-4).
Directed reading, activity, or research under supervision of a graduate instructor. Prerequisite: department consent.

CI 791. Practicum: Methods of Computer-Related Instruction (2).
Investigates teaching and learning strategies related to the use of computers in the classroom. Includes the design and management of instructional activities related to software integration, programming, and the development and assessment of computer-related student competencies. Students will be supervised in the field while they apply methods and principles of computer-related instruction. Prerequisite: CI 772 or department consent.

CI 793. Multimedia in the Classroom (2).
Prepares educators to plan and create multimedia presentations. Includes digitizing audio and video, storyboards, scripting, appropriate hardware, and authoring software.

Courses for Graduate Students Only

CI 802. Seminar on Current Issues in Special Education (3).
Analyzes recent research, integrates understandings, and evaluate current issues in light of historical events, and discuss conclusions relating theory to practice. Students must submit at least two papers. Prerequisites: CI 731 and CI 732.

CI 804. Classroom Research in Curriculum and Instruction (6).
Students identify research questions and design, analyze, and submit reports to evaluate the effectiveness of educational policies and practices. Students must submit at least two papers. Prerequisites: CI 731 and CI 732.

CI 805. Philosophy, History, and Psychology of Secondary and Elementary Education (3).
Survey of the philosophical, historical, and psychological foundations of education. Prerequisites: CI 731 and CI 732.

CI 806. Seminar in Secondary Education (2).
Focuses on the principles, concepts, and historical foundations of secondary education. Prerequisites: CI 731 and CI 732.

CI 807. Seminar in Elementary Education (2).
Explores the principles, concepts, and historical foundations of elementary education. Prerequisites: CI 731 and CI 732.

CI 808. Seminar in Special Education (2).
Explores the principles, concepts, and historical foundations of special education. Prerequisites: CI 731 and CI 732.

CI 809. Foundations and Characteristics of Mild Exceptionalities (3).
Introduces students to the principles, concepts, and historical foundations of mild exceptionalities. Prerequisites: CI 731 and CI 732.

CI 810. Methods II: Social Skills for Mild Exceptionalities (3).
Provides the knowledge and skills necessary to teach social skills and affective education to children with mild exceptionalities. Prerequisites: CI 731 and CI 732, and CI 784.

CI 811. Family and Professional Collaboration (3).
Assists the special educator in developing the skills to collaborate and consult with parents, siblings, regular educators, support personnel, and community agencies to facilitate the needs of children with exceptionalities. Prerequisites: CI 731 and CI 732, and CI 784.

CI 812. Transition Across the Life Span (3).
Examines aspects of transition programming for individuals with exceptionalities across their life span. Addresses transition from (a) early childhood special education settings to the
COLLEGE OF EDUCATION/ CURRICULUM AND INSTRUCTION 55

Prepares educators in the foundations of education, including learning theories, instructional design, and assessment. Includes interdisciplinary components.

Special Education

Exposes students to the principles, theories, and practices of special education, focusing on understanding, intervention, and support for individuals with exceptional needs. Prerequisites: CI 856, CI 870, CI 875.

Curriculum and Instruction

Examines the role of curriculum in shaping educational practices, with a focus on developing reflective practitioners. Prerequisite: CI 870.

Exemplifies the ways in which curriculum is designed, implemented, and evaluated in diverse settings. Prerequisite: CI 870.

Technology of Second Language Acquisition

Analyzes the theories and practices of second language learning, emphasizing the role of technology in language instruction. Prerequisites: CI 860 and CI 870.

Exemplifies the use of technology in language teaching, focusing on the integration of technology into language classrooms. Prerequisite: CI 870.

Childhood Special Education for Infants/Toddlers and Families (3)

Provides an overview of early childhood special education, focusing on the needs of infants and toddlers, and their families. Prerequisites: CI 820 or CI 870, and admission to the MEd program.

Exemplifies the approaches and strategies used in early childhood special education, emphasizing inclusive practices and family-centered services. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of assistive technology and digital tools. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital storytelling and interactive environments. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of virtual reality and simulation environments. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of mobile devices and applications. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of educational games and simulation software. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for assessment and evaluation. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for communication and collaboration. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for instruction and curriculum development. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for professional development and coaching. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for administration and management. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for family engagement and outreach. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for policy and advocacy. Prerequisite: CI 820 or CI 870.

Exemplifies the role of technology in early childhood special education, focusing on the use of digital tools for research and evaluation. Prerequisite: CI 820 or CI 870.
ions (including school-age individuals with exceptionalities and reading disabilities as well as young children and culturally and linguistically diverse learners), and alternative methods of assessment and intervention techniques based on diagnostic profiles. Prerequisites: CI 520 or 702, 430 or 711, 723 and 724, full admission to the MEd program in special education, or instructor's consent.

CI 889. Action Research in Special Education (3). Students learn the process of classroom inquiry and reflection through the use of action research. Students identify a curriculum or instruction question related to special education settings. Through research, students seek to answer the question and prepare a paper to disseminate findings to professional colleagues. Prerequisites: Completion of the Core 1 provisional sequence in one of the MEd in special ed specializations. For mild exceptionalities: CI 723, 745, 847E, I, or K Practicum; and 887. For early childhood special ed: CI 740, 741, 842, 847A Practicum, and 887. For gifted education: CI 735, 847M Practicum, and 893.

CI 894. Advanced Topics in Early Childhood Special Education (1-4). Students participate in topical seminars in early intervention opportunities presented periodically to facilitate opportunities for the in-depth study of critical issues or topical research in this emerging discipline. Prerequisites: CI 740, 741, 842, 847A Practicum, and 887. For gifted education: CI 735, 847M Practicum, and 893.

Kinesiology and Sport Studies (KSS) Graduate Faculty

Professors: Lori K. Miller (associate dean, Education), Susan K. Kovar (dean, Graduate School) Associate Professor: Pamela J. Hoyes Beehler (Chairperson), Michael Rogers, Clay Stoldt

Assistant Professors: Greg Comfort, Vicki Worrell

Degrees and Areas of Specialization

The Department of Kinesiology and Sport Studies offers courses of study leading to the Master of Education (MEd) in sport administration or in physical education with a concentration in either pedagogy or exercise science. Academic training is for students who wish to prepare for careers in physical education programs in public schools and universities, for careers in exercise science/wellness, and for careers in sport administration.

Admission Requirements

Admission to the master's degree program in physical education requires students to have completed an undergraduate degree from a nationally accredited institution with a grade point average of 2.750 (4.000 system) in the last 60 credit hours of course work including any post-bachelor's graduate work. Students selecting the physical education major may be required to take prerequisites prior to full standing admission.

Admission to the master's degree program in sport administration is considered for students who have completed an earned undergraduate degree from a regionally accredited institution with a grade point average of 2.750 (4.000 system) for the last 60 hours of course work, in accordance with WSU graduate policy. Candidate evaluations are based on one of two options: (a) GPA for the last 60 hours of course work and faculty evaluation based on letter of application, resume, and letters of recommendation or (b) GPA for the last 60 hours of course work, cumulative score for the verbal and quantitative sections of the Graduate Record Exam, and faculty evaluation based on letter of application, resume, and letters of recommendation. The program limits admissions to 30 students per year with a minimum score of 60 (out of 100 possible) based on the above admission criteria options.

Master of Education Requirements

The Master of Education (MEd) in physical education may be earned under a 33-credit-hour thesis option or a 36-credit-hour nonthesis option. The exercise science/wellness program offers a 34-hour thesis option and a 36-hour nonthesis option. The thesis option requires an oral examination on the research; the nonthesis option requires a written comprehensive examination.

The MEd program in sport administration requires 30 hours of course work, a 6-hour internship, a completed culminating project, and a final written examination.

Graduate Certificates

Students seeking a graduate certificate must be admitted to the Graduate School in a degree program or in no degree category A status. All Graduate School policies relative to admissions apply. Students must maintain a grade point average of 3.00 or better.

Graduate Certificate in Functional Aging. This certificate provides knowledge and training for those working in the field of aging. It will help them to assist older adults in retaining sufficient levels of functional ability and to understand the physiologic changes that occur with aging and how these changes impact the quality of life for older adults.

Students must receive approval to enter this certificate program from their graduate advisor and the Certificate in Functional Aging Faculty Committee. To initiate the application process, candidates must provide a completed application form and a one-page statement to the Certificate in Functional Aging Faculty Committee explaining the student's purpose and interest in obtaining the Certificate in Functional Aging, as well as their career plans.

The program consists of 13 hours of course work:

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<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>K S S 780, Physical Dimensions of Aging or GERON 715, Adult Development and Aging</td>
<td>3</td>
</tr>
<tr>
<td>K S S 895, Research in Functional Aging</td>
<td>3</td>
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<tr>
<td>K S S 895, Applied Research</td>
<td>3</td>
</tr>
<tr>
<td>PSY 497, Seminar in Perception or CDS 812</td>
<td>3</td>
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<tr>
<td>Normal Aging, Aphasia, and Dementia</td>
<td>3</td>
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</tbody>
</table>

PSY 520, Seminar in Human Factors

Psychology or GERON 798, Multidisciplinary Perspectives in Aging | 3 |

PSY 911, Seminar in Aging | 1 |

Graduate Certificate in Coaching. The coaching certificate, a 16-hour program, educates current or potential coaches on coaching models, risk management and sport safety, sport psychology, and organization and administration.

The program consists of 16 hours of course work:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>K S S 544, Organization and Administration of Physical Education Programs</td>
<td>3</td>
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<tr>
<td>K S S 750, Sport Safety Training</td>
<td>1</td>
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<tr>
<td>K S S 770, Psychology of Sport</td>
<td>3</td>
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<tr>
<td>K S S 795, Physiology of Athletic Performance</td>
<td>3</td>
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<tr>
<td>K S S 796, Motor Integration</td>
<td>3</td>
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<tr>
<td>K S S 635, Legal Issues in the Profession</td>
<td>3</td>
</tr>
</tbody>
</table>

Courses for Graduate/Undergraduate Credit

K S S 500. Health Education K-12 (3). Provides practical applications of theoretical models of change for health field. Discusses health problems, strategies for affecting change, and outcome assessment. Develops decision-making and evaluation skills. Field trips to selected local health agencies. Additional projects required for graduate students. Prerequisite: Block I of teacher education program.

K S S 515. Rhythmic Activities in K-12 (3). Exercises with rhythmic activities appropriate for elementary and middle school children. Prerequisite: Block I of teacher education program.

K S S 520. Sport Tournament and Event Management (3). A detailed account of the structural design, mathematical calculations, scheduling principles, procedures, and thought processes involved in organizing and conducting sport tournaments and events. Prerequisite: K S S 112.

K S S 525. Sport Facility Management (3). Focuses on various aspects of facility management, such as mission development, funding and budget, site selection/planning/design, floor surfaces, risk management, equipment purchase and maintenance, and personnel management. Prerequisite: K S S 112.

K S S 526. Sport Public Relations (3). Focuses on the application of public relations principles in a sport-related setting. Significant attention to media relations with specific topics including media guides and publications, handling statistics, and crisis management. Prerequisite K S S 380 and 465.

K S S 528. Sport Finance (3). Introduces the student to financial challenges, financial statements and related issues within sport organizations. Prerequisite: K S S 380 and 465.

K S S 530. Physiology of Exercise (3). Selects, assesses, and interprets the physiological responses to exercise. Selection of appropriate lab materials and equipment. Prerequisite: K S S 229 or equivalent.
KSS 540. Seminar in Sport Business (3). Integrates the
knowledge base of sport and business as it applies in the prac-
tical setting. Prerequisites: 2.500 GPA, admission to College of
Education, KSS 460, and senior standing.

KSS 543. Organization and Administration of Exercise
Science (3). Introduces the various organizational and admin-
sistrative issues existing in the field of exercise science. Addres-
ses the concepts and issues involved with administering and
organizing facilities such as corporate-sponsored wellness pro-
grams, sports medicine clinics, exercise laboratories, athletic
training departments, physical therapy centers, cardiac-pulmo-
ary rehabilitation clinics, and health and fitness centers.

KSS 544. Organization and Administration of Physical
Education Programs (3). The organizational and adminis-
tative problems of physical education programs and the
management of the physical plant.

KSS 547A. Internship in Sport Administration (3). Culmi-
minating activity for students in sport administration. Stu-
dents spend the equivalent of full-time employment in an
appropriate agency for a total of at least 520 hours. Prerequi-
tes: 90 hours of accumulated course credit, KSS 475, 2,500
GPA overall, and internship coordinator's approval.

KSS 547B. Internship in Sport Administration (3). Sec-
ond internship experience for students in sport administra-
tion. Takes place in a different setting than KSS 547A. Stu-
dents spend the equivalent of full-time employment in an
appropriate agency for a total of at least 520 hours. Prerequisites:
KSS 547A, 2,500 GPA overall and in major, senior standing.
in College of Education, advisor's approval.

KSS 557. Internship in Exercise Science (3). Culmi-
minating activity for students completing the BA in exercise science.
Students spend the equivalent of full-time employment in an
appropriate agency for one full semester. Prerequisites: senior
standing, departmental consent, KSS 470, 2,500 minimum
GPA overall and in major, admission to College of Education.

KSS 560. Legal Aspects of Sport and Physical Activity
(3). Focuses on the concepts of tort law, constitutional law,
and statutory law as they relate to the sport professions.
Emphasizes liability-related issues as they impact sport
administrators, exercise professionals, and teachers/coaches
of physical activity. Prerequisites: KSS 112, 380, and 465.

KSS 565. Marketing Sport and Physical Activity
Programs (3). Introduces concepts and tools used to market
sport and physical activity. Emphasizes marketing strategies
that are applicable to the sport administrator, teacher/coach,
and exercise professional. Prerequisite: MKT 300.

KSS 590. Independent Study (1-3). Prerequisite: depart-
mental consent.

KSS 570. Teaching Strategies (3). Non-traditional and
innovative techniques and strategies for increasing student
participation and motivation in the physical education lesson.
Prerequisites: senior standing, graduate standing, or instruc-
tor's consent.

KSS 576. Communication in Sport (3). Since a sport or-
ganization's success is largely dependent on the degree to which
it can effectively communicate with key constituents, this
class addresses a variety of communication-related topics,
including public relations management, image, media rela-
tions, and community relations.

KSS 572. Introduction to ECGs (3). Develops a founda-
tion in electrocardiography. Includes ECG leads, rate and
rhythm, ECG complexes and intervals, conduction disturb-
ances, rhythms and location, and drug effects on an ECG. Prerequisites: KSS 530 and senior standing, full standing in the Graduate School, or Instructor's consent.

KSS 750. Workshop in Education (1-4).

KSS 752. Special Studies in Kinesiology and Sport
Studies (1-3). Group study in a prescheduled area of health,
physical education, or recreation. Repeatable for credit with
departmental consent. Prerequisite: departmental consent.

KSS 760. Sport in Society (3). Impact of sports on Amer-
ican culture, with focus on competition, economics, mytho-
education, religion, ethics, professional sports, sports and
minorities.

KSS 762. Tests and Measurement in Human Perfor-
mance (3). Introduces testing, measurement, and evaluation
methods used in human performance and related fields.
Students learn to conduct valid, reliable, and objective labora-
tory/field testing, measurement, and evaluation procedures
commonly used in human performance settings. Prerequisites:
KSS 111, 201E, 229, 326, and 530.

KSS 770. Psychology of Sport (3). An in-depth analysis of
the psychology of motor learning and its implications for the
teacher/coach.

KSS 780. Physical Dimensions of Aging (3). Covers the
complex physiological changes that accompany advancing
age and how exercise affects the aging process. Includes an
examination for how functional consequences affect mental
and social dimensions of life. Emphasizes factors associated
with the preparation, implementation, and evaluation of
research projects involving elderly populations.

KSS 781. Cooperative Education Field Study (1-8).
Provides the graduate student with a field placement which inte-
grates theory with a planned and supervised professional
experience designed to complement and enhance the stu-
dent's academic program. Individualized programs must be
formulated in consultation with appropriate graduate faculty.
The Plan of Study for a graduate degree-bound student may be
filed before approval of enrollment for cooperative education
graduate credit. May be repeatable for credit with a limit of
8 hours counting toward the graduate degree. Offered
On NO only.

KSS 790. Applied Exercise Physiology (3). Focuses on
the applied aspect of exercise physiology. Includes the areas of
environmental influences on performance; optimizing per-
formance through training, nutrition, and ergogenic aids;
training and performance of the adolescent athlete and of eld-
erly; and the differences in performance and training between
sexes. Prerequisite: KSS 530 or 830.

KSS 795. Physiology of Athletic Performance (3).
Explores the physiological responses involved with various
athletic performances, including sports requiring endurance,
speed, and power. Includes such areas of physiological study
as metabolic energy systems, cardiovascular and skeletal
muscle adaptation, muscle fiber type differentiation, and
responses to extreme environmental conditions. Discovers
parameters for performance and establishes guidelines for
training at high levels of performance.

KSS 796. Motor Integration (3). Examines the principles
of motor skill acquisition, human motor performance, and
motor control. Emphasizes the use of transfer, memory, prac-
tice schedules, motivation, knowledge of results, neuromotor
functioning, and differences in motor abilities that are
involved in motor skill performance. Prerequisite: graduate
standing at WSU.

Courses for Graduate Students Only

KSS 800. Recent Literature in the Profession (3). Sur-
vey and critical analysis of research and other pertinent mate-
rials in the field.

KSS 801. Leadership and Management in Sport (3).
Initial introduction into the administration of sports in pub-
lic schools, institutions of higher education, and commer-
cial and professional sports organizations. Learn about the
various components of sports administration by reading appro-
riate materials and entering into dialogue with practicing
administrators.

KSS 803. Sport Marketing (3). Focuses on the application
of marketing principles in a sport-related setting. Addresses
such content areas as corporate sponsorships, ticket sales,
broadcast agreements, promotional events, and direct mar-
ketin in the sport entertainment, sport participation, and
sporting goods sectors of the Industry.

KSS 814. Analysis of Teaching (3). An in-depth exami-
nation of teacher effectiveness. Includes analyzing of
research in physical education, identifying significant
teacher and student behaviors involved in effective teach-
ing, examining evaluation models designed for analyzing
and measuring teaching effectiveness, and developing
intervention programs.

KSS 815. Fitness Assessment/Exercise Recommend-
tions (3). Introduces techniques appropriate for screening,
health appraisal, and fitness assessment as required for pre-
scribing exercise programs for individuals without disease or
with controlled disease. Requires out-of-class laboratory
experiences. Prerequisites: KSS 530 or equivalent and gradu-
ate standing.

KSS 816. Physical Education in Secondary Schools (3).
For the physical education specialist. New concepts and
recent trends in methodology, programming, and supervision at the secondary level.

K SS 825. Physical Education in Elementary Schools (3). For the elementary teacher and physical education specialist. New concepts, recent trends, methodology, programming, and supervision.

K SS 830. Advanced Physiology of Exercise (3). In-depth study into the physiological basis of exercise. Includes energy metabolism, respiratory dynamics, cardiovascular function, and regulation during rest, steady state, and exhaustive physical activity. Emphasizes immediate and long-term adaptation to exercise and training. Prerequisite: K SS 550.

K SS 835. Legal Issues in the Profession (3). Acquaints the graduate student with legal research and the role that law plays in governing the sport and fitness industries. Actively research various theories of law and how they affect the nature of sport, fitness activity, the participants, and consumers. Investigates the basic concept of negligence utilizing illustrative cases from sports, physical education, and fitness activities. Also focuses on specific situations regarding injury and subsequent lawsuits.

K SS 847. Internship (1-12). Internship in selected areas of specialization in sport administration. Prerequisite: departmental consent.

K SS 857. Internship in Exercise Science/Wellness (6). Internship in selected area of specialization within the exercise science/wellness program. Students spend the equivalent of full-time employment in an appropriate agency for one full semester. Prerequisite: departmental consent.

K SS 860. Research Methods in the Profession (3). Examination of research methodology as related to topics in health, P.E., recreation, sports studies, and exercise science/wellness. Includes review and critical evaluation of the literature, research design and statistical processes, methodology, data collection techniques, computer-based analysis of data and thesis/report writing. Students design and complete a mini-research project. Prerequisite: K SS 800.

K SS 862. Professional Portfolio Development (1-2). Students develop the professional portfolio proposed and accepted in CI 860. In consultation with their portfolio advisor and two other faculty members, students proceed with their approved agendas. Prerequisite: CI 860.

K SS 863. Presentation of Professional Portfolio (1-2). Students complete, present to their faculty portfolio committee, and orally defend the professional portfolio proposed in CI 860. Prerequisites: CI 860 and K SS 862 or CI 862 (or concurrent enrollment in 862).

K SS 875. Thesis Research (1-2). Development of a research problem and proposal with the direction of a graduate faculty member. Repeatable but total credit hours counted toward degree requirements must not exceed 2. Prerequisites: admission to graduate school in good standing, K SS 860 and departmental consent.

K SS 876. Thesis (1-2). Repeatable but total credit hours counted toward degree requirements must not exceed 2. Students must be enrolled in this course during the semester in which all requirements for the thesis are met. Prerequisites: K SS 875 and consent of the student's committee chair.

K SS 890. Special Topics (1-4). Directed reading and research under supervision of a graduate instructor. Prerequisite: departmental consent.

K SS 895. Applied Research (1-4). Provides opportunity for the student to develop, in collaboration with a departmental faculty member, objectives and protocol for independent work.

Music Education
See School of Music section, College of Fine Arts.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R; 2L means 4 hours of lecture and 2 hours of lab.
College of Engineering

Offices: 100 Wallace Hall
Walter J. Horn, interim dean
Mark M. Jong, associate dean

Departments
Aerospace, (316) 978-3410—Walter J. Horn, chairperson; Kamran Rokhsaz, master’s graduate coordinator; Klaus Hoffmann, doctoral graduate coordinator
Electrical and Computer, (316) 978-3415—M. Ed Sawan, chairperson and graduate coordinator
Industrial and Manufacturing, (316) 978-3425—Abu Masud, chairperson and graduate coordinator
Mechanical, (316) 978-3402—Jharna Chaudhuri, chairperson; Behnam Bahr, graduate coordinator

The College of Engineering offers graduate programs leading to a Master of Science (MS) and a Doctor of Philosophy (PhD) in aerospace engineering, electrical engineering, industrial engineering, and mechanical engineering. Areas of specialization can be found in the individual departmental sections. A Master of Engineering Management (MEM) is also offered; details can be found in the Industrial and Manufacturing Engineering Department section. The graduate programs are enhanced by the presence of the industrial complex in Wichita and of the National Institute for Aviation Research on the Wichita State campus.

Master of Science
Admission Requirements
To be admitted to the MS program, students must have completed the equivalent of an undergraduate degree in an engineering or related field. Students with deficiency in certain areas may be required to take additional courses. Master’s engineering programs require a minimum GPA of 3.00/4.00 for admission to full standing, 2.750/4.00 for admission on probation, and 2.500/4.00 for admission to non-degree category B. All GPAs are based on the last two years or approximately 60 credit hours of course work. These standards may be waived at the discretion of the individual department based on an applicant’s other qualifications. Scores for the general test of the Graduate Record Examination (GRE) are recommended for all students applying from non-U.S. institutions. The GRE scores will help in the admission decisions for those students with marginal grades.

Degree Requirements
The MS degree requires the completion of a Plan of Study approved by the student’s advisor and the department graduate coordinator, which must be filed within the first 12 credit hours of graduate course work. Three options are available:

1. the thesis option requires a minimum of 24 hours of course work plus a minimum of 6 hours of thesis,
2. the directed project option requires a minimum of 30 hours of course work plus a minimum of 3 hours of directed project, and
3. the course work option requires a minimum of 33 hours of course work.

At least 60 percent of the hours in the Plan of Study must be 700-level or above. Additional details of the MS degree may be obtained from the department graduate coordinator.

Examination
Before the MS degree is granted, candidates in the thesis option must pass an oral examination over the thesis. Candidates in the directed project option must give an oral presentation and submit a written report on their directed project. Candidates in the course work option must pass a written exit exam. Details of the exit exam can be obtained from the department graduate coordinator.

Doctor of Philosophy
PhD programs are offered by the four departments of engineering at WSU. A grade point average of at least 3.25 in the last 60 hours or nearest two years is required for admission. Typical fields of specialization can be found in the individual departmental sections. These fields will be used in determining testing areas for the comprehensive examination in the major and minor fields.

Admission Requirements
Admission to any PhD program in engineering requires that the student has completed (or nearly completed) a master’s degree in engineering or physical science. Scores for the general test of the Graduate Record Examination (GRE) must be submitted. Some students may find it necessary to take prerequisite courses to be able to meet the course breadth requirements. The student is recommended to the graduate dean for admission by the department chairperson in consultation with the graduate coordinator of the department where the graduate student will be housed.

Plan of Study and Advisory Committee
Within the first 12 hours of PhD course work, the department chairperson, in consultation with the graduate coordinator and the student, recommend to the graduate dean for approval for each student. The committee will be composed of a minimum of five graduate faculty, with at least four having full membership including the chairperson who also must have authorization to chair doctoral committees. A majority of the advisory committee members must be from the major department and at least one member must be outside the student’s major department. The chairperson of the advisory committee should be the student’s dissertation advisor. The student and advisory committee chairperson will formulate a Plan of Study and a tentative dissertation topic for approval by the advisory committee, the department chairperson or graduate coordinator, and the graduate dean. The Plan of Study will include designation of major and minor fields and all graduate-level course work which is applicable to the degree.

Course Breadth Requirements: To ensure proper breadth of course work, the Plan of Study must include at least 15 hours in the student’s major field and 18 hours outside the major area. The 18 hours must include a minimum of 6 hours in a minor area (defined by the advisory committee) and a minimum of 6 hours of mathematics/statistics. A Plan of Study normally contains about 60 hours of course work, including courses from the master’s degree, and should have a minimum of 60 percent of the hours (24 dissertation hours included) beyond the master’s work at the 800-900 level or equivalent.

Comprehensive Examination
After the PhD Plan of Study has been approved and after sufficient course work has been completed, the student must take the comprehensive examination given by the advisory committee. The comprehensive examination will cover the major and minor fields and any course that the advisory committee deems necessary. The student’s advisory committee is responsible for ensuring that the student takes the comprehensive examination at the appropriate time. No part of the comprehensive examination may be attempted more than twice. Upon passing the comprehensive examination, a student is known as an aspirant for the PhD.

Time Limits and Residency Requirement
From the time the student is admitted to the program, no more than six years may elapse until requirements for the degree have been completed. However, the student may petition the advisory committee for a leave of absence to pursue full-time professional activities related to his/her doctoral program and long-range professional goals. At least two semesters shall be spent in residency on the WSU campus involved in full-time academic pursuits. This may include up to half-time teaching and research. Well-designed plans for obtaining dissertation research experience under the supervision of the student’s advisor will be considered in lieu of the residency requirement.

Dissertation Approval Examination (DAE)
When the PhD aspirant has completed the major portion of the course work, the advisory committee can
petition for permission to administer the DAE. The aspirant will submit a written dissertation proposal to the advisory committee. After receiving the proposal and receiving permission of the graduate dean, the advisory committee will conduct an oral examination to determine the aspirant's ability to carry out the proposed research and whether or not the research qualifies as a PhD dissertation. Any essential change in the project requires committee approval.

After passing the DAE, the student is known as a candidate for the PhD degree. A candidate must be continuously enrolled in PhD Dissertation for a minimum of 6 hours each semester and 2 hours in the Summer Session until completion of the dissertation or 24 hours of PhD Dissertation have been taken. After this, 2 hours per semester and 1 hour per summer are required. In any case, no less than 24 hours of enrollment for PhD Dissertation will be required. The dissertation may be performed in absence with the approval of the advisory committee.

Final Dissertation Examination
The student must defend the dissertation before the advisory committee. At least five months must elapse between the DAE and the final examination. The final examination will be open to the public. Invited guests or external examiners may be invited if the committee desires.

Aerospace Engineering (AE)
Graduate Faculty

Professors: Klaus A. Hoffmann (doctoral graduate coordinator), Walter J. Horn (chairperson), L. Scott Miller, Michael Papadakis, Kamran Rokhsaz (master's graduate coordinator), Bert L. Smith

Associate Professors: James E. Locke, Roy Y. Myoso, M. Gawad Nagati, James E. Steck, John S. Tomblin

Assistant Professor: Thomas E. Lacy

The Department of Aerospace Engineering offers programs leading to Master of Science (MS) and Doctor of Philosophy (PhD) degrees. Faculty research provides valuable educational opportunities for graduate students. Current research topics include acoustics, aerelasticity, aerothermodynamics, aircraft dynamic loads, aircraft flight dynamics, aircraft icing, airfoil design and rotor aerodynamics, artificial neural networks, composite materials, computational fluid dynamics, computational solid mechanics, continuum damage and fracture mechanics, damage tolerance, design, experimental aerodynamics, finite element analysis, flight dynamics and control, flight mechanics, hypersonics, intelligent control, laser velocimetry, solid mechanics, structural dynamics, and theoretical and applied aerodynamics.

The department's research and instructional facilities are among the finest in the nation. They include six wind tunnels, a water tunnel, and a structural testing laboratory. Graduate students have opportunities to use the equipment in all laboratories for their research projects. Students also may use the research facilities in the University's National Institute for Aviation Research, including a composite materials lab and a crash dynamics lab. Computer facilities for students include mainframe terminals, high performance workstations, and various personal computers.

The department's programs are enhanced by Wichita's aviation heritage and the presence of major aerospace companies in the city, including Airbus, Boeing, Cessna, Learjet, and Raytheon.

Graduate course work is scheduled so that engineers employed in the local industry may conveniently pursue graduate degrees.

Master of Science

Courses of study leading to the MS degree are available with specialization in any of the following four fields: (1) aerodynamics and fluid mechanics; (2) structures and solid mechanics; (3) flight dynamics and control; and (4) multidisciplinary analysis and design. Details of the MS program requirements can be found under the College of Engineering heading.

Doctor of Philosophy

Courses of study leading to the Doctor of Philosophy (PhD) degree are available with specializations in the same fields as listed above for the MS degree. Details of the PhD program requirements can be found under the College of Engineering heading.

Graduate Courses

All graduate courses must be approved in advance of enrollment by a student's graduate advisor.

Courses for Graduate/Undergraduate Credit


AE 508. Systems Dynamics (3). Lumped parameter modeling; classical, numerical, linear, and state model methods of solution; introduction to systems with feedback analogies of various physical systems. Prerequisites: AE 373 and MATH 555.

AE 512. Experimental Methods in Aerodynamics (2). 4T.

A study of experimental methods and test planning, error analysis and propagation, model design, instrumentation and flow visualization. Uses subsonic and supersonic wind tunnels. Prerequisite AE 424.


AE 625. Flight Structures II (3). Strength analysis and design of flight vehicle components. Introduction to energy methods and variational principles. Application of finite element method to the analysis of flight vehicle structures. Special projects in structural analysis and design. Prerequisite AE 525.

AE 628. Aerospace Design II (4). 2R; 2L. Preliminary design of flight vehicles, design iteration, sensitivity studies, optimization, economic considerations, and introduction to project management. Prerequisite: AE 528.

AE 653. Basic Composite Material Technologies (3). Introduces basic composite material technologies including mechanical behavior, material classification, testing, for mechanical properties, manufacturing methods, nondestructive inspection, and design. Prerequisite: AE 333.

AE 654. Manufacturing Composite Structures (2)-1. Manufacturing methods and tooling for fiber-reinforced polymer matrix structures and structural components. Prerequisites: both ME 250 and AE 653 are recommended.

AE 660. Selected Topics (1-3). New or special topics presented on sufficient demand. Repeatable for credit when subject matter warrants. Prerequisite: instructor's consent.

AE 690. Independent Study (1-3). Arranged individually under the supervision of a faculty member. Repeatable for credit. Prerequisite: consent of supervising faculty member.
AE 702. Aerospace Propulsion II (3). In-depth study of rocket and jet propulsion. Turboprop and rocket engine components. Effect of operating variables on turbojet cycles and rocket performance. Prerequisite: AE 502 or instructor's consent.

AE 703. Rotor Aerodynamics (3). Aerodynamics of rotors, including propellers, wind turbines, and helicopters; momentum, blade element, and potential flow analysis methods; helicopter dynamics, control, and performance. Prerequisite: AE 424.

AE 707. Modern Flight Control System Design I (3). Modern multi-loop design methods for stability and control augmentation and guidance systems, specifically for aerospace vehicles. State variable model. Optimal state feedback gains and Riccati’s equation, tracking systems, sensors and actuators, discretization of continuous dynamic systems, optimal design for digital controls, and effect of non-linearities and trim conditions on design considerations. Prerequisites: AE 514 or AE 714, and AE 607 or ECE 684 or ME 659.

AE 711. Intermediate Aerodynamics (3). Study of potential flow equations of motion, singularity solutions, principle of superposition, conformal mapping, thin airfoil theory, finite wing theory, effects of fluid inertia, three-dimensional singularities, swept wing theory, delta wing theory, introduction to panel methods, and an introduction to automobile aerodynamics. Prerequisite: AE 424 or ME 521.

AE 712. Advanced Aerodynamics Laboratory (3). Advanced topics in wind tunnel testing including analysis and sensitivity modeling techniques, theoretical design and calibration, control surface loads and moments, laser velocimetry, hot film anemometry, dynamic signal processing, flow measurement probes, flow visualization using smoke tunnels and water tunnel. Prerequisite: AE 512 or instructor's consent.

AE 713. Introduction to Aerelasticity (3). Studies phenomena involving interactions among aerodynamic, inertial, and elastic forces. Explores influence of these interactions on aircraft design. Includes such specific cases as divergence, control effectiveness, control reversal, flutter, buffetting, dynamic response to rapidly applied periodic forces, aeroelastic effects on load distribution, and static and dynamic stability. Prerequisites: AE 333, 424 or equivalent.


AE 716. Compressible Fluid Flow (3). Analysis of compressible fluid flow for one- and two-dimensional cases, moving shock waves, one-dimensional flow with friction and heat addition, linearized potential equation, method of characteristics, conical shocks, and subsonic similarity laws. Prerequisites: AE 424, ME 521 or equivalent.

AE 719. Introduction to Computational Fluid Dynamics (3). Classification of partial differential equations, numerical solution of parabolic, elliptic, and hyperbolic differential equations, stability analysis, boundary conditions, scalar representation of the Navier-Stokes equations, incompressible Navier-Stokes equations. Prerequisite: AE 424 or ME 521.

AE 722. Finite Element Analysis of Structures I (3). Advanced treatment of the theoretical concepts and principles necessary for the application of the finite element method in the solution of differential equations in engineering. Prerequisite: AE 625 or equivalent or instructor’s consent.

AE 731. Theory of Elasticity (3). Develops the equations of the theory of elasticity and uses them to determine stress and displacement fields in linear elastic isotropic bodies; uses Airy stress functions to obtain solutions; and introduces energy principles and variational methods. Prerequisite: instructor’s consent.


AE 739. Neural Networks for System Modeling and Control (3). Introduces specific Neural Network architectures used for dynamic system modeling and intelligent control. Includes theory of feed-forward, recurrent, and Hopfield networks; applications in robotics, aircraft and vehicle guidance, chemical processes, and optimal control. Prerequisites: AE 607 or ME 659 or ECE 684 or instructor’s consent.

AE 760. Selected Topics (1-3). Prerequisite: instructor’s consent.


AE 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 of multidegree freedom systems. Introduces continuous systems. Prerequisites: MATH 555, AE 373 and 333.

Courses for Graduate Students Only


AE 807. Modern Flight Control Systems Design II (3). Continuation of AE 707, emphasizing the effects of atmospheric turbulence and computed measurements; state estimation using the Kalman filter; output feedback design methods for flight control; robustness requirements in the design; and extension to digital systems. Prerequisites: AE 707 and 714.

AE 811. Panel Methods in Aerodynamics (3). An introduction to panel method theory and application for inviscid incompressible attached flows. Utilization of some two- and three-dimensional computer codes. Prerequisites: AE 711 and MATH 757 or equivalent.

AE 812. Aerodynamics of Viscous Fluids (3). Viscous fluids flow theory and boundary layers. Prerequisite: AE 424 or ME 521.


AE 817. Transonic Aerodynamics (3). Experimental and analytical difficulties in flow and flight near Mach one; basic equations and solution methods; linearized potential equations; shock occurrence criteria on wings; Transonic Area Rule; nozzle throat design; detached shock wave computations; computational methods. Prerequisites: AE 424 or equivalent, and AE 711 or 716.

AE 818. Hypersonic Aerodynamics (3). Classical hypersonic theory and approximations; Newtonian flow; flight corridors and trajectories; hot gas effects; experimental difficulties; short time test facilities; computational techniques; propulsion methods; airframe-engine integration; SCRAM jets. Prerequisites: AE 711 and 716 or equivalent.

AE 822. Finite Element Analysis of Structures II (3). Formulation of the finite element equations by variational methods; the use of isoparametric and higher order elements for analyzing two- and three-dimensional problems in solid mechanics; introduction to solutions of nonlinear problems. Prerequisites: AE 722 and 731.

AE 831. Continuum Mechanics (3). Introductory treatment of the fundamental, unifying concepts of the mechanics of continua with applications to classical solid and fluid mechanics. Prerequisite: consent of the Instructor.

AE 832. Theory of Plates and Shells (3). Small deflections of thin elastic plates; classical solutions for rectangular and circular plates; approximate solutions for plates of various shapes; introduction to the analysis of thin shells. Prerequisite: AE 731.
E CE 698. Principles of Power Distribution (3). The distribution system is a vital contributor to the overall power system function of providing quality electrical service. Provides an overview of the engineering fundamentals of distribution system. Discusses distribution system planning and automation, primary and secondary distribution networks. Presents voltage regulation, protection, and reliability. Prerequisite: E CE 598 or departmental consent.

E CE 726. Digital Communication Systems I (3). Presents the theoretical and practical aspects of digital and data communication systems. Includes the modeling and analysis of information sources as discrete processes; basic source and channel coding; multiplexing and framing; spectral and time domain considerations related to ASK, PSK, DPSK, QPSK, MSK, and other techniques appropriate for communicating digital information in both base-band and band-pass systems; intersymbol interference; effects of noise on system performance; optimum systems; and general M-ary systems in signal-space. Prerequisites: E CE 598 and 754.

E CE 736. Digital Communication Networks (3). Presents a quantitative performance evaluation of telecommunication networks and systems. Includes fundamental digital communications systems review; packet communications; queuing theory; OSI, X.25, and SNA layered architectures; stop-and-wait protocol, go-back-N protocol, and high-level data link layer network layer flow and congestion control routing, polling and random access local area networks (LAN); integrated services digital networks (ISDN); and broadband networks. Prerequisites: E CE 598 or departmental consent.

E CE 738. Embedded Systems Programming (3). A study of the requirements and design of embedded software systems. Application of the C programming language in the implementation of embedded systems emphasizing real-time operating systems, interfacing to assembly and high-level languages, control of external devices, custom control and interrupt processing. Prerequisite: E CE 594 or equivalent.

E CE 744. Introduction to VHDL (3). An introduction to the VHDL language. Includes different types of modeling techniques using state-of-the-art CAD tools. Covers extensively behavioral modeling, structural modeling, and data-flow modeling. Design assignments include design and simulation of both combinatorial and sequential circuits using VHDL. Prerequisites: E CE 229 and 394.

E CE 754. Probability and Statistics in Electrical Engineering (3). A study of the role of the probability distributions in the design and analysis of electrical engineering systems. Includes the application of probability theory to the analysis and design of electrical engineering systems. Prerequisites: E CE 598 and either STAT 471 or I EN 254.

E CE 764. Routing and Switching I (4). 3R; 3L. An introductory course which studies different hardware technologies, like ethernet and token ring. Discusses VLSI. Introduces different routing protocols. Includes hands-on experience in the E CE department's routing and switching lab. Prerequisite: E CE 726 or departmental consent.

E CE 765. Routing and Switching II (4). 3R; 3L. Discusses different bridging techniques, including RBR, RSTP, and DLSW. Also includes advanced routing protocols, like OSPF and EIGRP, and route redistribution. Includes hands-on experience in the E CE department's routing and switching lab. Prerequisite: E CE 764 or departmental consent.

E CE 777. Selected Topics in Electrical Engineering (1-4). New or special courses presented on sufficient demand. Repeatable for credit. Prerequisite: departmental consent.

E CE 781. Analog Filters (3). A detailed study of analog filter design methods. Includes both passive and active filters. Discusses analog filter approximations covers sensitivity and noise analyses. Prerequisite: E CE 383 and 492.


E CE 790. Independent Study in Electrical Engineering (1-3). Arranged individual, independent study in specialized content area in electrical engineering under the supervision of a faculty member. Repeatable for credit. Prerequisite: departmental consent.


E CE 797. Computer Application to Power System Analysis (3). Describes the use of power system components models and efficient computational techniques in the development of a new generation of computer programs representing the steady and dynamic states of electric power systems and informs of methods currently employed in the electric utility industry. Emphasizes algorithms suitable for computer solution of power system problems such as power flows and system voltages during normal and emergency conditions and transient behavior of the system resulting from fault conditions and switching operations. Prerequisites: E CE 229 and 598.

E CE 798. Advanced Electric Power Systems Analysis (3). Advanced topics in analysis and operation of electric utility power systems. Topics include faulted system analysis, economic dispatch, generator modeling, power system stability, and system protection. Prerequisite: E CE 598.

Courses for Graduate Students Only

E CE 826. Digital Communication Systems II (3). Studies modern digital communication systems. Discusses topics such as carrier and symbol synchronization techniques; fading multipath channels; frequency-hopped spread spectrum systems; smart antenna array systems; space-time codes (STC); space-time block codes (STBC); multi-input multi-output (MIMO); orthogonal frequency division multiplexing (OFDM) systems; and multi-carrier code division multiple access (MC-CDMA) communications. Prerequisite: E CE 726.


E CE 845. Adaptive Filters (3). Concerned with estimating a signal of interest or the components of a system in the presence of additive noise, but without making use of prior statistical characteristics of the signal or the noise. Concerned with the design, analysis, and application of adaptive filtering algorithms that can be used in an environment of unknown statistics. Content includes least mean-square (LMS) filters, recursive least-square (RLS) filters, and recursive least-squares lattice (LSL) filters. All are adaptive and self-designing. Includes concepts of convergence, tracking ability, and robustness. Prerequisite: E CE 754.

E CE 884. Multi-Service Over IF (4). 3R; 1L. Advanced networking course; deals with challenges and solutions associated with sending voice, video, and data (multi-service) over IF. Includes Telephony signaling, call routing and dial plans, measuring voice quality, voice digitization and coding, quality of service issues, and current research. Hands-on lab allows students to design, troubleshoot, and test different VOIP scenarios. Prerequisites: E CE 764 and graduate standing in E CE.

E CE 876. MS Thesis (+-6). Graded S/U only. Repeatable for credit toward the MS thesis option up to 6 hours. Prerequisite: prior consent of MS thesis advisor.

E CE 877. Special Topics in Electrical Engineering (3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent.

E CE 878. MS Directed Project (1-3). A project conducted under the supervision of an academic advisor for the directed project option. Requires a written report and an oral presentation on the project. Graded S/U only. Prerequisite: consent of academic advisor.

E CE 882. Speech Digital Signal Processing (3). An introductory study in speech signal generation and digital speech signal processing. Includes speech generation and perception, acoustic phonetics, models of speech signals and speech
production, analysis methods of digital speech signals, digital representations of speech signals, short-time Fourier transforms and the application to speech, pitch and formant estimation, parametric and nonparametric methods of signal representation, linear prediction methods, speech data compression, some methods of speech synthesis and recognition, and speech signals in the presence of noise. Prerequisite: ECE 754.

E CE 883. Digital Filters (3). A study of digital filter design methods. Includes both IIR and FIR filters. Discusses software and hardware implementations; introduces two-dimensional digital filters. Prerequisite: ECE 878 or departmental consent.

E CE 886. Error Control Coding (3). Introduces error control codes, including Galois fields, linear block codes, cyclic codes, Hadamard codes, Golay codes, BCH codes, Reed-Solomon codes, convolutional codes, Viterbi decoding algorithm, Turbo codes, and ARQ protocols. Applies to digital 3G and 4G cellular and satellite communications systems. Prerequisite: ECE 876.

E CE 893. Optimal Control (3). Reviews mathematics relevant to optimization, including calculus of variations, dynamic programming, and other non-based techniques. Formulates various performance measures to define optimality and robustness of control systems. Studies design methods for various classes of systems, including continuous-time, discrete-time, linear, nonlinear, deterministic, and stochastic systems. Prerequisite: ECE 797.

E CE 894. Advanced Computer Architecture II (3). Vector processors, memory-hierarchy design, input, and output. Prerequisite: ECE 834.

E CE 897. Operation and Control of Power Systems (3). Acquires electric power engineering students with power generation systems, their operation in economic mode, and their control. Introduces mathematical optimization methods and applies them to practical operating problems. Introduces methods used in modern control systems for power generation systems. Prerequisite: ECE 898.

E CE 960. Advanced Selected Topics in Electrical Engineering (1-3). Presents new or specialized advanced topics in engineering. Repeatable for credit. Prerequisite: Instructor's consent.


E CE 982. Speech Recognition (3). Reviews topics of speech digital signal processing and analysis as necessary for a study of speech recognition such as speech signal production and perception; acoustic-phonetic characterization of speech signals; representing speech signals in time and frequency; and linear prediction of speech signals. Studies topics such as vector quantization, pattern comparison and template matching methods, dynamic time alignment or warping, stochastic methods such as hidden Markov models, linear prediction or phonetics as two methods of segmenting speech signals, language or context-dependent models, and small vs. large vocabulary models. Prerequisite: ECE 882 or departmental consent.

E CE 986. Wireless Spread Spectrum Communications (3). Explains what spread-spectrum communications is and why direct-sequence code-division multiple access (DS-CDMA) spread-spectrum is used for wireless communications. Studies the block diagrams of the ES-95 forward and reverse wireless communication links under multi-path mobile fading environment using analysis techniques and simulation. Analyzes pseudo-noise (PN) signal generation, the band-limited waveform shaping filter, convolutional coding, interleaver, Walsh code orthogonal modulation, rake finger receivers, non-coherent Walsh orthogonal sub-optimal demodulation, other simultaneously supportable subscribers, and third generation CDMA. Prerequisite: ECE 726.

E CE 990. Advanced Independent Study (1-3). Arranged individually, independent study in specialized content areas in engineering under the supervision of a faculty advisor. Repeatable toward the PhD degree. Prerequisites: advanced standing and departmental consent.

E CE 993. Large Scale Control Systems (3). Sensitivity analysis of deterministic and stochastic systems; sources of uncertainty in control systems, e.g., plant parameter variation, time delays, small nonlinearities, noise disturbances, and model reduction; statistical analysis of the effects of uncertainties on system performance; low-sensitivity design strategies, state and output feedback design; sensitivity function approach, singular perturbation, and model education techniques; adaptive systems; and advanced-control computer. Prerequisite: ECE 883.

Industrial (I EN) and Manufacturing Engineering (MFGE)
Graduate Faculty
Professors: Don Malzahn, Abu Masud (chairperson and graduate coordinator)
Associate Professors: S. Hossein Cheraghii, Krishna Krishnam, Viswanathan Madhavan, Janet M. Twomey
Assistant Professors: Michael Jorgensen, Jamal Sheikhd, Gama Heba, Lawrence Whitman, Bayram Yildirim

The industrial and manufacturing engineering (IMGE) department at WSU is committed to instruction and research in design, analysis, and operation of manufacturing and other integrated systems of people, material, equipment, and capital. The graduate programs are directed toward both full-time and part-time students with a special emphasis on providing training and experience in performing independent research on topics with theoretical as well as applied interest. Students are encouraged to conduct research or take courses on topics that overlap several disciplines.

The IMGE department offers Master of Engineering Management (MEM), Master of Science, and Doctor of Philosophy degree programs in industrial engineering (MSIE and PhDIE, respectively). Fields of specialization for the MSIE and PhDIE programs include engineering systems, ergonomics/human factors, and manufacturing systems engineering. The department also offers graduate certificate programs in five topical areas: computer-aided design and manufacturing, industrial ergonomics and safety, systems engineering management, production systems, and quality engineering management.

Facilities
The following facilities used in teaching and research are available for graduate students.
1. The Graphics Lab has 25 NT stations with ProEngineer, AutoCAD, ARENA, and NeuralWare software.
2. The Manufacturing Metrology Lab has a Mitutoyo CMM, an optical comparator, and a host of metrology tools.
3. The CIM Lab has a CNC vertical machining center, a CNC lathe, and a CNC Router.
4. The Cessna Manufacturing Processes Lab has several engine lathes, drill presses, and facilities for arc gas welding, casting, and thermo-forming.
5. The Non-Traditional Machining Lab currently has an EDM machine.
6. The Automation and Controls Lab has four workstations (with PLC, I/O devices, and appropriate software) and data collection and control devices.
7. The Ergonomics/Human Factors Lab has a 3-D motion analysis system, EKG system, treadmill, bicycle ergometer, metabolic cart, load cells, audiometric chamber, and other measurement devices.
8. The Graduate Computing Lab, available only to IE/MEM students, has a number of PCs, all on engineering LAN.
9. The Open Computing Lab has 43 PCs, several laser printers, and a wide-ploter, all on engineering LAN.
10. Several SUN and SGI workstations are available for use in research.

Curriculum and Research Concentrations
The industrial and manufacturing engineering teaching and research concentrations are clustered around the following three areas.

Engineering Systems. Emphasis include optimization; multi-criteria decision making; modeling and analysis of manufacturing/service systems; management of engineering enterprises; decision analysis; total quality management; application of intelligent systems and simulation in manufacturing; and activity-based costing.

Ergonomics/Human Factors. Emphasis include industrial ergonomics; bio-mechanics, human-machine systems; occupational safety and other industrial hygiene issues; and ergonomics and human factors issues in aviation/space systems. Another area of continued research involvement is rehabilitation engineering, especially dealing with persons with severe physiological disabilities.

Master's Degree
The Master of Science (MSIE) degree offers the three following options:

Admission

In order to apply for admission, candidates must:
1. possess an undergraduate degree in engineering, computer science, or related fields.
2. have a strong undergraduate background in mathematics, including mathematics beyond the undergraduate level.
3. have completed at least two years of credit in Calculus, or their equivalent.
4. have at least two years of credit in an engineering or science program, with a cumulative GPA of 3.0 or better in the last two years of credit.
5. indicate an interest in graduate work in industrial engineering.
6. submit a statement of purpose no more than three pages in length, which should describe the candidate's interest in pursuing graduate study in industrial engineering.
7. submit three letters of recommendation from academic or professional sources.

Degree Requirements

1. Core (50) 1 EN 550, Computing Systems; a
2. CESP credit course 10
3. Major course work (may be transferred up to 15 credit hours)
4. Technical electives (up to 15 credit hours)
5. Up to 15 credit hours of coursework to be selected from a list of approved courses
6. Graduation requirements include the completion of a minimum of 30 credit hours of coursework, with a minimum GPA of 3.0. The Master of Science degree is awarded upon the completion of the program requirements and the successful defense of a master's thesis or the completion of a comprehensive examination.

Graduate Faculty

The graduate faculty is comprised of faculty members from the Department of Industrial and Manufacturing Engineering, the Department of Computer Science, and the Department of Economics. The faculty members are actively involved in research and teaching in a variety of areas, including manufacturing systems, industrial ergonomics, human-machine systems, and activity-based costing.

Ergonomics/Human Factors. Emphasis include industrial ergonomics; bio-mechanics, human-machine systems; occupational safety and other industrial hygiene issues; and ergonomics and human factors issues in aviation/space systems. Another area of continued research involvement is rehabilitation engineering, especially dealing with persons with severe physiological disabilities.
Manufacturing Systems Engineering. Emphasizes include planning, design, and control of manufacturing systems; CAD/CAM/CIM systems; measurement/inspection/ GD&T; supply chain management; manufacturing processes; forming; composites manufacturing; and free-form surfaces manufacturing.

Master of Science in Industrial Engineering
The Master of Science in Industrial Engineering (MSE) degree program offers concentrations in all of the three areas described above. Students can complete the degree requirements through any of the following options: thesis, directed project, or all course work.

Admission Requirements
In order to be admitted to the MSIE program, applicants must:
1. possess an undergraduate degree in engineering, science, business, or other related discipline;
2. have satisfactorily completed (with B or better) MATH 344, Calculus III; I EN 255, Engineering Economy; a natural science course equivalent to that of the undergraduate engineering requirement;
3. have programming competence in C, C++, Visual Basic, or FORTRAN;
4. have a minimum GPA of 3.000, on a 4.00 scale, in the last 60 hours of undergraduate courses and in all graduate courses (students with lower GPA may be considered only for probationary or nondegree admission); and
5. indicate one of the following as a major area: engineering systems, ergonomics/human factors, or manufacturing systems engineering.

In addition
6. students with English as a second language must have a minimum score of 550 on the TOEFL; students requesting financial assistance are encouraged to submit a TSE score (minimum acceptable score is 50); and
7. students with an undergraduate degree from a program not accredited by ABET are encouraged to submit GRE scores.

Degree Requirements
1. Core courses: I EN 549, Industrial Ergonomics; I EN 550, Production Systems; and I EN 724, Statistical Methods for Engineers;
2. CESP 750D, Engineering Research Writing (1 credit hour);
3. Major area courses: at least 9 hours from a selected list of area courses;
4. Technical electives: from an approved list of courses (no more than 6 hours from another department);
5. Up to 12 hours may be transferred from another accredited graduate school;
6. Completion with at least 3,000 GPA the minimum required graduate credit hours:

Thesis Option—a minimum of 24 hours of course work plus 6 hours of thesis,
Directed Project Option—a minimum of 30 hours of course work plus 3 hours of directed project,
All Course Work Option—a minimum of 33 hours of course work plus a written core competency exam; and
7. An approved Plan of Study

Master of Engineering Management
The Master of Engineering Management (MEM) degree program is geared toward helping engineers/technologists develop planning, decision making, and managerial skills while receiving advanced technical knowledge. Students should consider the MEM program if they find that they need to use (or develop) skills in decision making and management of teams, projects, and organizations. The MEM program is structured for practicing technical professionals.

Admission Requirements
To be admitted to the MEM program, applicants must:
1. possess an undergraduate degree in engineering, technology, science, mathematics, or computer science (some additional courses may be needed to make up background deficiency, if any);
2. have at least two years of acceptable professional work experience (enclose a resume with application to provide experience information;)
3. have familiarity with and experience in using a personal computer and spreadsheet and database software (such as, MS Excel, MS Access);
4. have satisfactorily completed or have credit in MATH 243, Calculus II, and I EN 255, Engineering Economy;
5. have a minimum GPA of 3.000 in the last 60 hours of undergraduate courses and in all graduate work.

In addition
6. students with English as a second language must have a minimum score of 550 on the TOEFL; students requesting financial assistance are encouraged to submit a TSE score (minimum acceptable score is 50); and
7. students with an undergraduate degree from a program not accredited by ABET are encouraged to submit a GRE score.

Degree Requirements
1. Completion with at least a 3,000 GPA the minimum required graduate credit hours:
   Directed Project Option—a minimum of 30 hours of course work plus 3 hours of directed project,
   All Course Work Option—a minimum of 33 hours of course work plus a written core competency exam.
2. Core courses: I EN 550, Operations Research; I EN 664, Engineering Management; I EN 724, Statistical Methods for Engineers; I EN 740, Analysis of Decision Processes; I EN 764, Systems Engineering and Analysis; I EN 854, Quality Engineering; ACCT 800 or ECON 804; MGMT 655, Organizational Behavior; and CESP 750D, Engineering Research Writing;
3. Electives: Two related engineering courses, one industrial and manufacturing engineering, or business course (from a selected list); and
4. An approved Plan of Study.

Doctor of Philosophy
Courses of study leading to the Doctor of Philosophy (PhD) degree are available with specialization in any of the three areas discussed earlier. Details of the PhD program can be found under the College of Engineering heading.

Certificate Programs
The MSIE program offers graduate certificate programs in the topical areas described below. Students seeking any of these certificates must be admitted to the Graduate School (1) in one of the degree programs offered by the department or (2) in a nondegree status. All Graduate School policies relative to admissions apply. International students will not be issued an I-20 for pursuing a certificate program only. They may obtain a certificate only while concurrently pursuing a graduate degree. Students pursuing a graduate certificate must be admitted to the Graduate School in a degree program or in a nondegree, category A status. Students may apply certificate course work toward a degree program. A cumulative graduate grade point average of at least 3.00 must be maintained for all courses comprising the certificate program with no grades below C.

Computer-Aided Design and Manufacturing
This certificate provides advanced knowledge and methodology of computer-aided design and manufacturing for practitioners in industry who are responsible for product design, development, and manufacturing.

The curriculum focuses on the essential knowledge, analytical techniques, and contemporary issues of computer-aided design and manufacturing for product design, development, and manufacturing. Program prerequisite: MATH 243, Calculus II, and others based on courses selected. This program requires satisfactory completion of any four of the following courses (a total of 12 credit-hours):
1. FMGE 622, Computer-Aided Design and Manufacturing
   I EN 775, Computer Integrated Manufacturing
2. IFGE 622, Computer-Aided Analysis of Manufacturing Processes
3. I EN 785, Tolerancing in Design and Manufacturing
4. I EN 8805, Free Form Surfaces

Industrial Ergonomics and Safety
This program provides advanced knowledge and
methodology of ergonomics and safety engineering for practitioners in industry who are responsible for the design and evaluation of work systems (tasks, materials, tools, equipment, workstations, and environments) for better usability, health safety, and performance of workers in the workplace.

The curriculum focuses on the essential knowledge, analytical techniques, guidelines, and contemporary issues of ergonomics and safety engineering for the design and evaluation of various work systems in industry. Program prerequisite: MATH 243, Calculus II. This program requires satisfactory completion of the following four courses (a total of 12 credit-hours), three of which are required and one is elective:

1. EN 549. Industrial Ergonomics
2. EN 557. Ergonomics Topics
3. EN 664. Engineering Management
4. EN 750. Industrial Engineering Workshops (1-4)

Systems Engineering and Management

Students completing this program will be able to apply systems concepts and techniques to the understanding, description, design, and management of large-scale systems requiring the integration of information and human activity.

The curriculum focuses on the essential knowledge, analytical techniques, and contemporary issues in complex systems definition, design, and decision-making. Program prerequisite: MATH 243, Calculus II. This program requires satisfactory completion of the following four courses (a total of 12 credit-hours):  
1. EN 664. Engineering Management
2. EN 724. Statistical Methods for Engineers
3. EN 740. Analysis of Decision Processes
4. EN 764. Systems Engineering and Analysis

Production Systems

This program provides advanced knowledge and methodology of production systems design, evaluation, and operation for practitioners in industry who are responsible for the design and management of production systems in the workplace.

The curriculum focuses on the essential knowledge, analytical techniques, and contemporary issues in the design, evaluation, and management of production systems in industry. Program prerequisite: EN 550. Operations Research. This program requires satisfactory completion of the following four courses (a total of 12 credit-hours):  
1. EN 553. Production Systems
2. EN 724. Statistical Methods for Engineers
3. EN 780N. Supply Chain Management
4. EN 780S. Lean Manufacturing

Quality Engineering and Management

This certificate program is primarily intended for persons with industrial affiliation who may be interested in enhancing their skills in Quality Engineering Management. The program includes most of the American Society for Quality's (ASQ) certification requirements, with detailed coverage of applied statistics and management techniques.

The curriculum focuses on the essential knowledge, analytical techniques, guidelines, and contemporary issues in the design and evaluation of quality engineering and management systems. Program prerequisite: MATH 243, Calculus II. This program requires satisfactory completion of four courses (a total of 12 credit-hours), three of which are required and one is elective:

1. EN 554, Statistical Quality Control
2. EN 574. Reliability and Maintainability Engineering
3. EN 754, Design of Experiments
4. EN 755. Facilities Planning and Design (2).

Industrial Engineering (I EN)

Courses for Graduate/Undergraduate Credit

1. EN 524. Engineering Probability and Statistics II (3). A study of hypothesis testing, regression analysis, analysis of variance, correlation analysis, and design of experiments emphasizing applications to engineering. Prerequisite: I EN 254 or STAT 471.
5. EN 554. Statistical Quality Control (3). A study of the measurement and control of product quality using statistical methods. Includes acceptance sampling, statistical process control, and total quality management. Prerequisite: I EN 524.
6. EN 555. Information Systems (3). Provides a basic understanding of information systems in a modern enterprise, including database design, information technology, and ethics using hands-on activities and directed classroom discussion. Prerequisite: I EN 452 and ECE 229.
8. EN 563. Facilities Planning and Design (2). Quantitative and qualitative approaches to problems in facilities planning and design, emphasizing activity relationships, space requirements, materials handling and storage, and plant layout. Prerequisites: I EN 550 and MGE 258. Corequisite: I EN 452.
10. EN 664. Engineering Management (3). An introduction to the design and control of technology-based projects. Considers both the theoretical and practical aspects of systems models, organizational development, project planning, and control, resource allocation, team development, and personal skills assessment. Prerequisites: I EN 254 and 255.
11. EN 724. Statistical Methods for Engineers (3). For graduate students majoring in engineering. Students study and model real-life engineering problems and draw reliable conclusions through applications of probability theory and statistical techniques. Cannot be used to fulfill degree requirements for the BS degree in industrial and manufacturing engineering. Prerequisite: MATH 243.
13. EN 740. Analysis of Decision Processes (3). Decision analysis as it applies to capital equipment selection and replacement, process design, and policy development. Emphasizes consideration of risk, uncertainty, and multiple attributes is developed and applied using modern computer-aided analysis techniques. Prerequisites: I EN 254 and 255.
15. EN 750. Industrial Engineering Workshops (1-4). Various topics in industrial engineering. Prerequisite departmental consent.
16. EN 754. Reliability and Maintainability Engineering (3). Studies problems of quantifying, assessing, and verifying reliability. Precludes various factors that determine the capabilities of components emphasizing practical applications. Prerequisites: I EN 254 and 255.
17. EN 755. Design of Experiments (3). Application of analysis of variance and experimental design for engineering studies. Includes general design methodology, single-factor designs, randomized blocks, factorial designs, fractional replic
Courses for Graduate Students Only

I EN 835. Applied Forecasting Methods (3). A study of the forecasting methods, including smoothing techniques, time series analysis, and Box-Jenkins models. Prerequisite: I EN 524.

I EN 842. Advanced Simulation (3). A study of advanced techniques and methods for statistically analyzing input distributions and analyzing output from simulation models. Also studies variance reduction and model validation techniques. Prerequisites: I EN 561 and 524.

I EN 854. Quality Engineering (3). A broad view of quality tools and their integration into a comprehensive quality management and improvement system. Covers the theory and approaches of the major quality leaders such as Deming, Juran, and Crosby. Explores off-line and on-line quality engineering techniques, including cost of quality, the seven "old" and seven "new" tools, Quality Function Deployment, and statistical process control methods. Explores design of engineering experiments, including Taguchi's methods. Prerequisites: I EN 524.

I EN 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: I EN 549.

I EN 876. Thesis (1-6). Graded SU only. Repeatable for credit. Prerequisite: consent of thesis advisor.

I EN 877. Foundations of Neural Networks (3). For students from a variety of disciplines. Introduces the theory and practical applications of artificial neural networks. Covers several network paradigms, emphasizing the use of neural networks as a solution tool for industrial problems which require pattern recognition, predictive and interpretable models, pattern classification, optimization, and clustering. Presents examples and discusses them from a variety of areas including quality control, process monitoring and control, robotics control, simulation metamodeling, economic analysis models, diagnostic models, combinatorial optimization, and machine vision.

I EN 878. MS Directed Project (1-3). A project conducted under the supervision of an academic advisor for the directed project option. Requires a written report and an oral presentation on the project. Graded SU only. Prerequisite: consent of academic advisor.

I EN 880. Topical Study in Industrial Engineering (3). New or special courses are presented under this listing. Repeatable for credit when subject matter warrants. Prerequisite: department consent and graduate GPA of 3.00 or above. Enrollment by department consent only.

I EN 890. Independent Study in Industrial Engineering (3). Analysis, research, and solution of a selected problem. Prerequisite: instructor's consent.

I EN 930. Multiple Criteria Decision-Making (3). An extensive treatment of techniques for decision-making where

the multiple criteria nature of the problem must be recognized explicitly. Prerequisite: I EN 550.

I EN 949. Work Physiology (3). The study of cardiovascular, pulmonary, and muscular responses to industrial work including aspects of endurance, strength, fatigue, recovery, and the energy cost of work. Utilization of physical work capacity and job demand for task design, personnel assignment, and assessment of work-rest scheduling. Prerequisite: I EN 549.

I EN 950. Occupational Biomechanics (3). Theoretical fundamentals of the link system of the body and kinetic aspects of body movement. Includes application of biomechanics to work systems. Prerequisites: I EN 549 and AE 223.

I EN 956. Knowledge-Based Systems (3). Introduction to the concepts and techniques in knowledge-based systems or expert systems. Includes design and development of knowledge-based systems using microcomputer-based software. Prerequisite: ECE 229 or AE 227 or departmental consent.

I EN 960. Advanced Selected Topics (1-3). New or special courses on advanced topics presented under this listing on sufficient demand. Prerequisite: instructor's consent.

I EN 976. PhD Dissertation (1-6). Graded SU only. Repeatable for credit. Prerequisite: admission to doctoral aspirant status.

I EN 990. Advanced Independent Study (1-3). Arranged individual, independent study in specialized content areas. Repeatable toward the PhD degree. Prerequisites: advanced standing and departmental consent.

Manufacturing Engineering (MFGE)

Courses for Graduate/Undergraduate Credit

MFGE 502. Manufacturing Measurement Analysis (3). Covers methods for measurement and analysis of variables in the production of industrial parts. Topics include basic principles of measurement, data acquisition, data analysis, dimension measurement techniques, basic understanding and evaluation of GD&T, form, temperature, surface finish measurement, principles of gage design, gage capability studies, process capability studies, and sampling techniques. Includes a laboratory component to familiarize students with different kinds of measurement devices such as CMM, non-contact optical measurement devices, surface profilometer, optical flats, and automatic data collection. Prerequisites: I EN 254 and MFGE 258.

MFGE 545. Manufacturing Systems (3). Cross-listed as I EN 553. A study of the design, planning, implementation, and control of manufacturing systems. Discusses types of manufacturing systems, material requirement planning, capacity planning, facilities planning, scheduling, and an introduction to computer-aided process planning. Prerequisite: MFGE 556.

MFGE 554. Manufacturing Tools (3). Introduces the principles behind the design and fabrication of machine tools and
production tooling. Discusses tool materials; machine tool
kinematics, accuracy, instrumentation, and control; and
designing fixtures and jigs. Includes an introduction to design
of inspection tools, machining and press working tools, and
modular fixturing. Application of theories to labs and design
problems. Prerequisite: MFGE 258. Corequisite: AE 223.

MFGE 538. Manufacturing Methods and Materials II
(4). 3R, 3L. Covers theoretical and practical aspects of manu-
facturing processes, including material properties and
behavior as influenced by the manufacturing process.
Indepth study of such manufacturing processes as casting heat
treatment, bulk forming, sheet metal forming, metal cutting,
nontraditional machining, and process monitoring through
measurement of manufacturing process variables. Also
includes laboratory experience and plant tours. Prerequisites:
MFGE 258 and ME 250.

MFGE 622. Computer-Aided Design and Manufacturing
(3). Introduction to 3-D computer graphics. Discusses con-
cepts of CAD/CAM/CAE, design theory, automation, and
knowledge-based CAD systems. Examines the basic prin-
ciples of computer-aided manufacturing. NC programming,
and CAD/CAM integration. Describes the design inter-
change standards and the interface between CAD and CAM.
Prerequisites: EN 222 and ECE 229 or equivalent.

MFGE 654. Nontraditional Machining Processes (3).
A study of the role and economics of nontraditional processes;
use of laser and electron beams in inspection and measure-
ment; heat treatment: material removal; material joining; and
coating. Also covers the fundamentals of electro-discharge
machining, electro-chemical machining, chemical milling,
and water-jet machining. Prerequisite: MFGE 558.

MFGE 658. Forming Processes (3). Introduction to the fun-
damentals of deformation and techniques for analysis of
forming processes. Application to various bulk forming and
sheet metal forming processes. Introduction to applied non-
linear finite element analysis and its application for analysis
and design of forming processes.

Mechanical Engineering (ME)
Graduate Faculty

Professors: Behnam Bahr (graduate coordinator), Jhanna
Chaudhuri (chairperson), Hamid M. Lankarani,
Jorge E. Talia
Associate Professors: David N. Koert, T.S. Ravigurur-
jan, C. Charles Yang
Assistant Professors: Rizwanuddin Ahmed

The Department of Mechanical Engineering offers
courses of study leading to the Master of Science
(MS) and Doctor of Philosophy (PhD) degrees.
Department faculty have developed research
activities in several areas of specialization, includ-
ing engineering materials properties and failure
modes; intelligent controls, robotics, and automa-
tion; multidisciplinary impact dynamics; mechanical
engineering design and manufacturing; thermal/fluid sciences and computational fluid
mechanics. Prereq: ME 258 with a grade of C or better.

ME 502. Thermodynamics II (3). Continuation of ME 308,
emphasis on cycle analysis, thermodynamic property
relationships, and psychrometrics, with an introduction to com-
putation and processes and chemical thermodynamics.
Prerequisite: ME 308.

ME 951. Fluid Mechanics (3). Fluid statics. Basic equations
of fluid mechanics. Fluid motion in closed conduits and over
impenetrable bodies. Includes compressible flow, turbomach-
inery, and measurements in fluid mechanics. Prerequisites: ME
308 with a grade of C or better.

ME 521. Fluid Mechanics (3). Fluid statics. Basic equations
of fluid mechanics. Fluid motion in closed conduits and over
impenetrable bodies. Includes compressible flow, turbomach-
inery, and measurements in fluid mechanics. Prerequisites: ME
308 with a grade of C or better.

ME 522. Heat Transfer (3). Temperature fields and heat
transfer by conduction, convection, and radiation. Steady and
transient multidimensional conduction, free and forced
convection, and combined heat transfer. Discusses various an-
alytical methods, analogs, numerical methods, and appro-
imate solutions. Prerequisite: ME 302.

ME 533. Mechanical Engineering Laboratory (3). 2R, 3L.
Includes the basics of engineering measurements. Discusses
related theory, followed by applications in such areas as
strain, sound, temperature, and pressure measure-
ments. Includes lectures, recitation (which presents
the concept of the experiment to be performed and the
related data analysis), and laboratories. Analyzes the data
obtained from measuring systems set up and operated in
the laboratory to demonstrate and reinforce fundamental
courses of engineering mechanics. Prerequisites: BGE 262

ME 541. Mechanical Engineering Design II (3). Application
of mechanical design principles to the creative design of
mechanical systems. Problem definition, conceptual design,
feasibility studies, and cost estimate. Manipulates and adjust
essories to fundamental principles of mechanical design.

ME 544. Design of HVAC Systems (3). Analysis and
design of heating, ventilating, and air-conditioning systems
based on psychometrics, thermodynamics, and heat transfer
fundamentals. Focuses on design procedures for air con-
ditioning and heating and cooling loads in buildings.
Prerequisites: ME 521 and 522 or equivalent.

ME 550. Selected Topics in Mechanical Engineering (1-
3). New or special topics are presented on sufficient demand.
Repeatable for credit when subject material warrants. Prereq:
department consent.

ME 602. Engineering for the Environment (3).
Engineering for the environment, air, water, and noise
pollution, and handling of hazardous wastes. Covers briefly the major pol-
linners, their major sources, their effects, and their attainment
levels set by the U.S. Environmental Protection Agency.
Emphasizes engineering systems for pollution control.
Prerequisites: ME 308, AE 223, EN 225, or department consent.

ME 631. Heat Exchanger Design (3). Covers analytical
models for forced convection through tubes and over sur-
faces, experimental correlations for the Nusselt number and
pressure drop; design of single and multiple pass shell and
tube heat exchangers, compact baffles, direct contact, plug
and fluidized bed heat exchangers, radiators, recuperators,
and regenerators. Prerequisites: ME 521 and 522, or equiv-
lent.

ME 633. Mechanical Systems Laboratory (3). 2R, 3L.
Selected experiments illustrate the methodology of
applied to mechanical and thermal systems. Experiments include the measurement of
performance of typical systems and evaluation of physical

Introduction to the fundamentals of fluid mechanics. Fluid statics. Basic
equations of fluid mechanics. Fluid motion in closed conduits and over
impenetrable bodies. Includes compressible flow, turbomach-
inery, and measurements in fluid mechanics. Prerequisites: ME
308 with a grade of C or better.
ME 637. Computer-Aided Engineering (3). 2R; 3L. Introduces computer-aided design, finite element analysis, kinematics analysis, heat transfer analysis, and other considerations for design of mechanical components and systems. Provides a blend of theory and practice. Prerequisite: ME 439 or equivalent.

ME 638. Applications of Finite Element Methods in Mechanical Engineering (3). 2R; 3L. Introduces the finite element method (FEM) as a powerful and general tool for solving differential equations, arising from modeling practical engineering problems. Finite element solutions to one- and two-dimensional mechanical engineering problems in fluid mechanics, heat transfer, solid mechanics, and vibrations. Includes Galerkin's and variational finite element models. Introduces commercial finite element computer tools such as ANSYS. Prerequisites: ME 439, 522 or equivalent.

ME 641. Thermal Systems Design (3). Modeling, simulation, and optimization used as tools in the design of thermal systems. Engineering design principles, characteristics of thermal equipment, and economic considerations. Studies open-ended problems, including work on design projects in small groups. Prerequisites: ME 302 and 521.

ME 650. Selected Topics in Mechanical Engineering (1-3). New or special topics are presented on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent.

ME 653. Internal Combustion Engines (3). A broad coverage of the basics of internal combustion engines emphasizing spark ignition and diesel engines. Definition of engine types and configurations and important variables used to evaluate performance and efficiency. Fundamentals learned in thermodynamics, chemistry, and mechanical design are used to understand engine design, performance, and control. Applications discussed are focused primarily on automotive use and involve power output, fuel consumption, and exhaust emissions. Prerequisite: ME 386.

ME 659. Mechanical Control (3).* Modeling and simulation of dynamic systems. Theory and analysis of the dynamic behavior of control systems, based on the laws of physics and linear mathematics. Concerns classical methods of feedback control systems and design. Prerequisites: ME 403, ECE 262, and MATH 555.

ME 662. Mechanical Engineering Practice (3). 1R; 6L.* An exercise in the practice of mechanical engineering; students engage in a comprehensive design project requiring the integration of knowledge gained in prerequisite engineering science and design courses. Team effort and both oral and written presentations are a part of the experience. Prerequisite: mechanical engineering students in their last semester of study.

ME 664. Introduction to Fatigue and Fracture (3). Deals with the primary analytical methods used to quantify fatigue damage. These are the stress life approach, strain life approach, and the fracture mechanics approach. Prerequisites: ME 250, AE 333.

ME 665. Selection of Materials for Design and Manufacturing (3). Focuses on the selection of engineering materials and related manufacturing processes. Solution to various products and manufacturing processes by appropriate selection of materials is illustrated through the use of numerous examples and case studies. Prerequisites: ME 250, AE 333.

ME 666. Materials in Manufacturing Processes (3). Deals with fundamental principles of materials and their applications to manufacturing processes. Prerequisite: ME 250.

ME 667. Mechanical Properties of Materials I (3). Major focus on deformation mechanisms and an crystal defects that significantly affect mechanical properties. Also covers plasticity theory, yield criteria for multi-axial states of stress, fracture mechanics, and fracture toughness. Includes some review of basic mechanics of materials and elasticity as needed. Prerequisite: ME 250 or departmental consent.

ME 669. Acoustics (3). Fundamentals of acoustics including the study of simple harmonic systems, acoustic waves, transmission phenomena, and environmental and architectural acoustics. Prerequisites: MATH 555, AE 373.

ME 678. Studies in Mechanical Engineering (1-3).* Arranged individually, independent study in specialized content areas in mechanical engineering under the supervision of a faculty member. Requires written report or other suitable documentation of work for departmental records. Three (3) hours maximum technical elective credit. Not for graduate credit. Prerequisite: departmental consent.

ME 679. Basic Combustion Theory (3). Introduction to the fundamental principles of combustion processes. Examines the chemistry and physics of combustion phenomena, that is, detonation and flames, explosion and ignition processes. Prerequisites: CHEM 111Q and ME 502.

ME 719. Computer-Aided Analysis of Mechanical Systems (3). Modeling and analysis of planar motion for multiphysics mechanical systems including automatic generation of governing equations for kinematic and dynamic analysis, as well as computational methods and numerical solutions of governing equations. Open-ended student projects on engineering applications such as vehicle ride stability simulations for different terrains. Prerequisites: ME 339, AE 373, and MATH 555.

ME 729. Computer-Aided Analysis of Mechanical Systems (3). Modeling and analysis of planar motion for multiphysics mechanical systems including automatic generation of governing equations for kinematic and dynamic analysis, as well as computational methods and numerical solutions of governing equations. Open-ended student projects on engineering applications such as vehicle ride stability simulations for different terrains. Prerequisites: ME 339, AE 373, and MATH 555.

ME 739. Advanced Machine Design (3). A broad coverage of principles of mechanical analysis and design of machine elements. Emphasizes dynamic systems modeling, prediction of natural frequencies and forced response, effects of support flexibility, failure theories used in design, and fatigue life prediction. Typical mechanical systems studied are gears, bearings, shafts, rotating machinery, and many types of spring-mass systems. Uses fundamentals learned in mechanics, strength of materials, and thermal sciences to understand mechanical systems modeling, analysis, and design. Prerequisite: ME 541 or instructor's consent.

ME 747. Microcomputer-Based Mechanical Systems (3). 2R; 3L. Microcomputer-based real-time control of mechanical systems. Familiarizes students with design and methodology of software for real-time control. Includes an introduction to the C programming language which is most relevant to interfacing and implementation of control theory in computer-based systems. Laboratory sessions involve interfacing microcomputers to mechanical systems and software development for control methods such as PID. Prerequisite: ME 659 or instructor's consent.

ME 750. Special Topics in Mechanical Engineering (1-3). New or special topics are presented on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent.


ME 759. Neural Networks for Control (3). Introduces specific neural network architectures used for dynamic system modeling and intelligent control. Includes theory of back-propagation, recurrent, and Hopfield networks; applications in robotics, aircraft and vehicle guidance, chemical processes, and optimal control. Prerequisite: ME 659 or departmental consent.

ME 760. Fatigue and Fracture (3). Covers fracture mechanics in metals, ceramics, polymers and composites. Suitable for graduate and undergraduate study in metallurgy and materials, mechanical engineering, civil engineering, and aerospace engineering where a combined materials-fracture mechanics approach is stressed. Prerequisite: ME 250 or departmental consent.

ME 762. Polymeric Composite Materials (3). A basic understanding and knowledge about the structure and mechanical properties of polymeric composite materials in detail. Discusses both short fiber and continuous fiber composites. Emphasizes special design considerations for composite materials including fracture mechanics and performance of composites under adverse conditions (fatigue and impact). Prerequisite: ME 250 or equivalent or departmental consent.

ME 764. Thermodynamics of Solids (3). Presents basic thermodynamic concepts which will form the working tools...
throughout the course. Emphasizes the interpretation of certain types of phase diagrams—not upon the use of thermodynamics to assist phase diagram construction but upon the use of phase diagrams to obtain thermodynamic quantities. Also, the thermodynamics of defects and ideal interactions in metals, ceramics, polymers, elemental semiconductors, and compounds. Prerequisites: ME 250 and 388 or departmental consent.

ME 766. SEM and EDAX (3). Introduces Scanning Electron Microscopy (SEM), a powerful tool in materials science and engineering which can be used to analyze structural defects in materials. Discusses both the theory and experimental methods, as well as the application of these methods. Prerequisite: ME 250 or departmental consent.

ME 767. X-Ray Diffraction (3). Theory of X-ray diffraction, experimental methods, and their applications which can include determination of the crystal structure of materials, chemical analysis, stress and strain measurements, study of phase equilibria, measurement of particle size, and determination of the orientation of a single crystal. Prerequisites: ME 250 and AE 333 or departmental consent.

ME 781. Cooperative Education (1-8). A work-related placement with a supervised professional experience to complement and enhance the student's academic program. Intended for master's level or doctoral students in mechanical engineering. Repeatable for credit. May not be used to satisfy degree requirements. Prerequisite: graduate standing, department's consent, and graduate GPA of 3.00 or above. Offered Cr/NC only.

Courses for Graduate Students Only

ME 801. Boundary Layer Theory (3). Development of the Navier-Stokes equation, laminar boundary layers, transition to turbulence, turbulent boundary layers, and an introduction to homogeneous turbulence. Prerequisite: ME 521 or departmental consent.

ME 802. Turbulence (3). An overview of the theory, practical significance, and computation of turbulent fluid flow. Prerequisites: ME 521 and 801.

ME 829. Advanced Computer-Aided Analysis of Mechanical Systems (3). Computational methods in modeling and analysis of spatial multibody mechanical systems. Includes Euler parameters; automatic generation of governing equations of kinematics and dynamics; numerical techniques and computational methods; computer-oriented projects on ground vehicles with suspension and steering mechanisms, crashworthiness, and biodynamics. Prerequisite: ME 729 or instructor's consent.

ME 832. Failure Analysis Applications in Mechanical Design (3). Application of engineering fundamentals to the study of mechanical failure brought about by the stresses, strains, and energy transfers in machine elements that result from the forces, deflections, and energy inputs applied. Emphasizes recognition, identification, prediction, and prevention of failure modes that are prevalent in machine-element design. Prerequisite: ME 439 or departmental consent.

ME 847. Applied Automation and Control Systems (3), 2R, 3L. Control theory condensed to engineering practice with the analysis, design, and construction of operating control systems. Experiments with pneumatic, hydraulic, and electro-mechanical servo-systems. Implementation of feedback and feed forward control schemes for various industrial systems and machine tools. The experiments are project-oriented and intended to be representative of the current state-of-the-art in classical and modern control practice. Prerequisite: ME 659 or equivalent.

ME 850. Special Topics in Mechanical Engineering (3). New or special topics are presented on sufficient demand. Repeatable for credit when subject matter warrants. Prerequisite: departmental consent.

ME 851. Principles and Applications of Conduction Heat Transfer (3). Theory and measurement, Fourier's equation, steady and unsteady state with and without heat sources, and sinks and numerical methods. Prerequisites: ME 522, MATH 757, or departmental consent.

ME 852. Principles and Applications of Convective Heat Transfer (3). Free and forced convection in laminar and turbulent flow. Includes analysis and synthesis of heat transfer equipment. Prerequisite: ME 522 or departmental consent.

ME 853. Principles and Applications of Radiative Heat Transfer (3). Radiative properties of real surfaces, configuration factor analysis, radiative transfer in participating media, exchange factor analysis, Monte Carlo methods. Prerequisite: ME 522 or departmental consent.

ME 854. Two-Phase Flow Heat Transfer (3). Thermodynamic and mechanical aspects of interfacial phenomena, boiling, and condensation near immersed surface; pool boiling, internal flow convective boiling, and condensation. Prerequisites: ME 522, MATH 555, or departmental consent.

ME 858. Computational Fluid Dynamics and Heat Transfer I (3). Basic finite difference/finite volume methods; finite difference/volume representation of partial differential equations; stability analysis; finite difference/volume methods for solution of heat and fluid flow equations; grid generation and use of modern computer codes/software for analysis and visualization. Prerequisites: ME 521 and 522 or equivalent.

ME 860. Introduction to Ceramics (3). Introduces the fundamental principles of ceramic science and engineering with application on ceramics processes and fabrications. Presents the concepts and properties utilizing the crystal structure background. Discusses nonequilibrium phase relation in ceramics systems and their influence on processing parameters. Covers the microstructure form by liquid, liquid-solid, and solid-state reaction with some detail in combination with heat treatment. Students are expected to have backgrounds in chemistry, physics, math, thermodynamics, mechanics of solids, and introduction to materials in undergraduate engineering courses.

ME 864. Physical Metallurgy (3). Covers a range of basic concepts in physical metallurgy essential for further study in materials engineering. Topics include structure and diffraction, dislocations, defects and thermal processes, solid solution and hardening, diffusion, and phase diagrams and transformations. Prerequisites: ME 250 and 388, AE 333, or departmental consent.

ME 866. Advanced Fracture Mechanics (3). Covers the fracture mechanics of elastic-brittle, ductile, time dependent, and heterogeneous materials at an advanced level. The material is suitable for graduate study only in metallurgy and materials, mechanical engineering, and aerospace engineering where a combined materials-fracture mechanics approach is stressed. Prerequisites: ME 250, AE 333, or departmental consent.

ME 867. Mechanical Properties of Materials II (3). After a brief review of pertinent concepts of the macro-mechanical behavior of deformable bodies, course focuses on deformation mechanisms and on crystal defects that significantly affect mechanical properties and strengthening mechanisms. This includes point, line, and planar crystalline defects; dislocation dynamics; and various hardening and strengthening mechanisms. Concludes with discussion of physical properties and testing methods to measure these properties. Prerequisite: ME 667 or departmental consent.

ME 876. Thesis (1-4). Graded S/U only. Repeatable for credit toward the MS thesis option up to 6 hours. Prerequisite: consent of MS thesis advisor.

ME 878. MS Directed Project (1-3). A project conducted under the supervision of an academic advisor for the directed project option. Requires a written report and an oral presentation on the project. Graded S/U only. Prerequisite: consent of academic advisor.

ME 890. Independent Study in Mechanical Engineering (1-3). Arranged individual, independent study in specialized content areas. Prerequisite: Instructor's consent.

ME 901. Advanced X-Ray Diffraction Theory (3). First part concentrates on the fundamental X-ray diffraction theories including dynamical theory of X-ray and anomalous absorption, with which a serious student in this field must be thoroughly familiar. Second part emphasizes the general theory of X-ray diffraction in a concise and elegant form using Fourier transforms. The general theory is then applied to various atomic structures, ideal crystals, imperfect crystals, and amorphous bodies. Prerequisites: ME 767, MATH 757.

ME 938. Computational Fluid Dynamics and Heat Transfer II (3), Vector form of the Navier-Stokes and energy equations; generalized transformation of the flow equations to the computational domain; numerical methods for inviscid flow equations, boundary layer-type equations, "parallelized" Navier-Stokes equations, and the Navier-Stokes equations. Prerequisite: ME 858 or equivalent.
ME 960. Advanced Selected Topics (1-3). New or specialized advanced topics in mechanical engineering. Prerequisite: instructor's consent.

ME 962. Advanced Ceramics (3). Covers concepts in ceramics science and engineering essential to understanding and using advanced ceramic materials such as high temperature metallo-ceramics. Expands coverage of fundamental concepts and physical properties presented in ME 860. Provides deeper understanding of crystalline solids and characteristic properties of ceramics. Incorporates many of the most recent advances in the area. Students are expected to have background in chemistry, physics, math, thermodynamics, mechanics of solids, and introduction to materials in undergraduate engineering courses.

ME 976. PhD Dissertation (1-16). Graded: SU only. Repeatable for credit. Prerequisite: admission to doctoral aspirant status.

ME 990. Advanced Independent Study (1-16). Arranged and independent study in specialized content areas. Repeatable toward the PhD degree. Prerequisites: advanced standing and instructor's consent.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R; 2L means 4 hours of lecture and 2 hours of lab.
College of Fine Arts

Offices: 415 Jardine Hall
Elaine Bernstorf, Interim dean
Wendy Hanes, acting associate dean
John Boyd, coordinator for graduate studies in art
Tom Fowler, coordinator for graduate studies in music

School of Art and Design
(316) 978-3555—Donald R. Byrum, chairperson
Art Education, (316) 978-7718—Mary Sue Foster, program director
Art History, (316) 978-7715—Frederick Heman, program director
Graphic Design, (316) 978-7709—Dorothy Driscoll, program director
Studio Art, (316) 978-3518—David Hiltnner, program director

School of Music
(316) 978-3500—J. William Thomson, chairperson
Music Education Studies, (316) 978-3103—Larry Blocher, director
Musicology-Composition Studies, (316) 978-3332—Dean Roush, director
Keyboard Studies, (316) 978-3103—Paul E. Reed, director
Strings/Orchestra Studies, (316) 978-3103—Jackie Dillon, director
Voice/Choral Studies, (316) 978-3103—Dorothy Cram, director
Winds/Percussion/Band Studies, (316) 978-3103—Victor A. Markovich, director

School of Performing Arts
(316) 978-3368—Steven J. Peters, chairperson
Dance, (316) 978-3645—C. Nicholas Johnson, director
Theatre, (316) 978-3368—Drew Tombrillo, director

Fine Arts (FA)
Although there is no graduate degree in general fine arts, the following course is available for graduate credit.

Course for Graduate/Undergraduate Credit
FA 590. Special Topics in the Fine Arts (1-4). For graduate instruction. May be repeated for credit. Involves interdisciplinary upper-division/graduate-level topics with the fine arts (music, art, dance, and theatre). Prerequisite: senior undergraduate or graduate standing or instructor's consent.

School of Art and Design
Donald R. Byrum, chairperson

The School of Art and Design offers programs leading to both the Master of Arts and Master of Fine Arts degrees. Students seeking the Master of Arts degree take a major in art education. Students seeking the Master of Fine Arts degree select a major in ceramics, painting, printmaking, or sculpture. The specific requirements for each major are described under the appropriate program listing, below.

Art Education (ART E)
Graduate Faculty
Professor: Mary Sue Foster

Although applications are not being accepted for the graduate program in art education, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit
ART E 510Q. Stimulating Creative Behavior (3). Includes theories of creativity; strategies for problem-finding and problem-solving; identifying various external and internal blocks to creativity; testing for creativity; the relationships of creativity, cognition, and visual thinking; creative challenges; and stimuli. Emphasizes methods to elicit creative behavior. Repeatable once for credit.

ART E 514Q. Aesthetic Inquiry (3). Focuses on contemporary trends in aesthetics relative to the visual arts. Students write critical observations and interpretations in response to art work. Prerequisite: upper-division art major.

ART E 515. Developing Visual Materials for Art Education (3). A production laboratory that emphasizes the integration and selection of appropriate visual media for art instruction. Prerequisite: ART E 311.

ART E 550. Art Workshop (1-3). Repeatable for credit. Area covered is determined at the time the course is offered.

ART E 702. Metal Processes for Jewelry Construction (3). Emphasizes fabrication techniques, design analysis, and function of jewelry designed and produced by students and acknowledged craftsmen. Repeatable once for credit. Prerequisite: ART E 302 or instructor's consent.


ART E 711. Seminar in Art Education: Topic to be Announced (1-3). Supervised study and research of contemporary issues in art education. Repeatable for credit with advisor's consent.

ART E 712. Development of Art Understanding in the Educational Program (3). Includes readings, observation, and evaluative techniques in the development of concepts and materials for art understanding. Repeatable once for credit. Prerequisite: instructor's consent.

ART E 713. Fiber and Fabric Processes (2-3). Fiber processes using traditional and experimental techniques in woven forms and other structural techniques using natural and man-made fibers. Repeatable once for credit. Prerequisite: instructor's consent.

ART E 714. Aesthetics for the Classroom (3). Focuses on applying the issues and theories of aesthetics to the K-12 classroom. Students participate in discussions and demonstrations of these theories through critical and reflective writing as well as curricular planning. Students consider aesthetic development and construct lessons to integrate strategies involving aesthetic concepts into their teaching.

ART E 715. Research Problems in Art Education (3). Orientation to research methods, findings, and designs related to the analysis of studies and current problems in art education. Repeatable once for credit. Prerequisite: instructor's consent.

ART E 719. Electronic Imaging (1-3). Emphasizes Macintosh and other computer processes and their application to art and art education. Students generate computer images using digitizing, scanning, and animation with a variety of software and hardware. Makes application of this technology to problems of design, art history, and art criticism. Develops curriculum materials for art instruction employing computer graphic instruction. The graduate student prepares a research paper on a selected topic related to computer graphics and art learning.

ART E 750. Art Workshop (1-3). Repeatable for credit. Area to be covered is determined at the time the course is offered.

Courses for Graduate Students Only

ART E 815. Individual Research Problems in Art Education (1-4). Directed independent study in art education not normally covered in other graduate course work. Repeatable for credit. Prerequisite: Instructor's consent.

ART E 816-817. Thesis—Art Education (1-3; 1-3).

ART E 819-819. Terminal Project—Art Education (1-3; 1-3).

Art History (ART H)
Graduate Faculty
Assistant Professors: Artur Golczewski, Annette LeZotte

Although there is no graduate degree in art history, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit
ART H 520. Seminar in Art History (3). Systematic study in selected areas of art history. Course content varies but individual areas are not repeatable for credit.
ART H 521Q. Italian Renaissance (3). General education further study course. Painting, sculpture, and architecture in Italy from the 13th to the 16th centuries. Prerequisite: ART H 122G or instructor's consent.

ART H 522. Southern Baroque (3). General education further study course. Painting, sculpture, and architecture in Italy from 1600 to 1750. Prerequisite: ART H 122G or instructor's consent.

ART H 523. 18th and 19th Century European Art (3). General education further study course. A history of European art from early 18th-century Rococo art through Impressionism in the late 19th century. Prerequisite: ART H 124 or instructor's consent.

ART H 524. 18th and 19th Century American Art (3). General education further study course. Survey of American art from the colonial period through the 19th century, emphasizing its European roots. Prerequisite: ART H 124 or instructor's consent.

ART H 525. 20th Century Art Before 1945 (3). General education further study course. A history of American and European art from Post-Impressionism to Surrealism. Prerequisite: ART H 124 or instructor's consent.

ART H 526. Art Since 1945 (3). General education further study course. Art in the United States from 1945 to the present, stressing the relationship between contemporary trends in criticism, theory, and artistic practice. Prerequisite: ART H 124 or instructor's consent.

ART H 528. Museum Techniques I (3). Primarily for the graduate student interested in museum work. Includes specialized research related to administrative responsibilities of a museum: collection, exhibition, recording, preservation, and financial activities.

ART H 530. The Art of Classical Greece (3). A study of painting, sculpture, and architecture of Greece during the 5th and 4th centuries B.C.

ART H 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.

ART H 532. Independent Study in Art History (1-3). Work in a specialized area of the study of art history. Directed readings and projects. Prerequisite: instructor's consent.

ART H 533. Seminar/Topics in Modern Art (1-3). Selected readings and problems in art of the modern era. Course content varies but individual areas are not repeatable for credit.

ART H 534. History of Photography (3). History of photography stressing techniques, media, processes, interpretations with other visual arts, style questions, genres, and criticism.

ART H 535. Northern Renaissance (3). Painting and printmaking in France, Germany, and the Netherlands in the 15th through 16th centuries. Explores Northern European pictorial traditions and considers their relationship to Italian Renaissance art. Prerequisite: ART H 122G or instructor's consent.

ART H 536. Northern Baroque (3). Painting and printmaking in Flanders and Holland of the 17th century, including the art of Rubens, Rembrandt, and Vermeer. Prerequisite: ART H 122G or instructor's consent.

ART H 732. Independent Study in Art History (1-3). Work in specialized area of the study of art history. Directed readings and projects for graduate students in all disciplines. Prerequisite: instructor's consent.

Courses for Graduate Students Only

ART H 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.

Graphic Design—Commercial Art

Graduate Faculty
Associate Professors: James Hellman, Kirsten S. Johnson
Assistant Professors: Heather Boyce-Brodde, Jeff Palaski

Although there is no graduate degree in graphic design, the following courses are available for graduate study.

Courses for Graduate/Undergraduate Credit

ART G 530. Seminar in Graphic Design (3). Supervised study and research. Requires weekly consultation and reports. Repeatable for credit. Prerequisite: departmental consent.

ART G 530. Graphic Design Workshop (1-3). Repeatable for credit. Area covered is determined at the time the course is offered.

Studio Art (ART S)

Graduate Faculty
Professors: John Boyd, Donald Byrum (chairperson, art/design), Ronald Christ (Coordinator, graduate studies)

Associate Professor: Barry Badgett
Assistant Professors: David Hiltner, Duat Vu

Master of Fine Arts

The Master of Fine Arts (MFA) degree, the terminal degree for studio art, is offered for qualified students planning careers as professional artists, either working independently or as artist-teachers on the college or art school level. The program is designed for a concentration in ceramics, painting, printmaking, or sculpture.

Admission Requirements

Admission without deficiencies requires a grade point average of at least 2.750 based upon the last 60 hours of course work, the other general requirements of the Graduate School, with the additional requirement of a 3.000 grade point average in the major field of study (ceramics, painting, printmaking, or sculpture). Also required is a Bachelor of Fine Arts (BFA) degree, or the equivalent of a BFA, that includes a minimum of 12 hours of art history, 15 hours in the major field, and 20 hours of related work. Applicants should present examples of work for evaluation.

Credit

Although there is no graduate degree in graphic design, the following courses are available for graduate study.

Credit

Artistic study varies but is

Degree Requirements

Minimum course requirements for completion of the MFA degree are summarized below. In addition, 45 of the 60 hours must be taken in courses numbered 800 or above.

* Studio courses in the major area

** Courses in graduate-level art

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio courses in the major area</td>
<td>23</td>
</tr>
<tr>
<td>Courses in graduate-level art courses</td>
<td>12</td>
</tr>
<tr>
<td>Art history, art seminar, and pertinent lecture courses</td>
<td>12</td>
</tr>
</tbody>
</table>
**ART S 885, Professional Practices in Studio Art**

**Studio Art Graduate**

- Terminal project in the major area: 3
- Terminal project in the major area: 10
- Total: 60

* Minor option can be taken in one studio area, a variety of studio areas, or outside the student's major area.

**Final approval by student's advisor and graduate coordinator required.**

The terminal project consists of an exhibition of original studio work, accompanied by the MFA terminal project report, which is a documentation of the candidate's studio work (slides, video, photographs, CD), a written statement, and a resume.

**Plan of Study.** In order to define a program of study for the graduate degree, students must submit the Plan of Study form, leading to admission to candidacy for the degree no later than one month following the completion of 24 semester hours of graduate credit.

**Graduate Review.** MFA degree students must satisfactorily complete graduate reviews conducted in their major MFA area at the end of each fall and spring semester. At this time, the graduate faculty make observations and recommendations regarding the quality of the students' work and their standing in the program. No graduate review is held during the Summer Session.

**Transfer of Credit.** All graduate credit accepted for transfer will be at the discretion of the departmental advisor and graduate coordinator. A maximum of 24 semester hours from prior graduate study may be considered for transfer to the MFA program. Final determination of transfer will be made after the student has successfully completed 12 semester hours at WSU and the first graduate review. A maximum of 12 semester hours can be applied to a major field of study. If transfer of credit is allowed, it may reduce course requirements but not entrance requirements. A ruling on hours converted to the MFA program by the dean of the Graduate School, graduate art coordinator, and the major professor is final. Graduate nondegree work obtained before admission to a planned degree program will not be accepted.

**Required Prerequisite.** Students who have not been accepted to degree standing in the MFA Studio or MA Art Education programs may enroll in 800-level courses only with written consent of the art graduate coordinator.

**Examinations.** At the beginning of and during the semester in which the degree is to be conferred, two interviews between candidates and their committees are conducted. The proposed content of the MFA exhibition is discussed and evaluated. The graduate committee's findings, upon final review and the MFA terminal exhibition, are filed by the major professor with the graduate dean before the end of the final semester. This procedure constitutes the terminal examination for MFA candidates.

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**Policy Toward Student Art**

The School of Art and Design reserves the right to select and retain a maximum of three pieces from the graduate exhibition. MFA printmaking candidates may be required to deposit one print from any or each edition for the University Collection.

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**General**

**Courses for Graduate Students Only**

**ART S 880. Seminar in Art Topics (3).** Explores areas of common interest in the arts. Supervised study, research, and discussion. Repeatable for credit.

**ART S 895. Professional Practices in Studio Art (3).** Research into and practical application of professional practices, business skills, and career planning specific to the discipline of studio art. Provides a foundation of practical information to assist the graduate studio art major in building a successful professional career. Not repeatable for credit.

**Ceramics**

**Courses for Graduate/Undergraduate Credit**

**ART S 570. Advanced Ceramics Studio I (4).** Builds on ART S 373. Investigates advanced studies of claybodies, glazes, and firing methods. Prerequisites: ART S 375 and/or instructor's consent.

**ART S 571. Advanced Ceramics Studio II (1-3).** Second course in advanced 500-level series. Builds on ART S 570. Prerequisites: ART S 570 and/or instructor's consent.

**ART S 572. Advanced Handbuilding Ceramics Studio I (4).** First course in advanced 500-level series of handbuilding. Builds and expands on ART S 572. Students investigate means of expression through various handbuilding techniques. Through critical analysis, students develop a personal statement with clay. Investigates advanced studies of claybodies, glazes, and firing methods. Prerequisite: ART S 372 and/or instructor's consent.

**ART S 573. Advanced Handbuilding Ceramics Studio II (4).** Second course in advanced 500-level series of handbuilding. Builds and expands on ART S 572. Prerequisite: ART S 572 and/or instructor's consent.

**ART S 574. Advanced Study of Klin Methods (3).** Advanced study of kiln design and construction with research in the area of refractory materials. Requires reading assignments and laboratory work. Prerequisite: ART S 374.

**ART S 575. Study of Ceramic Materials II (3).** Lab fee. Lectures and research covering clays, glazes, and refractory materials. Reading assignments concerning physical and chemical characteristics of pottery materials. Prerequisites: ART S 375 and 370.

**ART S 576. Study of Ceramic Glazes II (3).** Lab fee. The study of glaze formulation and the color and crystalline effects of oxides on base glazes. Requires notebook, formulation records, and laboratory work. Prerequisite: ART S 575.

**ART S 578. Independent Study in Ceramics (1-3).** A professional emphasis on technical or aesthetic research in the ceramics field. Available only for the advanced ceramics student with instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent.

**Courses for Graduate Students Only**

**ART S 870. Special Problems in Ceramics (1-5).** Research in advanced problems in ceramics. Repeatable for credit.

**ART S 875. Advanced Research of Ceramic Materials (3).** Lectures and advanced research covering clays, glazes, and refractory materials. Research assignments concerning physical and chemical characteristics of pottery materials. Requires notebook and outside lab work.

**ART S 876-879. Terminal Project—Ceramics (1-5; 1-7).**

**Drawing**

**Courses for Graduate/Undergraduate Credit**

**ART S 545. Advanced Drawing Studio (1-3).** Drawing with a variety of media. Uses graphic problems related to individual technical and aesthetic development. Critiques are given. Repeatable for credit. Prerequisites: ART S 340 and 345.

**ART S 549. Independent Study in Drawing (1-3).** A professional emphasis on technical or aesthetic research in the drawing area. Available only for the advanced drawing student with instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisites: ART S 340, 345, and instructor's consent.

**Courses for Graduate Students Only**

**ART S 840. Special Problems in Life Drawing (1-3).** Drawing from life, requires sketchbooks and/or portfolio. Repeatable for credit.

**ART S 845. Special Problems in Drawing (1-3).** Advanced drawing in various media emphasizing independent work and the development of personal expression. Repeatable for credit.

**Painting**

**Courses for Graduate/Undergraduate Credit**

**ART S 551. Advanced Watercolor Studio (3).** For the professionally oriented student. Emphasizes independent study.
ARTS 532. Advanced Decorative and Ornamental Painting and Design (3). Projects in decorative and ornamental painting and design developed and completed by the student with faculty supervision. Preparation for more independent work. A plan of study defining projects must be submitted and approved by the instructor. Prerequisite: ART S 392 or instructor's consent.

ART S 533. Independent Study in Painting (1-3). A professional emphasis on technical or aesthetic research in the painting area. Available only for the advanced painting student with instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent.


ART S 535. Advanced Painting II (4). Continued emphasis on independent study. Completion of a related body of work including artistic direction. Preparation for graduate study. Repeatable for credit. Prerequisite: ART S 554.

ART S 559. Terminal Project: Decorative and Ornamental Painting and Design (3). Supervised independent study. A plan of study for a project in decorative and ornamental art must be submitted for faculty approval prior to registration. Repeatable for credit. Prerequisite: ART S 552.

Courses for Graduate Students Only

ART S 850. Special Problems in Painting (1-5). Professional and experimental painting emphasizing the development of maturity, ideas, independent thinking, and personal expression. Mediums include oil, watercolor, and synthetic media. Repeatable for credit with the consent of the drawing/painting faculty.

ART S 855-859. Terminal Project—Painting (1-5).

Printmaking

Courses for Graduate/Undergraduate Credit

ART S 560. Advanced Intaglio Print I (4). Fourth in a series of five classes for the printmaking major. Students may specialize in any of the various intaglio relief, collagraph, paper-casting techniques while emphasizing personal aesthetic development. Prerequisites: ART F 145, ART S 260, 360, and 362.

ART S 561. Advanced Litho Print I (4). Third in a series of four printmaking courses for the printmaking student wishing to specialize in lithography. Students may specialize in any of the various lithography techniques while developing a personal aesthetic direction. Prerequisites: ART F 145, ART S 260, 361, and 363.

ART S 562. Advanced Intaglio Print II (4). Fifth in a series of five classes for the printmaking major. Stresses a professional emphasis on technical and aesthetic research. Prerequisites: ART F 145, ART S 260, 360, and 362 or departmental consent.

ART S 563. Advanced Litho Print II (4). Fourth in a series of four printmaking courses for the printmaking student wishing to specialize in lithography. Stresses a professional emphasis on technical and aesthetic research in stone lithography. Prerequisites: ART F 145; ART S 260, 361, 363, and 361 or departmental consent.

ART S 565. Independent Study in Printmaking (1-3). A professional emphasis on technical and aesthetic research in the printmaking area. Only for the advanced printmaking student with instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent.

Courses for Graduate Students Only

ART S 860. Special Problems in Printmaking—Intaglio (1-5). Advanced printmaking on an individual basis. Gives encouragement to investigation, combined with a craftsman-like approach. Includes all intaglio relief, and combined methods, black and white and color. Repeatable for credit.

ART S 862 & ART S 863. Special Problems in Printmaking—Lithography (1-5; 1-5). Advanced printmaking on an individual basis. Gives encouragement to investigation, combined with a craftsman-like approach. Includes lithography and allied techniques, black and white and color. Repeatable for credit.

ART S 868-869. Terminal Project—Printmaking (1-5).

Sculpture

Courses for Graduate/Undergraduate Credit

ART S 580. Advanced Sculpture Studio (1-3). Sculpture in any medium, emphasizing individual development and creativity. Repeatable for credit. Prerequisite: ART S 390.

ART S 585. Independent Study in Sculpture (1-3). A professional emphasis on technical or aesthetic research in the sculpture area. Available only for the advanced sculpture student with instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent.

Courses for Graduate Students Only

ART S 880. Special Problems in Sculpture (1-5). Advanced sculpture emphasizing experimentation and high quality work on an individual basis. Stresses special projects in casting architectural sculpture, mixed media, or new materials and techniques. Repeatable for credit.

ART S 888-889. Terminal Project—Sculpture (1-5; 1-5).

School of Music

J. William Thomson, chairperson
Tom Fowler, coordinator graduate studies

Graduate degree programs in the School of Music are designed to extend and broaden the professional competency of men and women desiring careers in music. Students may pursue graduate study in history-literature, theory-composition, music education, performance, conducting, and pedagogy. While providing for advanced training in the specific skills of music, these graduate programs help to cultivate the student's capacity to think — to consider impersonally, dispassionately, and without prejudice any problem related to the art of music.

Master of Music

The Master of Music degree (MM) allows for concentration in history-literature, piano pedagogy, theory-composition, conducting, and performance. The general requirements for the degree are outlined below, while the specific course requirements for each concentration are given in the program sections (music education, musicology-composition, music performance) in which the concentrations are housed.

Admission Requirements

Admission to the MM program requires the completion of an accredited music bachelor's degree that includes a minimum of 60 semester hours in music, with at least 24 hours in basic music studies (history and theory) and 15 hours in a major specialty. Approval of the MM concentration must be acquired during the first semester of enrollment.

Degree Requirements

The MM degree requires completion of a minimum of 32 graduate semester hours, including a thesis or recital as indicated for the respective concentration. Of these hours, 60 percent must be in courses numbered 700 or above. Each Plan of Study must include 852, Introduction to Bibliography and Research; 830, Seminar in Music Theory; and 8 hours elected from graduate courses in music history and literature (791-792, Seminar in Music History, or lymphs from the graduate period courses: 893, Music of Antiquity-Renaissance, through 897, Music of the 20th Century). Advisor's approval must be obtained for all courses included in the degree Plan of Study.

Examinations

All degree candidates in the School of Music must pass an oral comprehensive examination. The oral comprehensive examination for thesis candidates includes a defense of the thesis.

Master of Music Education

The School of Music offers the Master of Music Education degree (MME). Areas of concentration and associated requirements are listed under Music Education, below.
Music Education (MUS E)

Graduate Faculty

Professors: Larry Blocher (director, music education),
Harold A. Popp
Associate Professors: Elaine Bernorst, Thomas Fowler,
Thomas Wine
Assistant Professor: Jacquelyn Dillon

Master of Music Education

The Master of Music Education (MME) program allows for concentration in elementary music, choral music, music education, special education, and voice. Conducting options may be elected (with approval) in the choral and instrumental programs.

Admission Requirements

Admission to the degree program in music education requires the completion of a Bachelor of Music Education (BME) degree, or the equivalent of a BME, from an accredited institution. Students holding bachelor's degrees in music other than the Bachelor of Music Education must satisfy public school certification requirements to qualify for full admission. Applicants without such certification are admitted on a conditional basis pending their attainment of public school teaching credentials. Approval of the MME specialization must be acquired.

Degree Requirements

MME programs range from 32 to 36 hours. The required core is 13 hours; 17 field specialty hours must be decided in consultation with an advisor and the director of music education; five terminal options are available: recital, conducting project, MME in special education, and voice. Conducting options may be elected (with approval) in the choral and instrumental programs. The recital is not a terminal requirement option for the MME in instrumental majors.

MUS E 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.

MUS E 750. Music Education Workshop (1-4). Repeatable for credit.

MUS E 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 6 hours of course work in addition to their Co-op assignment; alternating, working full time one semester in a field internship and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisite: satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/No Cr only.

MUS E 785. Instrumental Music Organization and Administration (2). Problems of developing school instrumental music programs.

MUS E 790. Special Topics in Music (1-4). For individual or group instruction. Individual study enrollment requires departmental consent. Repeatable with departmental consent.

Courses for Graduate Students Only

MUS E 821. Administering Elementary Music (3), investigates research and strategies in music education relating to communication, classroom management, current trends, and teaching and learning styles. Includes teacher assessments and evaluation issues.

MUS E 822. Advanced Techniques in Special Music Education (3). For special music education MME candidates only. Studies research literature and trends in special music education. Includes an evaluation of materials and techniques and special studies exploring the development of musical understanding in special music education. Satisfies the requirement, effective September 1, 1981, that applicants for initial certification or renewal of secondary and/or elementary certification shall present a survey course, or equivalent content from other courses, in the subject area of exceptional children. This provision applies to initial certification and recertification of music teachers only. Prerequisite: MUS E 403 or 404.

MUS E 823. Special Music Education Practicum (9). For special music education MME candidates only. Supervised teaching in special education classrooms. A companion course to MUS E 822; gives the MME special education candidate experience in teaching in special education classrooms. Prerequisite: MUS E 822 or concurrent enrollment.

MUS E 831. Developing the Child's Musical Understanding (3). Definition of understandings necessary for the development of musical awareness in the child. Directs the exploration of classroom experiences toward the success of developing students through the application of basic learning principles. Prerequisite: MUS E 403.

MUS E 841. Special Project in Music (1-3). Individually supervised study or research emphasizing the student's personal needs. Repeatable for credit. Prerequisite: instructor's consent.

MUS E 842. Special Project in Music (1-3). Individually supervised study or research emphasizing the student's personal needs. Repeatable for credit. Prerequisite: instructor's consent.

MUS E 844. Terminal Conducting Project (2). Individually supervised project for those accepted for the conducting option in the instrumental or choral emphasis under the MME degree. Prerequisites: instructor and departmental consent.


MUS E 835A. Research Seminar in Music Education (3). Combined application of techniques of research. Requires the completion of a major research project. May be selected as the MME terminal requirement for specified programs. Prerequisite: MUS C 852.

Music Education (MUS E)

Graduate Faculty

Professors: Larry Blocher (director, music education),
Harold A. Popp
Associate Professors: Elaine Bernorst, Thomas Fowler,
Thomas Wine
Assistant Professor: Jacquelyn Dillon

Master of Music Education

The Master of Music Education (MME) program allows for concentration in elementary music, choral music, music education, special education, and voice. Conducting options may be elected (with approval) in the choral and instrumental programs.

Admission Requirements

Admission to the degree program in music education requires the completion of a Bachelor of Music Education (BME) degree, or the equivalent of a BME, from an accredited institution. Students holding bachelor's degrees in music other than the Bachelor of Music Education must satisfy public school certification requirements to qualify for full admission. Applicants without such certification are admitted on a conditional basis pending their attainment of public school teaching credentials. Approval of the MME specialization must be acquired.

Degree Requirements

MME programs range from 32 to 36 hours. The required core is 13 hours; 17 field specialty hours must be decided in consultation with an advisor and the director of music education; five terminal options are available: recital, conducting project, MME in special education, and voice. Conducting options may be elected (with approval) in the choral and instrumental programs. The recital is not a terminal requirement option for the MME in instrumental majors.

MUS E 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.

MUS E 750. Music Education Workshop (1-4). Repeatable for credit.

MUS E 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 6 hours of course work in addition to their Co-op assignment; alternating, working full time one semester in a field internship and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisite: satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/No Cr only.

MUS E 785. Instrumental Music Organization and Administration (2). Problems of developing school instrumental music programs.

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Courses for Graduate Students Only

MUS E 821. Administering Elementary Music (3), investigates research and strategies in music education relating to communication, classroom management, current trends, and teaching and learning styles. Includes teacher assessments and evaluation issues.

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MUS E 841. Special Project in Music (1-3). Individually supervised study or research emphasizing the student's personal needs. Repeatable for credit. Prerequisite: instructor's consent.

MUS E 842. Special Project in Music (1-3). Individually supervised study or research emphasizing the student's personal needs. Repeatable for credit. Prerequisite: instructor's consent.

MUS E 844. Terminal Conducting Project (2). Individually supervised project for those accepted for the conducting option in the instrumental or choral emphasis under the MME degree. Prerequisites: instructor and departmental consent.


MUS E 835A. Research Seminar in Music Education (3). Combined application of techniques of research. Requires the completion of a major research project. May be selected as the MME terminal requirement for specified programs. Prerequisite: MUS C 852.
Music Performance (Mus. P.)

Graduate Faculty
Professors: Julie Bees, Joseph C. Combs, Dorothy Crum (director, voice/choral), James W. Jones, Walter J. Myers (dean), Harold A. Popp, Frances K. Shelly, Nicholas Smith

Associate Professors: Sylvia Coats, Catherine Consiglio, Robert Glassman, Jean Lansiing, Nancy Luther, Victor A. Markovich (director, winds/percussion and bands), Paul E. Reed (director, keyboard), Robert Town, Andrew Trechak, Vernon L. Yenne

Assistant Professors: Deborah E. Baxter, Phillip Black, Amy Goerner, John Harrison, Andrew Kolb, Nicolaus Kuster, Michael Palmer (director of orchestras), Russell D. Widener

Master of Music (MM) Degree Programs

MM—Performance

Admission to the Master of Music (MM) program in music performance requires a performance background, with a Bachelor of Music (BM) degree in the performance area of specialization or the equivalent of the BM. Background deficiencies must be satisfied before admission to candidacy. All performance degree candidates must complete a satisfactory audition in their performance area of specialization. The audition should be completed as early as possible—but no later than the end of the first semester of enrollment. Permission to pursue the degree/concentration is tentative pending approval of the respective performance faculty.

A formal graduate recital, in lieu of a thesis, must be presented in partial fulfillment of the requirements for the MM degree with emphasis in performance.

In order to receive permission to schedule a degree recital, students must satisfy the expectations of the respective performance area. Permission to schedule the recital must be obtained no later than the semester before the semester in which the recital is to be performed. The student’s performance repertoire and the recital program must be in accordance with the guidelines and expectations established by the respective performance area.

Students studying for the MM degree with emphasis in performance should plan to be in residence during at least one fall or spring semester, since continuous study opportunities may not exist in Summer Session.

MM—Opera Concentration

This degree program is designed to provide specialized training in opera performance with graduates gaining more experience and training in all phases of opera production. While the present MM in Vocal Performance degree provides for some experience with opera performance, the opera concentration will provide more focus with more specialized course work, training, and experience, which will better prepare students who are accepted into the program to succeed in this competitive career field. The degree requires 4 more hours (total of 36) than the MM in Vocal Performance.

Admission Requirements

Admission to the program will be based on the results of a live audition and an interview with the director of the WSU Opera Theatre and voice faculty. When a live audition is not possible, a video tape audition will be considered. Students accepted to this program must show potential for future success and should have already had some experience with opera. Specific requirements include: (1) strong operatic vocal potential; (2) good academic background with a minimum 2.75 GPA; (3) some stage experience, including a basic acting class; and (4) working knowledge in at least one of the following languages: French, German, or Italian.

Degree Requirements

The Master of Music (MM) degree with a concentration in opera performance requires the completion of a minimum of 36 graduate hours, including a graduate performance recital, two leading roles in opera productions, and direction and assistance in two productions. This degree must include the following courses:

1. 12 credit hours in the MM core requirement, including 602, Introduction to Bibliography and Research (3), MUS C 630, Seminar in Music Theory (3), and 6 credit hours in selected graduate music history courses;
2. 4 credit hours of Applied Piano (memorized jury examinations), MUS P 752 (4), and 8 credit hours of Applied Accompanying, MUS P 723 (4), 724 (4);
3. 7 credit hours of support courses, including MUS C 580, Piano Pedagogy (3), MUS C 726, Vocal Literature (3), and MUS C 685, String Literature (2);
4. 2 credit hours, Terminal Project—Two Accompanied Full-hour degree recitals, MUS P 871 (1), MUS P 872 (1).

MM—Piano Pedagogy Concentration

The Master of Music (MM) degree with a concentration in piano pedagogy gives primary attention to the development of tutorial concepts specific to keyboard skills and artistry; secondary, but significant, emphasis is placed on an acceptable demonstration of keyboard performance at the master’s degree level. The pedagogy option includes extensive preparation in the area of keyboard literature and stresses the relationship of performance to selected repertoire and teaching-skills development.

Admission Requirements

Students must have completed a Bachelor of Music in piano performance or its equivalent. All candidates must complete a satisfactory audition early in the program in no event later than the close of the first semester of enrollment. Permission to pursue the degree is tentative pending approval of the audition. Deficiencies, if noted, must be satisfied before admission to candidacy for the degree.
Degree Requirements

The Master of Music (MM) degree with a concentration in piano accompanying requires the completion of a minimum of 33 graduate hours, including two accompanied full-hour degree recitals (one vocal recital and one instrumental recital in either order).

1. 12 credit hours in the MM core requirement including MusC 852, Introduction to Bibliography and Research (3), MusC 830, Seminar of Music Theory (3), and 6 credit hours in selected graduate music history courses;
2. 4 credit hours of Applied Piano (memorized jury examinations), and 8 credit hours of Applied Accompanying. (12 total hours);
3. 7 hours of support courses, including MusC 580, Piano Pedagogy (3), MusC 726, Vocal Literature (3), and MusC 658, String Literature (2);
4. 2 credit hours, Terminal Project-Two Accompanied Full-hour degree recitals.

Applied Music Private Study (MUS A)

MUS A 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.

MUS A 731. (1). For majors only; study on secondary instruments. Basic instruction. Repeatable for credit. Graduate.

MUS A 732. (2). For majors only. Repeatable for credit. Graduate.

MUS A 734 (4). For performance and pedagogy majors or students preparing for master's degree recitals only. Repeatable for credit. Graduate.

Applied Music Media Designations

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 Viola
J Guitar W Violin
K Harp X Saxophone
L Oboe Y Voice
M Organ Z Electric Bass
N Percussion

Applied Music Classes

MUS A 717V. Violin Class for Adult Beginners (2). Beginning violin class; violin fundamentals, emphasizing tone and intonation development; basic techniques for reading (notes and rhythm). May not be applied to music major requirements. Repeatable for credit.

MUS A 717Y. Popular Vocal Styles (2). Class voice instruction for adults emphasizing basic vocal technique and how it can be applied for use in popular styles of singing, including vocal jazz, pop, music theatre, etc. Gives students an opportunity to explore techniques for developing their own voices and to practice singing in a supportive environment. Includes information via lecture, demonstration, and listening to recordings related to stylistic differences in the popular idiom. Intended for nonmusic majors; not applicable to music degree requirements. Repeatable.

General Performance (MUS P)

Courses for Graduate/Undergraduate Credit

MUS P 530. Musical Theatre Workshop (2). An interdisciplinary practical course with opportunities for student performers to refine techniques by performing scenes from a variety of musical theatre genres, including operetta, book musicals, and rock musicals. Advanced students gain experience in directing and choreographing under faculty guidance and supervision. Jr. or Sr. Musical Theatre, Dance, and Voice majors only; and/or permission of the instructors.

MUS P 555. Senior Project (1). Cross-listed as THEA 555. An interdisciplinary course to showcase the talents of graduating seniors to professional producers, agents, and casting directors. Students develop and produce a variety of performances demonstrating their talents in singing, dancing, acting, directing, and choreography. For majors only. Prerequisite: Instructor’s consent.

MUS P 580. Piano Pedagogy (2). Primarily the art and science of teaching. Includes observations of master teachers in the University and community.


MUS P 620. String Pedagogy: Violin and Viola (2). Required for violin and viola performance majors. A study of tutorial techniques for violin and viola, including the teaching of mini-lessons for instructor and class critique. Prerequisites: violin or viola performance capability or instructor's consent.

MUS P 625. Voice Pedagogy (2). Acquaints the voice major with vocal techniques, concepts, and materials of private and class instruction.

MUS P 651. Advanced Conducting and Score Reading (2). Baton technique, score reading, and musicianship. Prerequisite: MUS P 217 or 218 or equivalent.

MUS P 680. Woodwind Pedagogy (2). A comprehensive study of woodwind instrument techniques, concepts, and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on a woodwind instrument or instructor’s consent.

MUS P 681. Brass Pedagogy (2). A comprehensive study of brass instrument techniques, concepts, and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on a brass instrument or instructor’s consent.

MUS P 682. Percussion Pedagogy (2). A comprehensive study of percussion instrument techniques, concepts, and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on percussion instruments or instructor’s consent.

MUS P 691. Advanced Choral Conducting (1). A comprehensive study of conducting and rehearsal techniques, analysis, and ear training and types of choral composition for the advanced student. Prerequisite: MUS P 217 or 218 or equivalent.


MUS P 710-711-712-713-714. Ensembles (1 except 7108, 711A, 712F [A Cappella Choir], 713B, 713F [Concert Chorale], 2). (A) Orchestra; (B) Choral Ensembles; (C) Gospel Ensemble (D) A Cappella Choir; University Singers; Choral Concert; (E) Orchestral Ensembles; (F) Chamber Choirs; (G) Woodwind Ensemble; (I) Saxophone Quartet; (J) Brass Chamber Ensemble; (K) Percussion Ensemble; (L) Beginning String Ensemble and String Chamber Ensemble; (M) Jazz Ensembles I and II; (N) Guitar Ensemble; (O) International Choir; (P) New Music Ensemble. Prerequisite: audition required. Repeatable for credit.

MUS P 711E. Opera Lab (1). See MUS P 211E.

MUS P 711K. Opera Theatre (1). See MUS P 211K.

MUS P 711U. Musical Theatre Performance (1). Cross-listed with DANCE 320 and THEA 590E. See MUS P 211U.

MUS P 712K. Opera Theatre (2). See MUS P 212K.

MUS P 714K. Opera Theatre (4). See MUS P 214K.

MUS P 723. Applied Piano Accompanying (4). Individual private study of standard accompaniment literature with preparation of a terminal project recital (either vocal or instrumental). Prerequisite: successful completion of two semesters of graduate piano study.

MUS P 724. Applied Piano Accompanying (4). Individual private study of standard accompaniment literature with preparation of a terminal project recital (either vocal or instrumental). Prerequisite: successful completion of two semesters of graduate piano study.


MUS P 760. Group Piano Practicum (2). Supervised group piano teaching for graduate students. Prerequisites: MUS P 570 and 580.
MUS P 761. Studio Piano Practicum (2). Supervised studio teaching for graduate students. Prerequisites: MUS P 580 and 581.

MUS P 762. Opera Styles (2). A comprehensive study of the performance styles and practices in opera, ranging from the eighteenth century to the present. Prerequisite: professor's permission.

MUS P 773. Acting for Singers (3). A study of the external and internal techniques of acting for the singer, emphasizing characterization and development of a role, together with the skills needed to integrate the acting process while singing. Prerequisite: instructor's consent.

MUS P 790. Special Topics in Music (1-4). For individual or group instruction. Repeatablable with departmental consent.

MUS P 790E. Musical Theatre and Opera Audition (3). Cross-listed with THEA 690. A practical course which develops the audition techniques and audition repertoire singers will need to gain professional employment. Credit may be repeated for a cumulative total of 6 credit hours.

MUS P 841. Special Project in Music (1-3). Individual supervised study or research emphasizing the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent.

MUS P 842. Special Project in Music (1-3). Individual supervised study or research emphasizing the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent.

MUS P 843. Piano Pedagogy Seminar (variable). Topics may include, but are not limited to, the development of skills necessary for teaching piano at the college level; preparation of student pianists for college level instruction; techniques for effective piano instruction; and the development of professional skills for piano teachers.

MUS P 871. Graduate Accompanying Recital (1-18hr). Prerequisite: must have completed 18 hours toward degree, including two semesters of applied piano and be enrolled in Mus. P 732 or 734.

MUS P 872. Graduate Accompanying Recital (1-18hrs). Prerequisite: must have completed 18 hours toward degree, including two semesters of applied piano and be enrolled in Mus. P 732 or 734.

MUS P 873. Graduate Recital (2). Performance of a full recital featuring the major performing medium. Prerequisite: consent of instructor in applied area.

MUS P 874. Professional In-Service Presentation Project (2). Prerequisite: consent of professor in applied area. A terminal requirement alternative to the Master of Music piano emphasis. Students approved for this terminal requirement option will also be required to perform a major piano work, accepted at the final recital level, during the particular year of the degree program. Requires approval of piano performance area faculty. Prerequisite: departmental consent.

Musicology-Composition (MUS C) Graduate Faculty

Professors: Walter A. Mays, Katherine Murdock

Associate Professors: Silvia Hertzog, Dean Roush (director, musicology-composition)

Master of Music (MM) Degree Programs

MM—History-Literature Concentration
Completion of a Master of Music (MM) degree, history-literature concentration, requires a demonstrated proficiency in one of the following: French, German, or Italian. Students may demonstrate proficiency by satisfactorily completing the Graduate School Foreign Language Test designed by the Educational Testing Service or by completing a departmental language examination. A thesis also is required for the degree.

The general requirements for the MM degree are summarized at the beginning of the School of Music section of the Graduate Bulletin.

MM—Theory-Composition Concentration
Admission to the Master of Music (MM) degree program, theory-composition concentration, requires a Bachelor of Music degree with a major in theory-composition or the demonstrated equivalent. Background deficiencies must be satisfied before students may enroll in graduate composition courses. Applicants must also submit representative compositions for examination by the composition faculty; approval for admission to candidacy is contingent upon the candidate's demonstrated ability to complete a final project in composition.

Completion of the MM degree, theory-composition concentration, requires at least one semester of 840A-C Seminar in the Techniques of Composition. In addition, students must complete a terminal project which must consist of one of the following: (1) a composition of major proportions, (2) a body of works in various media, or (3) a written thesis in the area of music theory. Composition majors may be required by the thesis committee to have a work or works performed publicly. The composition or composition must be submitted in a minimum of two ink copies and bound in keeping with the procedures established through the Graduate School of Wichita State University. These ink copies represent high quality of musical manuscript and must be completed in the candidate's own hand.

The general requirements for the MM degree are summarized at the beginning of the School of Music section.

Courses for Graduate/Undergraduate Credit

MUS C 510. Interrelated Arts (3). Presents an aesthetic analysis of the fine arts: music, visual arts, drama, literature, and dance. Emphasizes style and commonality among the arts disciplines.

MUS C 523. Form and Analysis (2). Extensive study of the forms and process of musical literature. Prerequisite: MUS C 228.

MUS C 531. Introduction to Electronic Music (2). Basic techniques of electronic music. Directed toward musicians who wish to use the electronic medium in teaching, performing, or communicating through music in any way.


MUS C 561. 18th Century Counterpoint (2). Counterpointal devices of the 18th century as found in the works of J.S. Bach. Prerequisite: MUS C 228.

MUS C 616. Symphonic Literature (3). An advanced course in orchestral literature covering the development of the symphonic music from Baroque to the present day. Designed primarily for music majors who have already had MUS C 361Q and 363Q.

MUS C 623. Opera Literature (3). A comprehensive survey of Italian, German, Russian, English, and American opera literature from the 17th century to the present. MUS C 212Q is strongly recommended for those taking the course. Should be open to advanced undergraduate and graduate students. Not to be taken for credit toward the music major.

MUS C 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.

MUS C 641. Orchestration (2). The study of instrumentation emphasizing idiomatic scoring for various instrumental combinations and its influence on the problems of full orchestra and band scores. Prerequisite: MUS C 227.

MUS C 660. Applied Composition (2). Individual study in musical composition emphasizing writing for both small
MUS C 661. 16th Century Counterpoint (2). Analysis and application of the counterpoint composition techniques of the 16th century. Prerequisite: MUS C 228.

MUS C 671. Chromatic Harmony (2). Advanced study of chromatic harmonic materials of all periods with special attention to the 19th century. Emphasizes analysis and creative writing. Prerequisite: MUS C 228.

MUS C 672. Contemporary Techniques (2). Advanced study of music from impressionism to the present emphasizing related literature and creative writing. Prerequisite: MUS C 228.

MUS C 685. String Literature and Materials (2). A survey and stylistic analysis of music for solo strings and chamber combinations, beginning with the early Baroque period.

MUS C 726. Voice Literature (3). A comprehensive survey of early Italian arias, French chansons, German lieder, contemporary English songs, and Russian and Spanish literature.

MUS C 753. Choral Literature I (2). A historical and stylistic survey of choral literature of the Renaissance and Baroque eras.

MUS C 754. Choral Literature II (2). A historical and stylistic survey of choral literature of the Classical, Romantic, and Contemporary eras.

MUS C 782-783. Piano Literature (3-3). Survey of the historical eras of professional piano repertory.

MUS C 790. Special Topics in Music (1-4). For individual or group instruction. Repeatable with departmental consent.

Courses for Graduate Students Only

MUS C 830. Seminar in Music Theory (3). An analytical study of the materials used in musical composition from antiquity to the present, employing analytical approaches such as Schenker, Hindemith, and serial techniques. Develops analytical perspective rather than compositional skills.

MUS C 840A-C. Seminar in the Techniques of Composition (2). Examines the nature of compositional techniques through selected works in different media: (A) large ensembles, (B) small ensembles, and (C) solo composition. Prerequisites: MUS C 671, 672, and 641, or departmental consent.

MUS C 841. Special Project in Music (1-3). Individually supervised study or research emphasizing the professional needs of the student. Repeatable for credit. Prerequisite: instructor's consent.

MUS C 852. Introduction to Bibliography and Research (3). Techniques of research and development of bibliography in music and music education. Course must be elected the first available semester of enrollment in MM or MME programs.

MUS C 860. Advanced Composition (2). Original work in the large forms and a continuation and expansion of MUS C 659-660. Prerequisite: MUS C 660 or equivalent.

MUS C 875. Thesis Research (2).

MUS C 876. Thesis (2).

MUS C 893. Music of Antiquity Through the Renaissance (3).

MUS C 894. Music of the Baroque Era (3).

MUS C 895. Music of the 18th Century (3).

MUS C 896. Music of the 19th Century (3).

MUS C 897. Music of the 20th Century (3).

School of Performing Arts

Bela Kiralyfalvi, chairperson

Dance (DANCE)

While a formal major in dance at the graduate level is not offered, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit

DANCE 501. Modern Dance IV (3). Advanced level. Continuation of DANCE 401. Emphasizes professional technique and performance quality. Repeatable for credit. Prerequisite: instructor's consent or by audition.

DANCE 505. Choreography III (3). Focuses on the choreographic process. Students create choreographic studies for more than one dancer utilizing elements studied in Choreography I and II and exploring different choreographic approaches. Further exploration may include environmental, dance, and collaborative choreographies and multimedia approaches. Prerequisites: DANCE 205 and concurrent enrollment in appropriate-level modern dance or ballet technique class.

DANCE 510. Ballet IV (3). Continuation of DANCE 410. Advanced level. Emphasizes professional technique and performance quality. Repeatable for credit. Prerequisite: instructor's consent or by audition.

DANCE 545. Methods of Teaching Dance (3). Develops teaching skills for elementary schools, high schools, recreation centers, private and professional schools, and universities through lesson planning and in-class teaching practice. Prerequisite: DANCE 401 or 410.

DANCE 580. Senior Project (1). Focuses on the process of choreographing and producing a dance concert for the completion of the dance major, under the supervision of a Dance faculty mentor. Written paper and an oral review with the Dance faculty support the concert. May be taken concurrently with Dance 505 with instructor's consent. Prerequisites: Concurrent enrollment in appropriate level technique class, senior standing.

DANCE 605. Choreography for the Musical Theatre (3). Introduces the process of choreographing for the musical theatre from casting the chorus in a musical to staging a solo to choreographing an ensemble of 30 dancers/singers. Includes interpreting the score and script for dance, staging, arranging, and other projects to develop the craft of choreography for the musical stage. Prerequisites: DANCE 550 or instructor's consent.

DANCE 690. Special Topics in Dance (1-6). For individual or group instruction. Repeatable for credit with departmental consent.

Theatre (THEA)

Graduate Faculty

Associate Professors: Judith Babnich, Joyce Cavarozzi, Betty Monroe

Assistant Professors: Daniel Williams

While a formal major in theatre at the graduate level is not offered, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit

THEA 510. Design Project (1). Advanced work in the problems of stage lighting design, costume design, or scenic design. With the permission and supervision of the appropriate faculty member, the student designs for specific productions either for Mainstage or Experimental Theatre. Repeatable twice for credit if taken in different design areas. Prerequisite: instructor's consent.

THEA 516 & THEA 517. Playwriting I and II (3 & 3). General education further study courses. Cross-listed as ENGL 516 and 517. The writing of scripts for performance. Emphasizes both verbal and visual aspects of playwriting. If possible, the scripts are given in class readings by actors. Prerequisite: instructor's consent.

THEA 530. Musical Theatre Scene Study (3). An interdisciplinary practicum course with opportunities for students to refine interdisciplinary techniques by performing scenes from a variety of musical theatre genres, including opera, book musicals and rock musicals. Advanced students may explore opportunities to gain experience in directing and choreographing under faculty guidance and supervision. Jr. or Sr. Musical Theatre, Dance or Voice majors only and/or permission of the instructors.

THEA 544. Advanced Stagecraft (3). Rs. I, arr. Explores advanced construction techniques for the fabrication of stage scenery and stage properties. Such operations may include welding, vacuum forming, carpentry, and working with a variety of new materials. Students complete a research project and presentation/demonstration of research findings. Independent projects relating to materials and techniques studied are pursued in arranged labs. Prerequisite: THEA 244.
THEA 546. Scene Painting (3). Presented with a lecture and demonstration-studio arrangement. Explores various theatre painting materials and techniques enabling the student to develop skill as a scenic artist. Prerequisite: THEA 244.

THEA 555. Senior Project (1). Cross-listed as MUS P 555. An interdisciplinary course to showcase the talents of graduating seniors to professional producers, agents, and casting directors. Students develop and produce a variety of shows demonstrating their talents in singing, dancing, acting, directing, and choreography. For majors only. Prerequisite: instructor's consent.

THEA 559. Directing II (3). R: L arr. Staging and rehearsal techniques emphasizing the problems of the period and stylized plays. Prerequisites: THEA 359 or departmental consent and junior standing.

THEA 590. Theatre: Special Topics (2-3). Designed to expand and strengthen the experience of the student academically and professionally. Study of developments in theatre that go beyond, or do not relate to, courses already offered gives students a much richer preparation for their field of study. Topics include new technology, new materials, contemporary explorations in performance, and in-depth study of production methods.

THEA 590E. Musical Theatre Performance (1). Cross-listed as DANCE 350 and MUS P 711U. See THEA 190E.

THEA 610. Directing the Musical (3). An interdisciplinary course utilizing interdepartmental expertise (theatre, dance, music) to teach the student how to produce a musical. Prerequisite: instructor's consent.

THEA 622. Academic Theatre Practicum (2). The investigation and exploration of the theatrical act in the classroom situation within the University community. Reinforces research, writing, directing, and performing skills. Enrolled students, functioning as a company, produce and perform for various disciplines on campus. Repeatable once for credit.

THEA 623Q. Development of the Theatre I (3). General education further study course. The history of theatrical activity as a social institution and an art form from its beginnings to the 17th century. Includes representative plays, methods of staging, and theatrical architecture of various periods.

THEA 624Q. Development of the Theatre II (3). General education further study course. History of theatrical activity as a social institution and an art form from the 17th century to the present. Includes representative plays, methods of staging, and theatrical architecture of various periods.

THEA 630. Musical Theatre & Opera Audition (3). Cross-listed as MUS P 790E. A practicum course which develops techniques and audition repertory singers will need to gain professional employment and/or successfully compete for placement in advanced training programs. Also covers the business skills necessary to a professional career, and brings students into contact with professional guest artists who can provide additional insight and contacts. Prerequisite: instructor's consent.

THEA 643. Styles in Acting (3). Training in, and development of, the special techniques required for period or stylized plays with special emphasis on Greek, Shakespearean, and Restoration styles. Prerequisites: THEA 243Q, 342, and junior standing.

THEA 647. Scene Design II (3). Continuation of THEA 344 with more advanced work in designing settings for the stage and including studies in scenic techniques and exercises in model building. Prerequisite: THEA 344.

THEA 649. Stage Lighting II and Theatre Sound (3). Continues the study and application of the theories and techniques of THEA 343, emphasizing advanced concepts of design, and provides an introduction to theatre sound production. Prerequisite: THEA 343.

THEA 651. Scene Study (3). The synthesis of all previous acting courses. Studies scenes in depth for preparation for performance. Course goal is the development of fully realized characterizations in those scenes studied, integrating the elements of the actor's craft learned in the prerequisite courses. Prerequisites: THEA 643 and junior standing.

THEA 653. History of Costume (3). R: L arr. Historical survey and individual research of dress from the period of ancient Egypt to the present day. Emphasis on the social, political, economic, and religious influences. Theory and practice of adapting period styles to the stage. Prerequisite: THEA 253 or departmental consent.

THEA 657. Costume Design I (3). Covers the techniques of costume design for the stage. Students strengthen and expand their knowledge of techniques in costume design for the stage, film, and television. Prerequisites: ART F 145, THEA 253.

THEA 675. Directed Study (2-4). Cross-listed as COMM 675. Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

THEA 725. Dramatic Theory (3). Critical examination of selected theoretical and 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.

THEA 728. Playscript Analysis (3). Develops students' abilities to analyze play scripts from the point of view of those who face the task of staging them. Focuses on studying and testing practical methods of analysis developed by outstanding theatre directors, teachers, and critics. Collective analysis and individual projects are part of the course work. Prerequisite: THEA 623Q or 624Q.
College of Health Professions

Offices: 400 Ahlberg Hall
Peter A. Cohen, dean
Juanita S. Tate, associate dean
Linda B. Black, director of student services
Nancy R. Kraemer, director of administrative services

Dental Hygiene, (316) 978-3614—Denise Maseman, chairperson
Emergency Medical Services, (316) John Dudte, director
Medical Technology, (316) 978-3146—Mary Conrad, chairperson
Physical Therapy, (316) 978-3604—Camilla Wilson, chairperson
Physician Assistant, (316) 978-3011—Richard Muma, chairperson
Public Health Sciences, (316) 978-3060—Mary Lescoe-Long, chairperson
School of Nursing, (316) 978-3610—Juanita Tate, chairperson

The College of Health Professions offers graduate programs leading to a Master of Public Health, Master of Science in Nursing, and Master of Physical Therapy. Admission to these programs requires a bachelor’s degree and the fulfillment of requirements listed for each program elsewhere in the Graduate Bulletin.

School of Health Sciences

The School of Health Sciences offers graduate programs leading to the Master of Public Health and Master of Physical Therapy degrees. Specific requirements for each degree are described under the appropriate listing below.

Basic Health Sciences (HS)

Courses for Graduate/Undergraduate Credit

HS 631. Normal and Clinical Nutrition. (4) Studies human nutritional needs in normal development and the life cycles. Covers composition, classification and function of foods and nutrients, food handling and public health safety and laws, and nutrition in special situations. Includes a study of principles of nutritional support and diet therapy. Addresses the dietary concerns of a variety of clinical disorders, including gastrointestinal disorders, diabetes mellitus, cancer, burns, liver disease, obesity and weight loss, eating disorders, HIV infections, kidney and cardiovascular disease, parenteral and enteral nutrition, and surgical conditions. Studies nutritional assessment, data interpretation, care planning, record keeping, and client communications. Prerequisites: general chemistry, anatomy, and physiology.

HS 700. Gross Anatomy. (6) 3R; 9L. For students in the physical therapy program. Study of the structure of the human body emphasizing integration of anatomical information with human functional abilities. Prerequisites: four semesters of biological sciences or program consent.

HS 710. Applied Clinical Pharmacology. (3). Discusses clinical applications of selected drug classes commonly prescribed in the primary care setting as well as the follow-up management of common chronic diseases. Discusses pharmacological mechanisms as to pharmacokinetics, dosages, mechanisms of action (at molecular and systemic levels), side effects, drug interactions, contraindications, therapeutic use, and expected outcomes. Emphasizes the practical application of this knowledge in various patient populations of all ages as well as rational drug selection and monitoring. Methodology includes lecture presentations, group discussions, clinical case studies, assessment of recent literature, homework assignments, quizzes, and exams. Prerequisite: PHS 301, admission to graduate health professional program or PA professional program, or instructor’s consent.

HS 711. Pharmacological Management of Acute and Chronic Diseases. (3). Discusses the clinical application of specific categories of drugs used in the treatment of several common acute and chronic diseases. Presents pharmacokinetics, mechanisms of action, dosages, side effects, and monitoring parameters of medications as they are used in these diseases and in various patient populations. Facilitates clinical application of this knowledge through case studies, class discussions, and reviews of the latest medical literature. Prerequisites: admission to graduate nursing program and department consent or completion of PHS 710 and admission to PA professional program.

HS 720. Neuroscience. (3) 3R; 2L. Integration of neuroanatomy and neurophysiology of the central and peripheral nervous systems with human functional abilities. Prerequisite: PHS 700 or program consent.

Health Professions-General (HP)

Courses for Graduate/Undergraduate Credit

HP 570. Selected Topics (1-4). Lecture/discussion; focuses on a discrete area content relevant to the health discipline. In-depth study of a particular topic or concept, including didactic and current research findings and technological advances relevant to the topic. Open to non-majors; requires department consent.

Medical Technology (MED T)

Course for Graduate Students Only

MED T 800. Seminar in Laboratory Sciences (1-3). Discusses recent issues and advances in the field of clinical laboratory science, including the areas of microbiology, chemistry, hematology, immunology, and immunohematology. Students are responsible for assigned topics, using current journal articles as a resource material. Prerequisite: department consent.

Physician Assistant (PA)

Course for Graduate/Undergraduate Credit

PA 525. Special Topics (1-4). Lecture/discussion; focuses on a discrete area content relevant to the health disciplines. In-depth study of a particular topic or concept, including didactic and current research findings and technological advances relevant to the topic. Open to non-majors; requires department consent.

Public Health Sciences (PHS)

Graduate Faculty
Peter Cohen, Dean
Professors: Michael Long, Ph.D., James H. Swan, Ph.D.
Associate Professors: Mary Lescoe-Long, Ph.D., (Department Chair, MPH Director)
Assistant Professors: Stephen C. Gladhart, Ph.D., Ruth B. (Toni) Pickard, Ph.D.

The Department of Public Health Sciences offers the Master of Public Health degree. A graduate certificate in public health is available for individuals whose primary goal is core public health training.

Master of Public Health (MPH)

Developing Leadership Capacity to Promote a Healthy Society

The Master of Public Health (MPH) Program prepares graduates to undertake leadership positions across the health care system. This 36 credit hour degree program is appropriate for individuals interested in acquiring the multi-dimensional and multi-disciplinary knowledge and skill base necessary to 1) build and strengthen the organizations and agencies that deliver health care and public health services to our nation’s communities and 2) partner effectively with community residents and representatives to develop healthy communities and enhance well being at the population level.

The MPH program emphasizes six dimensions of public health leadership in its generalist curriculum: community building, system and organizational administration, essential services, assessment/policy development/assurance, political and social realities, and leadership and change agency.
The program grounds students in the five core disciplines of public health through required course work in public health policy and administration, social and behavioral concepts and theories as applied in public health, epidemiology, concepts and methods, descriptive and analytic statistics and their application in health care, and environmental health and its application to protecting the health and safety of the population. These disciplines form the foundation of the Essential Services dimension.

The program also educates students in the three core functions of public health:

1. Assessment (population-based health care needs in the community and in health service organization catchment areas, social and clinical determinants of population health);

2. Policy Development (advocating for health, planning, program development and grantsmanship, priority setting, constituency building);

3. Assurance (deploying and managing resources and programs, developing and sustaining organizational structures, evaluation, quality assurance, and health services research and community action research).

In addition, the WSU MPH offers students the opportunity to pursue a specialized area of interest in either of the two contextual dimensions of public health leadership, Systems and Organizational Administration and Community Building. Students who are keenly interested in health systems and organizational administration should choose the Health Administration emphasis. This emphasis stresses the financial, organizational, and service delivery aspects of the U.S. health care system and prepares the student to assess, evaluate, and manage the distribution of health care resources and the quality of care delivered, promote and facilitate change, and to navigate the changing health care environment.

Students whose primary interests lie in community building should choose the Community Planning and Development emphasis. This emphasis stresses an integrated cycle of community needs assessment, community asset identification, constituency building, planning and resource development, and evaluation directed toward promoting health lifestyles and developing strong communities. Students selecting this concentration learn additional skills in practicing culturally competent health care to improve interventions among minority populations, through experiential learning and field projects.

The fifth dimension of public health leadership, Political and Social Realities, is woven throughout the curriculum. These realities form the milieu in which program graduates must operate.

Leadership and Change Agency is addressed through specific courses dedicated to the study of leadership practices and successful organizational transformation, and through the integration of the student’s entire course of study. This dimension is concerned with systems thinking, knowledge synthesis, knowledge integration, critical evaluation, organizational and community problem solving, values clarification, and ethical health care decision making.

This integrative experience culminates in program’s practicum capstone. Faculty advisors work with students to establish plans of study in which elective course work adequately prepares the students for their capstone of choice.

Who Should Apply?
The WSU MPH is the appropriate professional enhancement program for anyone with a medical, business, or social science (sociology, psychology, anthropology, political science, etc.) background who is interested in extending their expertise and directing it toward a career dedicated to enhancing the health of the population through leadership and stewardship in either a health care organization or community-based setting.

Career Opportunities
There is currently a nationwide shortage of public health professionals. The MPH is the professional degree of choice for entering the field.

Admission Requirements
Admission to the MPH degree program requires that:

1. Applicant possesses a bachelor’s degree (or its equivalent) and a grade point average of 3.0 (cumulative and last 60 hours) awarded by a regionally accredited institution of higher learning or a foreign university with requirements equivalent to an American four-year bachelor’s degree.

2. Applicant has provided an official report of the Graduate Record Examination (GRE) or has successfully completed a post-baccalaureate degree program. Scores from other nationally recognized tests of aptitude, as approved by the Admission Committee, for post-baccalaureate study may be substituted for the GRE with prior program approval.

3. Applicant, whose native language is not English, must submit an official report of completion of the Test of English as a Foreign Language (TOEFL) with a composite score of 570 or better (230 or better for the computerized TOEFL). This report must not be more than two years old at the time it is reviewed by the MPH admissions committee.

4. A properly completed Application for Admission to MPH program of study, including a carefully considered Statement of Purpose.

5. A resume or curriculum vitae.

6. A completed Graduate School Application for Wichita State University and application fee(s).

Degree Requirements
The award of the MPH degree requires 36 credit hours including successful completion of the practicum capstone. Students are expected to maintain a B average or better to remain a degree candidate. The student must complete 15 core course hours, 15 elective course hours and the 6-hour block practicum capstone.

Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHS 804</td>
<td>Principles of Statistics in the Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>PHS 808</td>
<td>Principles of Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>PHS 812</td>
<td>Health Care Policy and Administration</td>
<td>3</td>
</tr>
<tr>
<td>PHS 814</td>
<td>Social and Behavioral Aspects of Public Health</td>
<td>3</td>
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<tr>
<td>PHS 816</td>
<td>Environmental Health</td>
<td>3</td>
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Program Electives

(a minimum of 15 hours)

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHS 643</td>
<td>Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>PHS 660</td>
<td>FTU Long Term Care Practicum</td>
<td>3</td>
</tr>
<tr>
<td>PHS 702</td>
<td>Community Action Research</td>
<td>3</td>
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<tr>
<td>PHS 808</td>
<td>Methods in Public Health</td>
<td>3</td>
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<tr>
<td>PHS 821</td>
<td>Community Assessment &amp; Development</td>
<td>3</td>
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<tr>
<td>PHS 824</td>
<td>Cultural Competency in Health Care</td>
<td>3</td>
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<tr>
<td>PHS 826</td>
<td>Politics of Health Policy Making</td>
<td>3</td>
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<tr>
<td>PHS 831</td>
<td>Essentials of Health Insurance and Managed Care</td>
<td>3</td>
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<tr>
<td>PHS 833</td>
<td>Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>PHS 834</td>
<td>Financing Health Care Services</td>
<td>3</td>
</tr>
<tr>
<td>PHS 835</td>
<td>Organization, Financing and Delivery of Health Care</td>
<td>3</td>
</tr>
<tr>
<td>PHS 838</td>
<td>Applied Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PHS 841</td>
<td>Leadership and Change Agency in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PHS 842</td>
<td>Public Health Applications to the World Wide</td>
<td>3</td>
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<tr>
<td>PHS 843</td>
<td>Health Program Planning</td>
<td>3</td>
</tr>
<tr>
<td>PHS 845</td>
<td>Coalitions in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>PHS 848</td>
<td>Concepts of Quality</td>
<td>3</td>
</tr>
<tr>
<td>PHS 858</td>
<td>Long Term Care Systems</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Practicum Capstone

PHS 840, Practicum 1-6
Public Health Sciences (PHS)

Courses for Graduate/Undergraduate Credit

PHS 643 - Geographic Information Systems (3)
This course provides hands-on learning of ArcView, the Geographic Information System (GIS) that uses computer mapping to identify and illustrate the presence and distribution of community assets and needs. Taught in the Computer lab in our College of Health Professions, each student is assisted in mastering this powerful analytical tool. Public health data captured in the low-income, multiethnic neighborhood of Planeriew, our community learning partnership site, provide exciting real-world problems for students to explore and analyze through various mapping techniques. Students learn the utility of mapping for linking theory and research with program planning and policy development.

PHS 660. AIT Long-Term Care Practicum (3, 6 or 9).
Needs for health services will increase dramatically in the future because of the rising need for the elderly population. A broad range of services, including long-term care, is required to address the health care needs of the older population. The Administrator-in-Training (AIT) Practicum is an academic long-term care administrator training program. The purpose of the AIT is the development of a professional competency and personal code of ethics for the field of long-term care administration. The course prepares students for the state nursing home administrator examination. The 480 clock hour practicum is completed in a licensed long-term care facility under the guidance of an approved preceptor. Prerequisites: Undergraduates must have senior standing. All students must have course work in gerontology/long-term care, leadership, and financing/accounting; may take one course concurrent with the AIT practicum.

PHS 663. Community Action Research (3).
This course is one of a series of community epidemiology courses that focus on community assessment and development. Community action research is an applied, interdisciplinary field in which hands-on learning occurs while involving participation of the target population. Action research has three basic components: 1) it deals with social practices (e.g., help seeking behaviors) that are potentially mutable (able to be improved); 2) it carves through cycles of planning, acting (initialing and evaluation), observing (collecting & analyzing data) and reflecting; and 3) it involves collaboration between the researchers, those who engage in the social practices of interest and those who are affected by them. The class learns to develop case studies and collects data through face-to-face surveys of neighbors in Planeriew, our community learning partnership site.

Courses for Graduate Students Only

PHS 804. Principles of Statistics in the Health Services (3).
This course is intended as an introductory in statistics for graduate students in the social and health sciences with little or no background in statistics. Its purpose is to provide first year (or equivalent) MPH students with a basic understanding of certain statistical techniques, the appropriate application of these techniques, and the use of the software package, SPSS.

PHS 808. Principles of Epidemiology (3).
An introductory graduate level course concerning epidemiological principles and how these form the scientific basis for public health.

PHS 812. Health Care Policy and Administration (3).
An in-depth look at policy and management issues in the health system from a public health perspective. Topics include health policy, trends in the health care system, and administrative issues. Topics are critiqued with regard to public health goals, the interests of consumers and providers, and ethics.

PHS 814. Social and Behavioral Aspects of Public Health (3).
Examines the characteristics, beliefs and behaviors of individuals and groups involved in the process of health care. Draws on concepts and principles of the social, behavioral, and clinical sciences, especially dynamics that define the interactions of providers and consumers of health care. Explores why people react to perceived symptoms the way they do, the reasons providers respond as they do to patients in different social attributes, the factors which predispose individual reactions to illness and its correlates, and the effects of health on societal agreements and expectations.

PHS 816. Environmental Health (3).
A survey course in environmental health designed to provide an understanding of the fundamental theory and methods for the control of disease. Includes environmental law, disease systems, water supplies, plumbing, waste water treatment, food sanitation, vector control, recreation sanitation, solid waste disposal, housing sanitation, and air pollution.

PHS 818. Fundamental Research Methods in Public Health (3).
Stresses mastery of basic concepts and techniques of research methodology used in the health professions. Focuses on acquisition of the generic tools of research design and their application to the real-world problems confronting those who deliver health care, those who facilitate and/or manage the delivery of care, those who conduct clinical and health services studies, and those who make policy affecting the delivery arrangements. Prerequisites: PHS 804 and 808.

PHS 821. Community Assessment & Development (3).
This community epidemiology course introduces public health theories and methods used to conduct community assessments and to apply the results to positive social change. We first examine the meaning of the key terms "community", "community-building" and "community development" within historical and contemporary perspectives. We learn the importance of starting with such questions as "whose community?", "whose health?", "whom is assessed?" and "for whose benefit?" We review strategies for community mapping, issue selection, community organizing, and coalition building. We then study several approaches for identifying community needs, including the organizing, and coalition building. We then study several approaches for identifying community needs, including the use of secondary data sources, interview methods, focus groups and surveys. Finally, we apply our work to the design (or revision) of a study of the assets and needs of a local target community in regard to a health-related issue.

PHS 824. Cultural Competency in Health Care (3).
This course uses a community epidemiology approach to examine the changing demographics in 21st century United States, and to analyze the effects of those changes on our health care system. We explore differences in the distribution of disease among various cultural groups, taking into account the social, biological and political causes behind those differences. We look at gaps between ethnic groups in service availability and access, in therapy options, and in treatment outcomes. Then, we show how culture affects lifestyle choices, attitudes toward health and illness, help-seeking behaviors, and service utilization.

PHS 826. Politics of Health Policy Making (3).
This course covers the basic principles of public policy making in health care and public health. It then offers the opportunity to students to apply that knowledge to a community-based attempt to impact a positive public health policy development. It is a skills-based course that demonstrates why things happen as they do in policy-making arenas and what can be done to ensure desired policy outcomes.

PHS 831. Essentials of Health Insurance and Managed Care (3).
Health insurance is one of the most powerful ingredients in the U.S. health care system and yet the majority of the general public misunderstands it. It is important for those that currently work, and those who are planning to work, in the health care field to understand the underlying dynamic of the insurance process. In this course the student is introduced to the concept of risk and the role of insurance in handling risk. It also examines health care expenditures as an insurable event; health insurance and managed care as a form of risk handling.

PHS 833. Health Economics (3).
An application of classical economic theories, principles and concepts to the traditional U.S. medical care. Both the traditional and unique determinants of demand and supply are considered with emphasis on the role of need for care and provider-induced demand, and health insurance. The legitimate role of government in health care is also considered.

PHS 834. Financing Health Care Services (3).
Provides an examination of the principles of financial analysis and management used in health care institutions which are most useful to non-financial personnel. It emphasizes understanding and application of general financial concepts to health setting and includes consideration of financial organization, sources of operating revenue, budgeting and cost allocation.
PHS 835. Organization, Financing and Delivery of Health Care (3).

Students are introduced to the organization, financing and delivery modalities of the U.S. Medical Care System. The development and application of hospital reimbursement methodology (DRG-Based FPC) and physician reimbursement methodology (RBPRUS) are examined. The principles of health insurance are introduced and the role of private and public (Medicare/Medicaid) health insurance in health care utilization are examined. Health status outcomes and quality of life measures are also explored.

PHS 838. Applied Data Analysis (3).

This course will teach: 1) the practical skills necessary to analyze and manage data using the SPSS software; 2) the application of statistical tools introduced in the MPH Program’s introductory courses in biostatistics; and 3) an introduction to regression analysis.

PHS 840. Practicum (1-6).

Academic studies are linked with actual practice through observation and participation in the administrative and educational processes of public, voluntary, and private health organizations, under the direction of a preceptor from the host agency.

PHS 841. Leadership and Change Agency in Public Health (3).

Explores the essential leadership competencies and characteristics necessary to effectively promote innovation and facilitate adaptation in today’s complex and rapidly evolving health care system. Combines classic theory and cutting edge concepts to ground students in the principles which underpin the current emphasis on leaders as change agents.

PHS 842. Public Health Applications to the World Wide Web (2).

This course documents the creation and evolution of the Internet and World Wide Web and applications that allow these tools to be of relevance to public health and preventive medicine in the community setting. There are no official prerequisites other than an understanding of basic statistics and familiarity with computer systems.

PHS 843. Health Program Planning (3).

Development and practice of planning and evaluation skills through the development of a health program in a community of interest.

PHS 845. Coalitions in Health Care (3).

This course is designed to familiarize students with the factors influencing successful collaboration in public health. The course emphasizes the application of this material to the development of community-based coalitions/committees/partnerships. Course format will include lecture, group and individual examination of the literature, analysis of case studies, and fieldwork.

PHS 848. Concepts of Quality (3).

Quality of health care is a much discussed concept that currently receives a great deal of attention. Unfortunately, with all the attention from a variety of providers, third-party players, employers, and other client organizations, considerable confusion regarding the definition and measurement of quality has arisen. Not only is there a tendency to use the word “quality” as an adjective rather than a noun, each of the constituent players adopt their own definition for their own purpose. This course is designed to provide the student with the conceptual underpinnings provided by the scholarly approach to the definition and assessment of quality of health care, which will permit the various quality assessment and improvement methodologies to be placed in context.

PHS 855. Long Term Care Systems (3).

Analyzes long-term care in the U.S. as a response to chronic illness and disability, emphasizing the diversity of long-term care systems addressing the needs of persons of all ages. Addresses system and organizational concerns affecting costs, outcomes and quality. Explicitly applies a trajectory model of chronic illness and disability, conceptualizing long-term care systems in their response to chronically ill and disabled individuals. Students are encouraged to have taken PHS 812 or to take it concurrently.

PHS 875. Special Topics (3).

New or special topics presented based on sufficient demand. Prerequisite: Instructor’s consent.

PHS 876. Directed Study (1-3).

Individual study of the various aspects and problems within public health. Repeatable for credit with departmental consent. Instructor must be obtained before enrollment.

PHS 885. Thesis (1-3).

Repeatable to a maximum of six hours. Prerequisite: Consent of thesis advisor.

Admission Requirements

1. Have a bachelor’s degree from an accredited four-year institution acceptable to the Graduate School.

2. Have a cumulative grade point average of 3.00 in the last 60 hours of graded course work, in prerequisite courses, and in all math and science courses.

3. Show evidence of having completed the following:

   - Biology—one semester of introductory biology with a laboratory
   - Anatomy and Physiology—minimum of 5 hours with laboratory
   - College Chemistry—two semesters with laboratory included.
   - College Physics—two semesters with laboratory
   - Computer Proficiency
   - Medical Terminology—one semester hour
   - Speech—one semester
   - Mathematics—college algebra or equivalent
   - Statistics—one semester
   - Social Sciences—psychology, one introductory course and one advanced course
   - Show evidence of 20 hours of observation or work in one or more physical therapy settings, and of computer proficiency.

To be reviewed for admission, applicants should do the following:

1. Seek an application packet from the Department of Physical Therapy and the Graduate School.

2. Submit the designated Application for Admission and supporting transcripts to the Graduate School.

3. Submit the designated Physical Therapy Application, along with two references by the published deadline, and the $25 program application fee.

Complete applications are reviewed when received by the department in a timely manner. Applicants will be notified of their admission status by the Graduate School. Once an applicant has been admitted, he or she will be asked to submit a $100 nonrefundable tuition deposit to reserve a space for the summer admission. Once the student enrolls, this money will be counted toward payment of tuition.

Students are advised to contact the department for any changes in the program course requirements or in prerequisite requirements. Information is also available on the department website: www.wichita.edu/pt

Degree Requirements

The student must maintain a 3.00 grade point average and a C or better in each of the following courses:

Course: Hrs.

PT 715, Professional Issues and Ethics .......... 3
Students will be required to purchase uniforms and other clinical apparel, professional liability insurance, health insurance coverage, and specified immunizations, as well as submit evidence of an annual physical examination while in the program.

Students must also be certified in cardiopulmonary resuscitation (CPR) prior to entering the clinical rotations.

Students are expected to provide their own transportation to and from the health care facilities used for clinical experiences. During clinical assignments outside Wichita, students may be required to pay all living and travel expenses.

Students are referred to the Department of Physical Therapy Student Handbook for more details on special departmental policies and procedures.

Courses for Graduate Students Only

PT 701, Research Methods and Statistics (2). Discussion and application of statistics, critiquing scientific literature, and the development of a research proposal and major literature review. Prerequisite: departmental consent.

PT 705. Clinical Medicine I (2). Presents the causes, diagnoses, effects, treatment, and prognoses for general medical conditions seen by physical therapists. Coordinated by the department faculty and organized around the medical model. Prerequisite: departmental consent.

PT 707. Introduction to Patient Management Skills (2). Introduces the student to basic patient care and medical terminology. Through clinical observation sessions, students become familiar with various types of physical therapy settings. Prerequisite: departmental consent.

PT 709. Foundations of Therapeutic Exercise (3). Introduces the scientific principles of therapeutic exercise foundations and techniques for physical therapists. Follows the standards of physical therapist practice. Laboratory sessions include skill development for safe, effective use of basic therapeutic exercise equipment. Prerequisite: departmental consent.

PT 710. Foundations for Evaluation and Treatment of Musculoskeletal Conditions (3). Introduces the basic scientific foundation and clinical rationales used during evaluation and treatment of musculoskeletal conditions. Introduces specific issues and challenges the profession is addressing as the larger system for health and medical services changes. Prerequisite: departmental consent.

PT 726. Clinical Medicine II (2). Presents the causes, diagnoses, effects, treatment, and prognoses for orthopedic conditions seen by physical therapists. Coordinated by department faculty and organized around the medical model. Prerequisite: departmental consent.

PT 730. Neurological Approaches to Patient Care (2). Gives basic skills for assisting movement in patients with neurological impairments. Prerequisite: departmental consent.

PT 735. Physical Agents in Physical Therapy (4). Presents utilization of physical modalities related to sound, light, electricity, water, paraffin, traction, and massage to achieve physiological and mechanical results. Incorporates evaluation and treatment methods for the above modalities along with analysis of relevant scientific literature. Prerequisite: departmental consent.

PT 745. Clinical Medicine II (3). Presents the causes, diagnoses, effects, treatment, and prognoses for neurological, pulmonary, and cardiac conditions seen by physical therapists. Coordinated by department faculty and organized around the medical model. Prerequisite: departmental consent.

PT 747. Assessment and Intervention in Acute Conditions (3). Introduces the utilization of physical modalities related to acute conditions. Prerequisite: departmental consent.

PT 749. Experimental Courses (1-4). One-time course offerings. Prerequisite: departmental consent.

PT 800. Clinical Education I (6). Introduction to physical therapy care in varied settings requiring communication and interpersonal relations skills; application of basic physical therapy procedures; beginning professional socialization; beginning development of a generalist in physical therapy. Prerequisite: departmental consent.

PT 802. Cardiopulmonary Assessment and Intervention (2). Continuation of PT 745. Adds concepts and material to allow students to assess and treat patients with cardiopulmonary conditions. Prerequisite: departmental consent.

PT 809. Orthopedic Assessment and Intervention I (3). Introduces the basic scientific foundation and clinical rationales used during evaluation, assessment, and treatment of musculoskeletal conditions. Builds on first-year PT courses.

Special Requirements

Students will be required to purchase uniforms and other clinical apparel, professional liability insurance, health insurance coverage, and specified immunizations, as well as submit evidence of an annual physical examination while in the program.
Master of Science in Nursing

The program is individualized to meet the needs and professional goals of each student. The curriculum has been developed to accommodate part-time study (8 or fewer credit hours), as well as full-time study (9-12 credit hours). The purpose of the graduate program is to prepare advanced practitioners who function as clinical nurse specialists, nurse practitioners, administrators, and educators.

Admission Requirements

In addition to the general University requirements for admission to graduate studies (see the Graduate Bulletin for full details), the School of Nursing requires:

1. A bachelor's degree with a major in nursing from a nationally accredited (NLN or CCNE) school. RN applicants with a degree in another discipline or those seeking the RN to BSN/MSN accelerated plan will be considered and counseled on an individual basis.
2. Admission to the Graduate School at Wichita State University.
3. A cumulative grade point average of 3.00 or higher in the last 60 hours for full standing.
4. School of Nursing approval.
5. Evidence of Registered Nurse licensure in Kansas.
6. Coverage by professional liability insurance in the amount of $1/3 million individual/aggregate, to be renewed annually.
7. One year of nursing practice following professional licensure is highly recommended but not required.
8. Computer literacy including word processing skills is essential.

Students may be admitted conditionally until all requirements for admission are completed.

Prerequisites: A course in statistics accepted by the School of Nursing and an undergraduate nursing research course are required. Prerequisite courses are not credited to the degree. Students who have not completed a prerequisite may be admitted conditionally and are allowed one year to complete it. Some graduate courses may not be available to students while completing the prerequisites.

Comprehensive Examination

A comprehensive written examination, thesis or research project is required of all graduate nursing students. The exam is completed during the student’s last two semesters.

Options Available

Clinical Nurse Specialist (39-42 hrs)

- Adult Health and Illness
- Pediatrics

Nurse Practitioner (45-46 hrs)

- Acute Care
- Family
- Pediatrics
- Psychiatric/Mental Health

Nurse Midwifery (51 hrs)

Offered in collaboration with the University of Kansas.

Nursing and Health Care Systems Administration (42 hrs)

Dual Degree MSN and MBA (63 hrs)

Offered in collaboration with the W. Frank Barton School of Business
### Clinical Nurse Specialist

#### Adult Health and Illness (39-42 hrs)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>NURS 701/702</td>
<td>Advanced Health Assessment</td>
<td>2/1</td>
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<tr>
<td>NURS 703</td>
<td>Scientific Inquiry I</td>
<td>3</td>
</tr>
<tr>
<td>NURS 705</td>
<td>Scientific Inquiry II</td>
<td>3</td>
</tr>
<tr>
<td>NURS 715</td>
<td>Advanced Nursing Practice: Roles and Issues</td>
<td>3</td>
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<tr>
<td>HS 711</td>
<td>Pharmacological Management of Acute and Chronic Diseases</td>
<td>3</td>
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<tr>
<td>NURS 805</td>
<td>Health Promotion through the Life Span</td>
<td>3</td>
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<tr>
<td>NURS 808</td>
<td>Advanced Role Practicum</td>
<td>3</td>
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<tr>
<td>NURS 834</td>
<td>Adult Nursing Practicum</td>
<td>3</td>
</tr>
<tr>
<td>NURS 838</td>
<td>Management of Acute and Chronic Health Problems of the Adult</td>
<td>3</td>
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<tr>
<td>NURS 851</td>
<td>Clinical Management</td>
<td>3</td>
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<tr>
<td>NURS 852</td>
<td>Adult Case Management Practicum</td>
<td>3</td>
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#### Pediatrics (39-42 hrs)

<table>
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<tr>
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<tr>
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<td>3</td>
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<tr>
<td>NURS 705</td>
<td>Scientific Inquiry II</td>
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<tr>
<td>NURS 715</td>
<td>Advanced Nursing Practice: Roles and Issues</td>
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</tr>
<tr>
<td>NURS 793</td>
<td>Advanced Pathophysiology</td>
<td>3</td>
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<tr>
<td>NURS 795</td>
<td>Applied Drug Therapy</td>
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<td>NURS 805</td>
<td>Health Promotion</td>
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<td>NURS 808</td>
<td>Advanced Role Practicum</td>
<td>3</td>
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<tr>
<td>NURS 829</td>
<td>Health Care during Growth and Development of Children and Families</td>
<td>3</td>
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<tr>
<td>NURS 832</td>
<td>Pediatric and Women's Health Nursing Practicum</td>
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<tr>
<td>NURS 836</td>
<td>Pediatric and Women's Health Nursing Practicum II</td>
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<td>NURS 851</td>
<td>Clinical Management</td>
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</tbody>
</table>

Elective courses, Thesis or Project: 3-46

*NURS 851 is not required of those completing the thesis option.

### Nurse Midwifery Specialty Courses (KU School of Nursing)

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<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>NURS 80/81</td>
<td>Nurse Midwifery in the Antepartum Period</td>
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<td>NURS 83/83</td>
<td>Nurse Midwifery in the Neutritional Period</td>
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<td>NURS 87/87</td>
<td>Nurse Midwifery in the Intrapartum Period</td>
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<td>NURS 88/88</td>
<td>Nurse Midwifery in the Postpartal Period</td>
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<tr>
<td>NURS 814</td>
<td>Neonatal Nursing</td>
<td>2/1</td>
</tr>
<tr>
<td>NURS 815</td>
<td>Midwifery Practice: Roles and Issues</td>
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<td>NURS 816</td>
<td>Clinical Management</td>
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Elective courses, Thesis or Project: 1-6

### Nursing and Health Care Systems Administration (42 hours)

<table>
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<th>Course Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>NURS 703</td>
<td>Scientific Inquiry I</td>
<td>3</td>
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<tr>
<td>NURS 705</td>
<td>Scientific Inquiry II</td>
<td>3</td>
</tr>
<tr>
<td>NURS 715</td>
<td>Advanced Nursing Practice: Roles and Issues</td>
<td>3</td>
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<tr>
<td>NURS 775</td>
<td>Health Care Information Systems</td>
<td>3</td>
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<tr>
<td>NURS 811</td>
<td>Foundations of Nursing Administration</td>
<td>3</td>
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<tr>
<td>NURS 812</td>
<td>Nursing Administration Practicum</td>
<td>3</td>
</tr>
<tr>
<td>NURS 827</td>
<td>Resource Management in Nursing</td>
<td>3</td>
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<tr>
<td>NURS 851</td>
<td>Clinical Management</td>
<td>3</td>
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<tr>
<td>NURS 863</td>
<td>Capstone Seminar Practicum (choose one):</td>
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<tr>
<td>NURS 812 (Administration), NURS 814 (Education)</td>
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<tr>
<td>NURS 776</td>
<td>Informatics</td>
<td>3</td>
</tr>
<tr>
<td>PHS 834</td>
<td>Finishing Health Care Services</td>
<td>3</td>
</tr>
<tr>
<td>PHS 848</td>
<td>Concepts of Quality</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective courses, Thesis or Project: 3-6

*NURS 851 is not required of those completing the thesis option.
DUAL MSN/MBA DEGREE
The School of Nursing and the W. Frank Barton School of Business offer a dual degree program in which both degrees are received. The 63-credit program includes a minimum of 27 credits in nursing, 33 credits in business administration and 3 credits in health care administration. Seeking these degrees separately would require 87-93 credit hours.

There are additional admission requirements for the Master of Business Administration portion of the dual degree.

Admission to the MBA program is granted to students who show high promise of success in postgraduate study and who hold a bachelor's degree from a regionally accredited institution. Although various criteria are considered in granting admission, special attention is given to the applicants' grade point averages on academic work completed and to their test scores on the Graduate Management Admission Test (GMAT).

To be admitted, applicants must have a minimum of 200 times a student's overall grade point average (GPA) plus the GMAT score, or 1,100 times the GPA in the last 60 hours of graduate and undergraduate work completed, plus the GMAT score.

Curriculum Notes
The prerequisites, MSN core curriculum and MBA background fundamentals are taken before the practicum courses and the required MBA courses. Practice should be planned late in the program. Either full or part-time enrollment is possible.

Curriculum Plan
Master of Science in Nursing portion. 30 hours
Core Curriculum
NURS 521, Nursing and Computer Technology 3
NURS 703, Scientific Inquiry I 3
NURS 705, Scientific Inquiry II 3
NURS 715, Advanced Nursing Practice: Roles and Issues 3

Clinical Concentration
NURS 775, Health Care Information Systems 3
NURS 811, Foundations of Nursing Administration 3
NURS 812, Nursing Administration Practicum 3
NURS 822, Resource Management in Nursing 3
PHS 834, Financing Health Care Services 3

Master of Business Administration portion. 33 hours
Finance (not included in degree hours)
MATH 111, College Algebra 3
MATH 144, Business Calculus 3
CSEP 704, Introduction to Educational Statistics (or equivalent) 3

Background Fundamentals
MBA 800, Financial Accounting 3
ECON 800, Analysis of Economic Theory 3
MS 874, Management Information Systems 3
MKT 801, Marketing Systems 3

Requisite Courses
ACCT 801, Managerial Accounting 3
ECON 804, Managerial Economics 3
FIN 850, Managerial Finance 3
MGMT 803, Business Decision Making 3
MGMT 862, Organizational Behavior 3
MGMT 885, Advanced Strategic Management 3
MKT 801, Marketing Management 3

GRADUATE CERTIFICATES (POST MASTER'S)
Registered Nurses with master's degrees (MN or MSN) from a nationally accredited (CCNE or NLN) master's program may be admitted to a certificate option in the graduate nursing program. Those requesting a clinical program must have a degree with a clinical emphasis. The following options will have prerequisites which must be fulfilled prior to acceptance.

Acute Care Nurse Practitioner Graduate Certificate 15 hours Course and experience prerequisites may be required. Please contact department for prerequisites.

NURS 859 Management of Acute and Chronic Health Problems of the Adult 3
NURS 852 Adult Case Management Practicum 3
NURS 855 Management of the Acute and Critically Ill Adult 3
NURS 849 Nurse Practitioner Preceptorship 6

Nursing and Health Care Systems Administration Graduate Certificate 15 hours Course and experience prerequisites may be required. Please contact department for prerequisites.

NURS 812, Nursing Administration Practicum 6
NURS 827, Resource Management in Nursing Practicum (choose one):
(NURS 776, Health Care Information Systems Practicum, NURS 812, Nursing Administration Practicum, or NURS 814, Nursing Education Practicum) 3
NURS 863, Capstone Seminar 3

Adult Health and Illness Clinical Nurse Specialist Graduate Certificate 12 hours Course and experience prerequisites may be required. Please contact department for prerequisites.

NURS 808, Advanced Role Practicum 3
NURS 834, Adult Nursing Practicum 3
NURS 839, Management of Acute and Chronic Health Problems of the Adult 3
NURS 852, Adult Case Management Practicum 3

Family Nurse Practitioner Graduate Certificate 17 hours Course and experience prerequisites may be required. Please contact department for prerequisites.

NURS 803, PC I: Management of Common Health Problems 3
NURS 804, Primary Care I Practicum 4
NURS 809, PC II: Management of Complex Health Problems 3
NURS 810, Primary Care II Practicum 4
NURS 849, Nurse Practitioner Preceptorship 3

Pediatric Clinical Nurse Specialist Graduate Certificate 12 hours Course and experience prerequisites may be required.

Please contact department for prerequisites.

NURS 808, Advanced Role Practicum 3
NURS 829, Health Care During Growth and Development of Children and Families 3
NURS 832, Pediatric and/or Women's Health Nursing Practicum I 3
NURS 836, Pediatric and/or Women's Health Nursing Practicum II 3

Pediatric Nurse Practitioner Graduate Certificate 15 hours Course and experience prerequisites may be required. Please contact department for prerequisites.

NURS 847, Pediatric Primary Care I: Common Problems 3
NURS 848, Pediatric Primary Care II Practicum 3
NURS 857, Pediatric Primary Care I: Complex Issues 3
NURS 858, Pediatric Primary Care II Practicum 3
NURS 849, Nurse Practitioner Preceptorship 3

Psychiatric-Mental Health Nurse Practitioner Graduate Certificate 18 hours Course and experience prerequisites may be required. Please contact department for prerequisites.

NURS 793 Assessment in Psychiatric-Mental Health Nursing 3
NURS 819, Foundation of Psychiatric-Mental Health Nursing 3
NURS 822, Psychiatric-Mental Health Nursing Practicum I 3
NURS 843, Perspectives in Psychiatric-Mental Health Nursing 3
NURS 844, Psychiatric-Mental Health Nursing Practicum II 3
NURS 849, Nurse Practitioner Preceptorship 3

MASTER OF SCIENCE IN NURSING DEGREE FOR ARNPs
An MSN degree in two Nurse Practitioner (NP) options is offered for those who hold current ARNP certification in the appropriate option.

The degree for ARNPs is offered in the following options:

Family Nurse Practitioner or Pediatric Nurse Practitioner.

Admission requirements for entrance include the same requirements as the MSN program for those without ARNP certification as well as the following:

* BSN-prepared RN with ARNP certification in the option in which the degree is being sought.
* Minimum GPA of 3.0 in undergraduate work
* A college level health assessment course is a prerequisite
* An approved statistics course as a pre or corequisite
* Transcript or certification of completion of NP training
* Current ARNP certification in state of residence

Family Nurse Practitioner for ARNPs 30 hours

NURS 793, Scientific Inquiry I 3
NURS 795, Scientific Inquiry II 3
NURS 715, Advanced Nursing Practicum 3
NURS 805, Health Promotion through the Life Span 3
NURS 796, Advanced Pathophysiology 3
NURS 795, Applied Drug Therapy 3

Scholarship requirement (Choose one) 6 hours
(1) NURS 821, Thesis 6
**Courses for Graduate/Undergraduate Credit**

**NURS 505. Directed Study in Nursing (1-4).** Elective. Individual study of the various aspects and/or problems of professional nursing. Repeatable. Prerequisite: departmental consent.

**NURS 510. Advanced Nursing Practice 2 (3).** Focuses on basic terminology and use of computer technology for nursing education, practice and administration. Opportunity for hands-on experience with microcomputers. Prerequisite: admission to the nursing program or instructor’s consent. Previous knowledge of computers or computer technology is not required.

**NURS 530. Concepts of Loss (3).** Elective. Strategies for helping clients and families cope broad aspects of loss, from temporary to permanent illness to death. Includes human response, through the life span, to changed body image, disability and disfigurement, chronic illness, dying and death. Includes grief and mourning. Open to non-nursing majors.

**NURS 531. Nursing and Computer Technology (3).** Focuses on basic terminology and use of computer technology for nursing education, practice and administration. Opportunity for hands-on experience with microcomputers. Prerequisite: admission to the nursing program or instructor’s consent. Previous knowledge of computers or computer technology is not required.

**NURS 543. Women and Health Care (3).** Cross-listed as Women S. 543. Examines the historical development of the women’s health movement, focuses on current issues relevant to women and health care and explores the roles of women in the health care system and as consumers of health care. Examines self-care practices of women and studies ways to promote positive health practices. Open to non-nursing majors.

**NURS 566. Perspectives on Self-Help Groups (3).** Cross-listed as Psy 566 and Swcwk 566. Provides an interactive format that constitutes a community resource for health and human service professionals and promotes an interdisciplinary understanding of the nature and diversity of self-help groups for persons with various health problems or personal issues. Reviews contemporary theory and research, explaining the attractiveness and effectiveness of self-help groups. Panels of support group members share their experiences with self-help groups on such topics as addiction, cancer and other illnesses, eating disorders, bereavement, mental illness, and parenting.

**NURS 700. Assessment of Pediatric and Adolescent Clients (3).** A theoretical and clinical laboratory experience; students focus on the assessment of pediatric and adolescent clients. Open admission to RN and graduate students.

**NURS 701. Advanced Health Assessment (2).** Designed to assist students to refine history taking, psychosocial assessment and physical assessment skills. Focuses on assessment of individuals throughout the life span. Emphasizes on detailed health history taking, interpretation and documentation of normal and abnormal findings. Includes lecture, discussion and demonstration of history taking and an integrated physical assessment. Prerequisite: admission to graduate nursing program. May be taken concurrently with or prior to NURS 702.

**NURS 702. Advanced Health Assessment Laboratory (1).** Companion course for NURS 701. Apply history taking and assessment skills within a laboratory setting. Emphasizes differentiation, interpretation and documentation of normal and abnormal findings. Requires a complete history and physical examination of a client. Prerequisite: admission to graduate nursing program. May be taken concurrently with or within one year of completion of, NURS 701.

**NURS 703. Scientific Inquiry I (3).** Emphasizes the role of theory in scientific inquiry in nursing. The evolution of nursing theory is traced and projections for the future are explored. Relationships among theory, research and practice are addressed. Selected models/frameworks relevant for nursing are analyzed. Prerequisite: admission to graduate nursing program.

**NURS 704. Health Maintenance of the School Age Child (3).** Examines and applies major theories, clinical concepts and research studies related to school health nursing. Open to RN and graduate students.

**NURS 705. Scientific Inquiry II (3).** Builds on Scientific Inquiry I. Discusses the research process in relationship to concepts, frameworks/theories. Various methodological approaches to research are explored. Consideration is given to current issues in nursing research. The research process is demonstrated in a preliminary proposal relevant to student’s practice area. Prerequisite: NURS 703 or departmental consent and admission to graduate nursing program.

**NURS 706. Organization and Management of the School-Health Program (3).** Examines and applies concepts of organization and management to the school-health delivery system. Explores political, economic and social factors which influence the school-health delivery system. Open to RN and graduate students.

**NURS 707. Alternative and Complementary Health Care (3).** Analyzes the theoretical and empirical basis for various alternative and complementary modalities. Includes an exploration of issues involved with the use of specific modalities within today’s health care environment. Research-based discussion focuses on how to best prepare the health care professional to provide guidance for a client and the family to best achieve a physical, mental, emotional, and spiritual state most responsive to therapeutic interventions. Emphasizes total evaluation and support of health influences on lifestyle, environment, culture and other cognitive, sensory, and affective factors. Open to non-nursing majors.

**NURS 708. School Nurse Practicum (2).** An intensive clinical experience, 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.

**NURS 711. Advanced Health Assessment (2).** Designed to assist students to refine history taking, psychosocial assessment and physical assessment skills. Focuses on assessment of individuals throughout the life span. Emphasizes on detailed health history taking, interpretation and documentation of normal and abnormal findings. Includes lecture, discussion and demonstration of history taking and an integrated assessment. Prerequisite: admission to graduate nursing program. May be taken concurrently with or prior to NURS 702.

**NURS 712. Advanced Health Assessment Laboratory (1).** Companion course for NURS 711. Apply history taking and assessment skills within a laboratory setting. Emphasizes differentiation, interpretation and documentation of normal and abnormal findings. Requires a complete history and physical examination of a client. Prerequisite: admission to graduate nursing program. May be taken concurrently with or within one year of completion of, NURS 711.

**NURS 713. Advanced Health Assessment of the Neonate (4).** A developmental and systematic approach for the advanced assessment of physiological, psychological, sociocultural and developmental aspects of the fetus, mother and neonate in the perinatal period, and the neonate is discussed. Builds on basic assessment skills and emphasizes perinatal genetic and embryologic factors impacting neonatal development.
NURS 715. Advanced Nursing Practice: Roles and Issues (3). Designed for student preparing for advanced practice. Historical development of advanced practice role, the ethical, legal, political, and economic issues of such a role and current trends and future directions are discussed. Focuses on issues ranging from concerns within the local practice setting to national policy issues related to advanced nursing practice. Prerequisite: admission to graduate nursing program.

NURS 718. Advanced Technologies (2). Focuses on application of clinical skills and interpretation of technologies utilized in a variety of clinical settings. Nurse practitioner students practice these skills in laboratory and/or clinical settings. Prerequisite: admission to one of the NP options and departmental consent. Enrollment is limited.

NURS 720: Human Lactation (2 or 3). This course is designed for the graduate student preparing for practice as a lactation consultant. Provides an in-depth look at the anatomical and physiological basis of lactation and breastfeeding. Factors that impact maintenance of health during lactation and clinical decisions for disease prevention are explored. Course addresses preparation for lactation consultant certification. Students work on case studies, develop a paper for publication and take a final examination via the Internet. Prerequisites: Admission to graduate program. Open to non-nursing students.

NURS 731. Psychopharmacology (3). Basic brain biology, brain disorders and pharmacology are reviewed as a basis for assessment and administration of psychopharmacological medications and education of clients. Prerequisite: Admission to graduate program.

NURS 733. Diabetes Mellitus Nursing (3). Exploration of clinical theories; identifies and studies appropriate nursing systems for clients with diabetes mellitus. Emphasizes attaining and maintaining optimal levels of functioning and the psychological adjustment of the client and family to a potentially devastating disease. Open to non-nursing majors.

NURS 734. Diabetes Mellitus Nursing Practicum (3). An intensive clinical experience; students study, design and implement nursing systems for students with diabetes mellitus. Emphasizes attaining and maintaining optimal levels of functioning and the psychological adjustment of the client and family to a potentially devastating disease. Open to non-nursing majors.

NURS 750. Workshops in Nursing (1-4). An opportunity for intensive study of special topics related to nursing practice, education or research. Open to non-nursing majors.

NURS 757. Clinical Teaching Strategies (3). An exploration of alternative teaching strategies for the clinical educator to accommodate the changing health care scene. Discusses clinical teaching methods. A clinical rotation plan with accompanying clinical evaluation tool is constructed after the student, subject and setting are delineated. Investigates roles of the educator in teaching clinically.

NURS 775. Health Care Information Systems (3). Examines information systems as they relate to health care. Analyzes information systems in clinical management, administration, education and research. Emphasizes issues surrounding information systems and hands-on experience with selected health care information management exercises.

NURS 776. Health Care Information Systems Practicum (3). Provides an individualized opportunity to apply the concepts/theories of information systems to a health care setting. Projects include analyzing existing information programs, identifying applications for automation and undertaking small-scale development efforts. Prerequisite: NURS 775.

NURS 777. Physiology/Pathophysiology of the Neonate (3). Concepts of embryology, neonatal physiology and pathophysiology are used to provide an in-depth study of normal functioning, alteration of normal physiological functioning in cells, tissues, organs, and organ systems. Alterations form the basis for understanding a variety of pathophysiological conditions and the manifestations and impact of abnormal physiological functioning on neonates. Addresses both generalized processes and major system dysfunctions. Prerequisite: Admission to NNP track or departmental consent. Not currently being offered.

NURS 781. Pathophysiology for Acute and Critical Care (3). Examines pathophysiological concepts relevant to acute and critical care nursing practice. Explores the scientific knowledge base for selected clinical problems in acute care. Emphasizes pathophysiological mechanisms of disease and the relevance to clinical decision making. Prerequisite: admission to graduate program.

NURS 783. Assessment in Psychiatric Mental Health Nursing (3). For the student preparing for advanced practice in psychiatric mental health nursing. Explores current diagnostic issues in psychiatric nursing practice. Emphasizes application of current biological, psychological, social, and other relevant theories and knowledge within the nursing and related fields to the assessment and planning of interventions for psychiatric clients. Prerequisite: admission to graduate program.

NURS 786. Advanced Health Assessment Practicum (2). A concentrated assessment practicum focusing on application of knowledge from advanced health assessment courses. Students apply history taking and assessment skills in a specified setting. Emphasizes differentiation, interpretation, and documentation of normal and abnormal findings. Graded S/U. Prerequisites: NURS 701, 702 and departmental consent and admission to one of the NP options.

NURS 789. Pharmacology for the Neonate (3). Pharmacological agents used in the management of neonates are discussed. Pharmacologic principles are reviewed and applied to the use of drugs in the level II or III NICU. The clinical use of drugs in the management of specific illnesses of the neonate are explored. Legal considerations for the Advanced Practice Nurse are stressed. Prerequisites: admission to NNP option or departmental consent. Not currently being offered.

NURS 791. Special Studies in Nursing (1-6). Students engage in an extensive study of particular content and skills directly or indirectly related to nursing practice. Repeatable. Open to graduate or undergraduate students. Prerequisites: departmental consent.

NURS 793. Advanced Pathophysiology (3). Explores the in-depth scientific knowledge base relevant to selected pathophysiological states confronted in primary care. This provides the basis for the foundation of clinical decisions related to diagnostic tests and the initiation of therapeutic regimens. Age-specific and developmental alterations are correlated with clinical diagnosis and management. Application is made through age-appropriate examples. Prerequisites: admission to graduate nursing program and departmental consent.

NURS 795. Applied Drug Therapy (3). Discusses the clinical application of specific categories of drugs, commonly encountered in primary care settings. Explores the use of protocols, prescription writing and the ethical/legal and economic issues surrounding the advanced nurses' role in prescribing and monitoring pharmacological therapies in the ambulatory setting. Discusses factors such as age-appropriate content related to pharmacokinetics, dosages, expected outcomes and side effects of the drugs. Address first line versus second line drugs, alternate drugs, drug interactions, adjusting drug dosages, patient education and compliance issues related to drug therapy. Explore the nurse's role and responsibility related to data collection, problem identification and consultation with the physician. Application is made through age-appropriate case studies. Prerequisites: admission to graduate nursing program and departmental consent.

NURS 796. Nursing Practicum in Special Setting (1-6). Opportunity for directed practice in various settings including clinical specialties, nursing administration, nursing education and consultation. Prerequisites: departmental consent.

NURS 799. Directed Readings in Nursing (1-2). Student engages in critical search of the literature in areas related to the profession and practice of nursing. Prerequisites: departmental consent.

Courses for Graduate Students Only

NURS 803. Primary Care I: Management of Common Health Problems through the Life Span (3). Focuses on common health problems seen in individuals and families throughout the life span. Stresses applications of current
NURS 804. Primary Care I: Practicum (4). Concentrates on management common health problems across the life span, based on knowledge of theory and research. Primary care clients with common conditions affecting major body systems assessed and managed. Weekly seminars on analysis and evaluation of clinical situations and cases. Prerequisites: admission to the FNP option. Corequisite: NURS 803.

NURS 805. Health Promotion through the Life Span (3). Focuses on the wellness of individuals and families through the life span seeking to maintain or improve health and prevent illness. Interventions reflect a preventative framework, enhanced by theory and research that provide an understanding of health and lifestyle behaviors. Prerequisite: NURS 703. Pre or corequisite: NURS 705.

NURS 806. Advanced Role Practicum (3-6). Prepares the student for advanced nursing practice. An intensive practicum experience; the student works with an advanced nurse practitioner in a selected clinical setting. Emphasizes role development, case management and analysis of strategies to improve nursing practice. Prerequisites: all core courses, NURS 705 or HS 711; pathophysiology (NURS 781, 783 or 793) and at least 6 hours of a clinical concentration.

NURS 809. Primary Care II: Management of Complex Health Problems through the Life Span (3). Focuses on complex problems seen in individuals and families through the life span. Stresses applications of current research and theory-based interventions appropriate for management by advanced registered nurse practitioners. Emphasizes strategies and protocols to manage complex patient problems in urban and rural patients, interventions to restore individual and family levels of pre-illness health, and positive behaviors. Prerequisites: all core courses, NURS 718, 786 and admission to the FNP option. Pre or corequisites: NURS 715, 793 and 795. Corequisite: NURS 804.

NURS 812. Nursing and Health Care Systems Administration Practicum (1-6). This is a practicum in a health care setting; student, under professional guidance, becomes directly involved in existing leadership, administrative and management systems. A seminar (recitation) accompanies the field experience. Types of experience may include roles in nursing education or service, mid-level nursing administration, staff development, community health or other related areas as arranged. Repeatable for credit with instructor consent up to a maximum of 6 hours. Pre or corequisite: NURS 811 or 827.

NURS 813. Foundations of Nursing Education (3). Assists the student explore theoretical and practical aspects to curriculum development and teaching of nursing in higher education and continuing education. Prerequisite: NURS 703 and 705. Pre or corequisite: NURS 761.

NURS 814. Nursing Education Practicum (3 or 6). A student, under professional guidance becomes directly involved in clinical and classroom teaching, curriculum development and participation in other faculty functions in higher education and continuing education. A seminar accompanies the field experience. Prerequisites: departmental consent and NURS 813.

NURS 815. Neonatal Nursing I (4). First of two courses that integrate the physiological, pharmacologic, and assessment skills and principles in determining appropriate care of the ill neonate. Current research and evidence-informed practices are used as the course framework. The effects of critical conditions on the growth and development of the neonate, including related chronic health problems and the long and short-term consequences to the child’s family are emphasized. Disorders of the central nervous, pulmonary, and cardiovascular systems will be discussed. The use of specific interventions and diagnostic procedures are demonstrated and applied in laboratory clinical settings during forty hours of required clinical activities. Prerequisites: Core courses, NURS 713, NURS 777 and NURS 789. Not currently being offered.

NURS 819. Foundations of Psychiatric Mental Health Nursing (3). Evaluates major theories, clinical concepts and current research in psychiatric/mental health in relation to formulating a conceptual model for nursing practice. Prerequisites: NURS 701, 702, 703 and 705. Pre or corequisite: NURS 715.

NURS 821. Thesis (1-6). Graded S/U only. Student, in conjunction with the academic advisor and a three-member thesis committee, designs and conducts a formal research project. Prerequisites: admission to graduate nursing program and departmental consent.

NURS 822. Psychiatric/Mental Health Nursing Practicum (1-5). Intensive clinical experience; student plans, implements and evaluates nurse-therapist strategies with individual clients/patients. A seminar accompanies the practicum. Prerequisite or corequisite: NURS 819.

NURS 823. Graduate Project: Alternative to Thesis (1-3). Graded S/U only. An opportunity to develop and pursue a scholarly project other than a thesis. This may take the form of a position paper, a historical study, a philosophical paper or other type project developed in conjunction with the student’s faculty advisor. Prerequisites: admission to graduate nursing program, departmental consent and 12 hours of graduate coursework, including NURS 703 and NURS 705. Repeatable up to six credit hours.

NURS 825. Independent Study (1-6). Provides opportunity for the student to develop, in collaboration with a faculty member, objectives and protocols for independent work related to the practice of nursing. Prerequisites: admission to graduate nursing program and departmental consent.

NURS 827. Resource Management in Nursing (3). Focuses on the assessment and management resources necessary to operate nursing and health care systems including: information systems needed to manage resources; budget process management; personnel management from recruitment to termination, including staffing and scheduling; and management of relationships with patients, physicians, and diverse departments with different philosophies and views. Prerequisites: NURS 703 and 705. Pre or corequisite: NURS 715.

NURS 829. Health Care during Growth and Development of Children and Families (1-4). Focuses on the physical and psychosocial developmental changes from infancy through young adulthood. Considers factors that facilitate or interfere with healthy development. Provides an introduction to family theories including family development, family systems, and family stress. Emphasizes the role of the Advanced Practice Nurse in assisting children and families during the developmental years. Modular format allows students to select specific units: Unit One: Growth and Development: The Infant and Young Child (1 credit); Unit Two: Growth and Development: The Adolescent and Young Adult (1 credit); Unit Three: Family Issues: Part I and II (1 credit each). Prerequisites: NURS 703 and 705.

NURS 832. Pediatric and/or Women's Health Nursing Practicum I (3). An intensive clinical experience; student focuses on the process of systematic developmental, psychosocial and health assessment of children and families. Experiences based on the student’s clinical interests. Prerequisite: all core courses. Pre or corequisite: NURS 829.

NURS 834. Adult Nursing Practicum (3). 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 involve health maintenance or illness care of acutely or chronically ill adults. Prerequisites: all core courses, NURS 781, NURS 805 and HS 711. Pre or corequisite: NURS 839.

NURS 836. Pediatric and/or Women's Health Nursing Practicum II (3). An intensive clinical experience; student analyzes, prioritizes and designs therapeutic interventions...
NURS 851. Clinical Management (3). Management of clinical data and analysis of professional issues including business skills necessary for advanced nursing practice. Students use existing data to determine health care outcomes and to evaluate decisions of care. Extensive computer use in laboratory setting with technical support. Prerequisites: all core courses and NURS 805. Pre or corequisite: NURS 853.

NURS 859. Management of Acute and Chronic Health Problems of the Adult (3). This course examines clinical concepts and issues related to major disruptions in the health status of adults. Emphasis is placed on assessment, measurement and interventions related to acute and chronic health problems. Prerequisites: all core courses, NURS 781, NURS 805 and HS 711.


NURS 847. Pediatric Primary Care I: Management of Common Health Issues (3). Focuses on comprehension assessment, diagnosis, and management of health and common health problems seen in children and families during infancy, childhood, and adolescent years. Stressing applications of current research and theory-based interventions appropriate for management by Advanced Registered Nurse Practitioners. Emphasizes strategies and protocols to manage common problems in urban and rural patients, interventions to restore children's and family's levels of pre-I illness health, and positive behaviors. Prerequisites: NURS 701, 702, 705, 707, 718, 786, 829 and admission to the PNP option. Pre or corequisite: NURS 715, 791 and 815.

NURS 848. Pediatric Primary Care I Practicum: Clinical Management of Common Health Issues (3). Concentrated clinical practice in a primary care setting that addresses individuals and families during the infant, childhood, and adolescent age span, within the context of the community. Emphasizes history taking; cultural, developmental, nutritional, and physical assessment; and documentation. Skills. Seminars focus on analysis and evaluation of clinical situations. Prerequisite: admission to the PNP option. Pre or corequisite: NURS 847.

NURS 849. Nurse Practitioner Preceptorship (3 or 6). A concentrated clinical practice in an acute or primary health care setting that emphasizes the management of care for individuals. Students synthesize concepts and principles from previous classes and clinical experiences, applying theoretical and research content to acute, chronic, urgent and/or common health problems. Preceptorship is in a clinical agency appropriate to the student's clinical interests. Prerequisite: departmental consent and admission to one of the NP options.

NURS 861. Neonatal Nursing II (4). Second of two courses that integrate the physiologic, pharmacologic, and assessment skills and principles in determining appropriate care of the ill neonate. Current research and evidenced-based practices are used as the course framework. The effects of critical conditions on the growth and development of the neonate, including subsequent chronic health problems as well as the short and long-term consequences to the child's family are emphasized. Disorders of the gastrointestinal, renal, endocrine, hematologic, muscular-skeletal, ophthalmologic, dermatologic and immune systems will be discussed. The use of specific interventions and diagnostic procedures are demonstrated and applied in laboratory/clinical settings during hours of required clinical activities. Prerequisites: Core courses, NURS 713, NURS 777 and 789. Not currently being offered.
Fairmount College of Liberal Arts and Sciences

**Offices: 200 LAS**
William Bischoff, dean
Sharon Iorio, associate dean
Keith Pickus, interim associate dean
Gerald Lichti, assistant dean

**Departments and Programs**

Anthropology, (316) 978-3195—Peer Moore-Jansen, chairperson; Clay A. Robarck, graduate coordinator
Biological Sciences, (316) 978-3111—David McDonald, chairperson; William Hendry III, graduate coordinator
Chemistry, (316) 978-3120—Dennis Burns, chairperson; Kandagee Wimalasena, graduate coordinator
Communication, Elliott School of, (316) 978-3185—Susan S. Huxman, interim director; Patricia Dooley, graduate coordinator
Community Affairs, School of, (316) 978-7200—Paul Cromwell, director
Criminal Justice, (316) 978-3195—Andra Bannister, graduate coordinator
Economic Development, (316) 978-6546—Karen Brown, graduate coordinator
Ethnic Studies, (316) 978-6548—Karen Brown, graduate coordinator
Environmental Science, (316) 978-6548—Karen Brown, graduate coordinator
History, (316) 978-3150—Craig Miner, chairperson; John Dreifort, graduate coordinator
Liberal Studies, (316) 978-3358—Ramona Lira-Schwichtenberg, graduate coordinator
Mathematics, (316) 978-3160—Buma A. Frickman, chairperson; Kenneth Miller, graduate coordinator
Modern and Classical Languages and Literatures, (316) 978-3160—Dieter Saalmann, chairperson; Eunice Myers, graduate coordinator
Philosophy, (316) 978-3125—David Siles, chairperson
Physics, (316) 978-3190—Pawan Kaloh, chairperson; Syed Taher, graduate coordinator
Political Science, (316) 978-3165—James Sheffield, chairperson
Psychology, (316) 978-3170—Charles Burdial, chairperson; Robert Zettle, graduate coordinator
Religion, (316) 978-3125—Stuart Lasine, director
Social Work, School of (316) 978-7250—Cathleen Lewandowski, director; Brien Bolin, graduate coordinator
Sociology, (316) 978-3280—Ron Matson, chairperson; David Wright, graduate coordinator
Urban and Public Affairs, Hugo Wall School of, (316) 978-7240—Ed Fenton, director
Public Administration, (316) 978-6693—Samuel Yeager, graduate coordinator
Urban Studies, Center for, (316) 978-7240—Ed Fenton, director
Women's Studies, (316) 978-3358—Ramona Lira-Schwichtenberg, chairperson

**Graduate Certificates**

Applied Communication, (316) 978-6059—Katherine Hawkins, graduate coordinator
Economic Development, (316) 978-6693—Sam Yeager, program coordinator
Great Plains Studies, (316) 978-6764—Diane Quantic, program coordinator
Public Finance, (316) 978-6332—Bart Hildreth, program coordinator

Anthropology (ANTHR)
Graduate Faculty
Professors: Donald Blakeslee, Robert Lawless, Clayton A. Robarck (graduate coordinator)
Associate Professors: Dorothy Billings, David Hughes, Peer Moore-Jansen (chairperson)

The anthropology department offers a course of study leading to the Master of Arts (MA) degree.

**Admission Requirements**

Admission to the MA program in anthropology requires the completion of a minimum of 15 semester hours in anthropology to include courses in theory and method of anthropology and in the 3 main subdivisions of the discipline, and a grade point average in the last 60 hours of credit of 3.250 (on a 4.000 scale).

The deadline for application is February 1.

Prospective students are required to submit a written statement of purpose that addresses their intended area(s) of specialization. Applications will be reviewed by the entire faculty and accepted if there is a faculty member specializing in the applicant’s area of interest and available to serve as graduate advisor.

Students deficient in any of the course requirements may be admitted conditionally pending removal of the deficiencies.

**Degree Requirements**

The MA degree in anthropology has three tracks.

**Track 1** requires the completion of 30 semester hours, including the presentation of a thesis and comprehensive exams. At least 60 percent (18) of these hours must be in courses numbered 700 or above. The 30 hours must include a core course in archaeological anthropology (ANTHR 736), cultural anthropology (ANTHR 746), biological anthropology (ANTHR 756), and two seminars.

**Track 2** requires the completion of 33 semester hours, including the three core courses (ANTHR 736, 746, and 756), two seminars, and the presentation of a thesis or approved project.

**Track 3** requires the completion of 36 semester hours, at least 21 in anthropology including ANTHR 736, 746, and 756, and two seminars. At least 12 from/in (an) other discipline(s) are also required. Either an examination or an internship is also required.

A total of 4 hours of thesis, project, or internship, to complete the 30, 33, or 36 semester hours requirements for each track shall include either 2 hours each of ANTHR 871 and 872 (internship), ANTHR 873 and 874 (project), or ANTHR 875 and 876 (thesis). Students in all tracks are required to form a thesis/project/internship committee of at least two full-time graduate teaching faculty within the anthropology department and at least one graduate faculty from another department. The committee approves proposals for an oral defense of all theses, projects, and internships. Comprehensive exams are graded by all full-time teaching faculty in the department.

**Examinations**

All students in Track 1 and those students in Track 3 who so elect must pass a written comprehensive examination in the fundamentals of anthropology. Students must complete a minimum of 15 hours of graduate work in anthropology before taking the examination. All students who present a thesis, project, or internship must pass an oral defense of their effort. A foreign language examination is contingent upon the nature of the thesis topic.

**Courses for Graduate/Undergraduate Credit**

ANTHR 502. Introduction to Archaeological Laboratory Techniques (1-3). Maximum of 3 hours. An introduction to the laboratory processing of archaeological materials. Direct experience in all phases of preparing excavated materials for analysis, including cleaning, restoring, preserving, numbering, and cataloging of ceramic and lithic artifacts and other remains. Prerequisite: ANTHR 305.

ANTHR 506. Peoples of the Pacific (3). General education further study course. A survey of the races, languages, and cultures of nonliterate peoples of Polynesia, Micronesia, and Indonesia.

ANTHR 508. Ancient Civilizations of the Americas (3). General education further study course. A cultural survey of the Aztec, Maya, and Inca. Prerequisite: instructor’s consent.
ANTHR 511. The Indians of North America (3). General education further study course. A survey of tribal societies and native confederations north of Mexico from the prehistoric through the historic period. Prerequisite: ANTHR 102.

ANTHR 514. Anthropology of Aging (3). General education further study course. Cross-listed as GERON 514. An anthropological analysis of the latter stages of the life cycle with historical and cross-cultural perspectives.

ANTHR 515. China (3). General education further study course. An introduction to the People of China and aspects of their culture: economy, government, society, religion, and the arts. Historical attention on the many adjustments the Chinese made during the 20th century following political revolutions, industrialization, and expanding trade relations.

ANTHR 516. Japan: People and Culture (3). General education further study course. An introduction to the culture of Japan, including its history and prehistoric, aspects of traditional culture and 20th century Japan, its economy, politics, and social organization.

ANTHR 519. Applied Anthropology (3). General education further study course. The application of anthropological knowledge in the solution of social problems in industry, public health, and public administration. Prerequisite: ANTHR 102.

ANTHR 522. Art and Culture (3). General education further study course. A survey of the visual and performing arts of non-Western peoples with special attention to their relationships in the cultural setting. Prerequisite: ANTHR 102.

ANTHR 526. Social Organization (3). A survey of the varieties of social organization among nonindustrialized peoples throughout the world. Deals with family systems, kinship, residence patterns, and lineage, clan, and tribal organizations. Prerequisite: 6 hours of anthropology.

ANTHR 528. Medical Anthropology (3). General education further study course. Studies the health and behaviors of various human societies, especially in, but not limited to, those outside the western, scientific tradition. Covers attitudes toward the etiology of disease, the techniques of healing, the use of curative drugs and other agents, the roles of healers and therapists, and the attitudes of the community toward the ill. A library or field research project is required. Prerequisite: 3 hours of nursing or 3 hours of anthropology or instructor's consent.

ANTHR 538. Early Man in the New World (3). A critical examination of facts and theories concerning early man in the New World from the peopling of the continent to the beginning of the Archaic Tradition, and of the role of cultural contacts between eastern Asia and North America. Prerequisite: ANTHR 305.

ANTHR 540. The Indians of the United States: Conquest and Survival (3). An anthropological inquiry into four centuries of cultural contact, conflict, resistance, and remembrance. Prerequisite: ANTHR 102 or instructor's consent.

ANTHR 542. Women in Other Cultures (3). General education further study course. Cross-listed as WOM 542. Deals with the place of women in primitive and other non-Western societies, in various aspects of culture: political, economic, social, religious, domestic, intellectual, psychological, and aesthetic. Compares and contrasts societies in order to see how different kinds of roles for women are related to different kinds of societies.

ANTHR 555. Paleanthropology and Human Paleontology (3). A detailed examination of human evolutionary history as evidenced by fossil remains and a survey of various interpretive explorations of the fossil record. Prerequisite: ANTHR 101 or BIOL 203 or equivalent.

ANTHR 557. Human Osteology (3). Deals with human skeletal and dental materials with applications to both physical anthropology and archaeology. Lecture and extensive laboratory sessions; Includes bone and tooth identifications, measurement and analysis, and skeletal preservation and reconstruction. Individual projects are undertaken. Prerequisite: ANTHR 101 or equivalent.

ANTHR 597. Topics in Anthropology (3). Detailed study of topics in anthropology. Content varies with interest of instructor. Consult Schedule of Courses for current topic.

ANTHR 600. Forensic Anthropology (3). Cross-listed as CI 600. Encompasses the area of criminal investigation involving biological evidence: blood, hair, fingerprint, dentition, and skeletal system. Covers procedures of collection, preservation, marking, transportation, referral, laboratory analysis, classification, and identification emphasizing anthropological interpretation. Prerequisite: ANTHR 101 or equivalent.

ANTHR 602. Archaeological Laboratory Analysis (1-3). Students analyze archaeological materials, including ceramic, lithic, faunal, and vegetal remains according to accepted methods. Students learn to apply standard methods of identification and modes of interpretation to the materials to produce an acceptable archaeological report. Prerequisite: ANTHR 502 and instructor's consent.

ANTHR 606. Museum Methods (3). An introduction to museum techniques relating to the acquisition of collections and related procedures, such as accessioning, cataloging, documentation, preservation, and storage. Emphasizes current trends in museological philosophy concerning purpose, function, and relevance of museums, as well as career opportunities. Prerequisite: instructor's consent.

ANTHR 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.

ANTHR 609. Biological Anthropology Laboratory Analysis (1-3). Analyzes biological anthropology materials including human and nonhuman skeletal material of both forensic contemporary or prehistoric origin according to standardized methods for recording and collecting data in biological anthropology. Learn methods of identification, analysis, and interpretation and prepare a standard technical report. Prerequisites: Anthropology 101, 106, 356, or 557.

ANTHR 611. Southwestern Archaeology (3). General education further study course. A comprehensive survey of the prehistoric, historic, and living cultures of the American Southwest, particularly emphasizing the cultural continuities and changes covering 11,000 years. Prerequisite: one introductory course in anthropology or departmental consent.

ANTHR 612. Indians of the Great Plains (3). An investigation of the cultural dynamics of the Great Plains area from the prehistoric period to the present. Prerequisites: 6 hours of anthropology and departmental consent.

ANTHR 613. Archaeology of the Great Plains (3). General education further study course. The archaeology of the Great Plains area from earliest evidence to the historic period. Prerequisite: one introductory course in anthropology or departmental consent.

ANTHR 647. Theories of Culture (3). A survey of the main theoretical movements in cultural anthropology, including both historical and contemporary schools of thought. Prerequisite: 6 hours of anthropology.

ANTHR 651. Language and Culture (3). Cross-listed as LING 651 and MCLI 651. An introduction to the major themes in the interactions of language and society and language and culture, including ethnography of communication, linguistic relativist, and determination of language contact; the linguistic repertoire, and cross-cultural discourse analysis. Content may vary with instructor. Prerequisite: 3 hours of linguistics or MCLI 351 or 6 hours of anthropology.

ANTHR 667. English Syntax (3). Cross-listed as ENGL 667 and LING 667. Examination of aspects of the structure of English and their relation to linguistic theory. Prerequisite: ENGL 315 or ENGL 577 or ANTHR 577 or instructor's consent.

ANTHR 690. Field Methods in Anthropology (3-6). A maximum of 6 hours can be counted as anthropology hours towards either degree. Instructs the student in archaeological and ethnological field methods through actual participation in a field research program. The project depends upon the specific Summer Session and varies from year to year. Prerequisite: instructor's consent.

ANTHR 736. Advanced Studies in Archaeology and Ethnology (3). Special area and theory problems in a historical approach to culture. Prerequisites: Graduate standing and 6 hours of anthropology.

ANTHR 746. Advanced Studies in Cultural Anthropology (3). Entails an in-depth coverage of selected topics in cultural anthropology, including social structure, economic and political organization, religion, personality, arts and knowledge systems, and current research methods. Prerequisites: Graduate standing and 6 hours of anthropology.
ANTHR 750. Workshop (1-4). Short-term courses focusing on anthropological problems. Prerequisite: instructor's consent.

ANTHR 756. Advanced Studies in Biological Anthropology (3). In-depth coverage of selected topics in biological anthropology, including the history of evolutionary thought, human variation, growth and development, population dynamics, paleoanthropology, and primatology. Focuses on current issues, method, and theory in biological anthropology. Prerequisites: graduate standing and 6 hours of anthropology (must include ANTHR 101 or instructor's consent).

ANTHR 770. Advanced Readings (2-3). Provides opportunities for additional student research and reading on concepts and topics covered in the core graduate courses, Anthr. 736 (Advanced Studies in Archaeology and Ethnohistory), Anthr. 746 (Advanced Studies in Cultural Anthropology), and Anthr. 756 (Advanced Studies in Biological Anthropology). Repeatable up to six hours. Prerequisites: full graduate standing and completion of one core course (Anthr. 736, Anthr. 746, or Anthr. 756), and department consent.

ANTHR 781. Cooperative Education (1-4). Provides practical experience that complements the student's academic program. Requires consultation with and approval by an appropriate faculty sponsor. Offered Credit/No Credit only. Prerequisite: graduate status.

ANTHR 798. Introduction to Research (3). Research methodology in Anthropology, including bibliographic research design, and the philosophy of research. Prerequisites: full graduate standing and completion of at least one of the following core courses: ANTHR 736, ANTHR 746, or ANTHR 756.

Courses for Graduate Students Only

ANTHR 801. Seminar in Archaeology (3). Comprehensive analysis of archaeological data emphasizing theoretical problems of interpretation and reconstruction. Repeatable up to 6 hours.

ANTHR 802. Methods in Anthropology (2-3). Develops abilities in the conception and investigation of anthropological problems and issues. Repeatable up to 6 hours. Prerequisite: departmental consent.

ANTHR 820. Seminar in Biological Anthropology (3). Analysis and discussion of fossil remains, paleoanthropology, and evolutionary theory in human variation and skeletal biology. Prerequisites: graduate standing, advanced studies in paleoanthropology and issues in the debate over macro and micro levels of evolution, and quantitative applications to the study of human variation in anthropological contexts. Repeatable up to 6 hours. Prerequisite: departmental consent.

ANTHR 837. Seminar in Cultural Anthropology (3). Intensive study of advanced theoretical questions in cultural anthropology. Repeatable up to 6 hours. Prerequisite: 5 hours of anthropology.

ANTHR 847. Colloquium in Anthropology (1-2). Selective course offering a maximum of 3 hours. Seminar-style experience in recent research in all of the subfields of anthropology. Allows students preparing their first papers for presentation at professional conferences to present them before a critical but friendly audience. Students presenting colloquium papers receive 2 credits. Prerequisite: graduate standing in anthropology.

ANTHR 848. Recent Developments in Anthropology (3). A review of the latest discoveries and interpretations in the science of human beings. Repeatable up to 6 hours. Prerequisite: 5 hours of anthropology.

ANTHR 870. Independent Reading (2-3). Repeatable up to 6 hours. Prerequisite: departmental consent.

ANTHR 871-872. Internship in Anthropology (2-2). Students following applied or multidisciplinary tracks, such as museology, international education, or health professions receive professional work experience in their field through an internship at a designated work place approved by departmental committee. Course need not require a tangible end product (e.g., paper). May be repeated, but limited to a total of 4 credit hours. Prerequisite: committee consent.

ANTHR 873-874. Advanced Project in Anthropology (2-2). In consultation with their major advisor and committee, students design a project (e.g., a museum exhibit, a written plan for an international business venture, a lesson plan for an anthropological unit in school) that applies anthropological method and theory to the specific needs of an institution, group, or population. Requires a tangible end product (e.g., paper, thesis, or oral presentation). May be repeated, but limited to a total of 4 credit hours. Prerequisite: committee consent.

ANTHR 875-876. Thesis (2-2).

Biological Sciences (BIOL)

Graduate Faculty
Professors: L. Raymond Fox, William J. Hendry III (graduate coordinator), Wendell W. Leavitt 
Associate Professors: George R. Bousfield, Donald A. Distler, Jeffrey V. May (adjunct), J. David McDornald (chairperson), Karen L. Brown Sullivan 
Assistant Professors: Christopher M. Rogers, Mark A. Schaeugert, Arthur L. Youngman

Master of Science and Areas of Specialization
The Master of Science (MS) program offered by the Department of Biological Sciences provides an advanced education under either the research thesis option or nonthesis option. A variety of specializations in the broad areas of cell, molecular, endocrine, reproductive, and environmental biology are available. All incoming students are assigned to a temporary graduate advisor after which they choose a permanent graduate advisor and committee. The advisor works with the student to develop a program of studies that meets the student's educational goals.

Admission Requirements
Completed application forms and two official transcripts of all previous academic work must be submitted to the Graduate School at least four weeks before registration. Admission as a full standing student requires: (1) the completion of 24 semester hours in biological sciences and 15 semester hours in chemistry; (2) an overall grade point average of at least 2.750 (4.00 scale) for the most recent 60 semester hours completed; (3) a grade point average of at least 3.000 (4.00 scale) for all undergraduate biological sciences courses; (4) three letters of reference from science faculty; (5) receipt of GRE general aptitude and advanced test in biology scores; and (6) TOEFL scores if English is not the student's first language. Students who do not meet these requirements but who wish to begin graduate course work may qualify for conditional acceptance into a nondegree category.

Degree Requirements
All students are required to attend the departmental seminar course (BIOL 797) each semester and must register for at least two oral presentations.

Candidates selecting the research thesis option must complete 30 credit hours of graduate work, including the presentation and oral defense of a thesis based on original research. In addition, all students in the research thesis option must demonstrate proficiency in at least one research tool, such as knowledge of a modern foreign language or completion of acceptable course work in statistics or computer applications. Graduates who select this option often move on to advanced research degrees or careers in research science.

Candidates selecting the nonthesis option must complete 36 credit hours of graduate work and successfully pass comprehensive exams in two areas of biology. The nonthesis option is designed for, but not limited to, students employed in professional areas such as the medical community and secondary education who wish to expand or update their knowledge of biology.

Nonmajor Courses
(May not be used to satisfy the requirements for the major)

Courses for Graduate/Undergraduate Credit

BIOL 590G. Foundations of Human Heredity (3). Current education further study course. Introduction to the mechanism and societal significance of developmental, transmission, and population genetics of humans. Attention to inherited errors of metabolism and development and the roles of genetic counseling and genetic engineering in their management. For students majoring outside of the natural sciences. Does not carry credit toward a biological sciences major or minor.
Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: junior standing.

**BIOL 518. Biology of Aging (3).** Cross-listed as GERON 518Q. An introduction to the phenomenon of aging, including a survey of age-related processes and mechanisms of senescence emphasizing humans. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: a basic course in biological sciences that satisfies general education requirements.

### Major Courses

(Used to satisfy the requirements for the major)

### Courses for Graduate/Undergraduate Credit

**BIOL 502. Vascular Plants (4), 2R; 4L.** An introduction to the structure, reproduction, and evolution of the major groups of living and extinct vascular plants. Includes an introduction to flowering plant systematics. Students earning graduate credit perform a primary literature survey on a topic selected in consultation with the instructor and deliver a 30-minute oral presentation to the class. Prerequisite: BIOL 204 or 211 and CHEM 112.

**BIOL 503. Taxonomy and Geography of Flowering Plants (4).** An introduction to the principles and methods of plant taxonomy and to the study of the patterns of plant distribution and the origin of the patterns. Class time is divided among lectures, laboratories, and field work. Field trips throughout Sedgwick County and to the Flint and Chautauqua Hills provide an opportunity to collect specimens and to observe ecology and distribution of native species of flowering plants. Prerequisite: BIOL 204 or 211 and CHEM 112 or instructor's consent.

**BIOL 523. Freshwater Invertebrates (4), 2R; 4L.** Emphasizes the ecology, taxonomy, and form and function of free-living, freshwater invertebrates. Half of the course deals with arthropods. Includes methods of collecting, culturing, and preserving specimens. Part of the course grade is based on a collection of invertebrates correctly prepared and identified. For graduate credit, students submit a term paper or a more extensive collection within a given taxon. Prerequisite: BIOL 204 or CHEM 112.

**BIOL 524. Vertebrate Zoology (4), 2R; 4L.** Evolution, distribution, systematics, natural history, and special characters of vertebrate animals. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 112; BIOL 523 is also recommended.

**BIOL 525. Introduction to Ecotoxicology (4), 2R; 2L.** An overview of concepts and methodology for conducting tests in the field of ecotoxicology. Examines tests at the molecular, individual, and population level. Covers basic ecological assessments, such as Index of Biological Integrity, Index of Biological Well-Being, and Rapid Bioassessment Protocols; and toxicological protocols like acute and chronic bioassays, biomarkers, and modeling techniques using Quantitative Structure Activity Relationships. Recommended for students interested in learning about the applied methodology used in the rapidly evolving field of ecotoxicology. Prerequisites: BIOL 418 or equivalent and CHEM 351 or equivalent, or instructor's permission.

**BIOL 526. Endocrinology (4).** 3R; 3L. The hormonal regulation of bodily functions is considered in representative vertebrate systems, including humans. Students enroll in both lecture and laboratory portions of class. Students earning graduate credit submit a term paper on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 112.

**BIOL 527. Comparative Anatomy (5), 3R; 4L.** An intensive study of representative chordates emphasizing vertebrate anatomy. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor, such as a term paper based on technical literature, dissection of additional animals, etc. Prerequisites: BIOL 204 or 211 and CHEM 112.

**BIOL 528. Parasitology (4), 2R; 4L.** The parasites of man and other vertebrate hosts. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 112.

**BIOL 529. Applied Environmental Microbiology (3).** A characterization of the roles of microbes in natural and man-made environments. Discussions of microbial ecology and communities, interactions with other organisms, bio geochemical cycling, biotechnology, and bioremediation. Students earning graduate credit produce an additional research paper based on primary literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 112.

**BIOL 530. Applied and Environmental Microbiology (3).** Emphasis on the importance of microbes in natural and man-made environments. Discussions of microbial ecology and communities, interactions with other organisms, biogeochemical cycling, biotechnology, and bioremediation. Students earning graduate credit produce an additional research paper based on primary literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 112.

**BIOL 532. Entomology (5).** 3R; 3L. An introduction to the morphology, physiology, life cycles, behavior, ecology, and economic significance of insects. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor or develop proficiency in a specific taxon by performing an individual systematic project. Prerequisites: BIOL 204 or 211 and CHEM 112.

**BIOL 534. Mammalian Physiology (3).** An organ systems approach to mammalian—primarily human—physiology. Emphasizes nervous and endocrine control systems and the coordination of body functions. Students earning graduate credit submit a term paper based on library research on a topic in mammalian physiology chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 351, or instructor's consent.

**BIOL 535. Mammalian Physiology Laboratory (2).** 2L. An empirical approach to mammalian physiology. Students seeking graduate credit submit an additional laboratory report relating the results of a laboratory experiment to those found in the current technical literature. Prerequisite: corequisite: BIOL 534.

**BIOL 540. Developmental Biology (4).** 2R; 4L. Developmental processes in animals emphasizing vertebrates. Centered on the cell interactions controlling differentiation and morphogenesis. Students earning graduate credit produce additional assignments chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 112; BIOL 420 recommended.

**BIOL 553. Ecological Risk Assessment (4).** Risk assessment is the process of assigning magnitudes and probabilities to the adverse effects of human activities or natural catastrophes. It involves global climate change, habitat loss, acid rain deposition, reduced biological diversity, and the ecological impacts of pesticides and toxic chemicals. It uses measurements, testing, and mathematical models to quantify the relationship between the initiating event and the effects. Course is an overview of the basic framework for conducting an Ecological Risk Assessment, and a discussion of individual case studies involving several important environmental issues. An introductory class for students interested in assessing the effects of various stressors on environmental health. Prerequisites: BIOL 418 or equivalent and CHEM 351 or equivalent, or instructor's consent.

**BIOL 560. Plant Ecology (2).** 2R. An examination of the relationship of plants to their environment at the organism, population, community, and ecosystem levels. For graduate credit, a student must prepare and present a thirty-minute lecture on one of the topics covered in this course. Prerequisites: BIOL 418 and CHEM 112 or instructor's consent.

**BIOL 561. Plant Ecology Laboratory (2).** Laboratory component of BIOL 560. Field trips are an integral part of the course. Emphasizes an experimental approach to plant ecology. For graduate credit, a student must present the results of the laboratory project orally, as well as in writing. Prerequisite: prior or current enrollment in BIOL 560.

**BIOL 572. Computer Methods in Biology (3).** Includes mathematical modeling of biological systems, tools for recording and retrieving experimental results, computer-aided instruction, internet and online science resources, software for scientific publication including digital photo-documentation and reference managers for bibliographies. Students select a biology topic of interest, study non-statistical and computer approaches previously used, and develop their own approach. The course is lecture and demonstrations and half is individual student projects. Graduate students are expected to have had prior experience with the primary literature and are prepared to execute a more sophisticated library research project. Prerequisite: one of the following: BIOL 418, 419, 420, or instructor's consent.

**BIOL 573. Statistical Applications in Biology (3).** Supplemental training to provide experience with practical applications of statistical theory to biological data. Includes computations on data derived from both the primary literature and independently designed research projects. Emphasizes the design of experiments to answer specific hypotheses, the treatment of non-normally distributed data sets and nonhomogeneous experimental test units, and the use of packaged computer programs for certain statistical tests. Access to cal-
Biol 575. Field Ecology (3). 9L. Techniques for analysis of systems consisting of living organisms and their environments. Field trips are required. Students earning graduate credit perform an individual project on comparative community structure and report the results as a technical paper. Prerequisite: BIOL 418 or instructor's consent.

Biol 578. Aquatic Ecology (5). 2R; 6L. Introduction to the biological and physical processes that operate in lakes, streams, and estuaries. Requires assigned readings, individual projects, and field trips. Students earning graduate credit investigate and compare the characteristics and properties of two freshwater ecosystems or investigate a specific taxon or trophic level in a freshwater ecosystem. The results of this investigation are reported as a technical paper. Prerequisite: BIOL 418 or instructor's consent.

Biol 590. Immunobiology (3). The nature of antigens and antibodies and their interactions. Includes cellular and humoral aspects of immunologic phenomena. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211 and CHEM 531.

Biol 610. Topics in Botany (3-4). Selected offerings in botany. Consult the Schedule of Courses for current offerings. Students wishing to enroll in courses not listed in the current Schedule must complete a Directed Independent Study Abstract form and obtain approval prior to enrollment. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211, CHEM 512 and instructor's consent.

Biol 626. Reproductive Biology (3). Covers the basic organization and function of vertebrate reproductive systems. Includes current concepts and contemporary research from the molecular to the population level. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: BIOL 420. Biol 526 is strongly recommended.

Biol 630. Behavioral Ecology (3). A study of the biological basis of social behavior, stressing the underlying evolutionary and ecological mechanisms. Lectures examine altruism and kin selection, kin recognition mechanisms, sexual behavior, sexual selection and mate choice, mating systems, and reproductive strategies from the perspective of natural selection. Students earning graduate credit write a term paper based on the technical literature and present this in a class seminar. Prerequisite: BIOL 418.

Biol 640. Topics in Zoology (3-4). Selected offerings in zoology. Consult the Schedule of Courses for current offerings. Students wishing to enroll in courses not listed in the current Schedule must complete a Directed Independent Study Abstract form and obtain approval prior to enrollment. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Repeatable. Prerequisites: BIOL 204 or 211, CHEM 512 and instructor's consent.

Biol 654. Pathogenic Microbiology (4). 2R; 4L. An introduction to the important pathogenic microorganisms and their relationships to health and disease in humans. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: BIOL 330.

Biol 660. Topics in Microbiology (2-4). See BIOL 610. Prerequisites: BIOL 330 and instructor's consent.

Biol 666. Special Topics in Biochemistry (3). Primarily for students who choose the biochemistry field major. Discusses a small number of current problems in biochemistry in depth. Requires reading published research papers in the field. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 204 or 211, CHEM 662 and 663.

Biol 669. Research in Biochemistry (2). Cross-listed as CHEM 669. SU grade only. Primarily for students who choose the biochemistry field major. Requires participation in a biochemistry research project under the direction of a faculty member and a written report summarizing the results. May not be repeated for credit. Prerequisites: BIOL 420 or 500, CHEM 662 or 663, CHEM 664, and instructor's consent.

Biol 702. Environmental Science I (5) 3R; 4L. Cross-listed as GEOL 702 and CHEM 702. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes chemical cycling, ecosystem chemistry, aquatic chemistry, and phase interactions. The laboratory portion addresses local environmental problems from a risk assessment perspective. BIOL 702 and 705 (or equivalent) are required for all graduate students in the master's of environmental science program. Prerequisite: acceptance into the master's program in environmental science program or instructor's consent.

Biol 703. Environmental Science II (5) 3R; 4L. Cross-listed as GEOL 703 and CHEM 703. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes environmental chemistry analysis, environmental toxicology, aquatic microbial biochemistry, environmental biochemistry, water treatment, photochemical smog, and hazardous waste chemistry. The laboratory portion addresses local environmental problems from a risk assessment perspective. BIOL 702 and 703 (or equivalent) are required for all graduate students in the master's of environmental science program. Prerequisite: BIOL 702 or instructor's consent.

Biol 704. Environmental Science Colloquium (1). Cross-listed as GEOL 704 and CHEM 704. Students in the master's program in environmental science are required to enroll each semester (maximum 4 credit hours). Includes presentations by guest speakers and required readings for class discussion. May also include student involvement in environmentally related community groups and projects. Graded S/U only. May be repeated for up to four hours credit.

Biol 706. Environmental Science Internship (3-6). Cross-listed as GEOL 706 and CHEM 706. Students in the master's program in environmental science may gain interdisciplinary skills in environmental science by participating in an applied and/or basic research internship projects with local business, industry, or government agencies. Internship options are an alternative to thesis research for degree requirements. Enrollment in internship projects requires an approved proposal. Completion of an internship for graduation requires a formal oral presentation of the internship activity and a written report. Prerequisites: BIOL 702 and 703 or equivalent.

Biol 710. Glycobiology (3). Introduction to glycoprotein biosynthesis, structure, and function. Covers the various roles of carbohydrates in modifying protein structure and function. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: BIOL 420.

Biol 713. Neurobiology (3). Basic course in contemporary neurobiology emphasizing learning and memory. Exploration of the current research literature covering all levels of organization from complex behavior to brain information processing pathways, neocortical cell biology, and molecular biology. Each student chooses a topic, completes a written report, and gives an oral presentation to the class. Graduate students do more reading in the primary neurobiology literature. Prerequisites: BIOL 420 and 534 or equivalents and instructor's consent.

Biol 737. Aquatic Toxicology (4). 2R; 2L. The qualitative and quantitative study of the fate and effects of toxic agents in the aquatic environment. Class examines the concentrations or quantities of chemicals that occur in the aquatic environment and includes a detailed study of the transport, distribution, transformation, and ultimate fate of various environmental important chemicals. Class is for undergraduate or graduate students interested in advanced training in toxicology. Prerequisites: BIOL 525 or equivalent and CHEM 531 or equivalent, or instructor's consent.

Biol 750. Biology Workshop (1-3).

Biol 760. Experimental Molecular Biology (4). 2R; 6L. Introduces upper-level undergraduate and graduate students to molecular biology techniques. The methodology primarily involves the manipulation of DNA and the expression of genetic material in prokaryotic and eukaryotic systems. Prerequisite: Biol 419 or 420.

Biol 767. Mechanisms of Hormone Action (3). The mechanism of action of several hormones is described and used to illustrate the major intracellular signal transduction pathways. Includes gonadotropin-releasing hormone, the glycoprotein hormones, luteinizing hormone, follicle-stimulating hormone, chorionic gonadotropin, thyroid-stimulating hormone, steroid hormones, thyroid hormone, actin-inhibitins, postganglionic, and growth hormone. Mostly lecturers covering signal transduction pathways in recent research. Prerequisite: BIOL 420. May be repeated for credit. Prerequisites: BIOL 420 or 767.

Biol 775. Advanced Synthesis of materials (4). 3R; 4L. Cross-listed as CHEM 775. Advanced synthesis of inorganic and organic materials. Includes the design and execution of laboratory experiments focused on the preparation of materials with specific properties. Prerequisites: BIOL 420 or 767.

Biol 779. Current Topics in Environmental Science (3). Cross-listed as GEOL 779. Weekly presentations by guest speakers, graduate students, and guest lecturers. Prerequisite: BIOL 420 or 767. Required of all students in the master's program in environmental science.

Courses for Graduate Students

Biol 810. Directed Independent Study Research (1-3).

Biol 890. Directed Independent Study Research (1-3).
transduction pathways. Students write brief summaries of recent research papers related to the current week’s lecture topics. Each student makes an oral presentation of a research paper in journal club format. Students earning graduate credit write a term paper describing in detail a hormone not described in class and its mechanisms of action. Prerequisites: Biol 420 and CHEM 662 or their equivalents, plus either BIOL 554 or 556, or their equivalents, and instructor’s consent.

**BIOL 771. Evolutionary Ecology (4).** 3R, 2L. Presents a synthesis of basic principles in population genetics and ecology as a framework for the study of topics in evolutionary ecology. Emphasizes (1) the maintenance and structure of population level genetic variation; (2) mating structure and the evolutionary advantages of sex; (3) individual, kin, group selection; (4) population demographic structure; (5) population regulation and dispersal; (6) life history strategies in heterogeneous environments; and (7) demographic and genetic covariance. Teaches basic techniques in population ecology on selected field trips through the quarter. Prerequisite: BIOL 418, 419, or instructor’s consent.

**BIOL 780. Molecular Genetics (3).** Studies the biochemical nature of genetic material and the mechanisms of genetic regulation of metabolism. Students earning graduate credit produce a term paper and deliver a class seminar based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: BIOL 419 or 594.

**BIOL 790. Advanced Immunology (3).** Contemporary problems in immunologic research. Includes lectures, assigned readings, and reports. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: BIOL 590 and instructor’s consent.

**BIOL 797. Departmental Seminar (1).** Forum for the weekly presentation and discussion of the ongoing research projects performed by departmental faculty, graduate students, and guest scientists from outside departments and institutions. All MS degree-bound graduate students are required to attend the seminar each semester and must enroll for credit during the two semesters in which they give presentations that are the basis for their grades. One of these presentations may be their thesis defense. Prerequisite: acceptance into MS program.

**BIOL 798. Biology Seminar (2).** Reviews of current research in biological sciences. Repeatable once for credit.

### Courses for Graduate Students Only

**BIOL 890. Research (2-5).** SU 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.

**BIOL 891. Thesis (2).** SU grade only. Students must be enrolled in this course during the semester in which the thesis is defended.

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**Chemistry (CHEM)**

**Graduate Faculty**

**Professors:** Dennis H. Burns (chairperson), William R. Carter, William C. Groutas, B. Jack McCormick, D. Paul Rillett, Ram P. Singhal, William T.K. Stevenson, Erach R. Talaty, Kandatege Wimalasena (graduate coordinator), Melvin E. Zandler

**Associate Professor:** Francis D'Souza, David M. Eichhorn

**Assistant Professors:** Yuri Ilitchev, Michael J. Van Stipdonk

The Department of Chemistry at Wichita State offers courses of study leading to the Master of Science (MS) and the Doctor of Philosophy (PhD) degrees in the areas of biochemistry and analytical, inorganic, organic, physical, and polymer chemistry.

### Admission Requirements

To enroll in the graduate program in chemistry, students must follow the admission procedures required by the Graduate School. The chemistry department requires a baccalaureate degree in chemistry, a grade point average of at least 3.00/4.000 (both overall and in chemistry), two letters of recommendation from individuals familiar with the applicant's academic background, and an acceptable GRE score. The department strongly recommends test scores from the chemistry subject GRE exam. Students deficient in any of the requirements may be admitted conditionally provided they follow the specified procedures required to remove any deficiencies.

Applications are reviewed as completed throughout the year.

### Assessment Exam Requirements for the MS and PhD Degrees

All entering Master of Science and Doctor of Philosophy students are required to take analytical, inorganic, organic, and physical chemistry and biochemistry assessment exams in their first semester in the program. Both MS and PhD students must receive a pass or remove deficiencies in four of the subject areas listed above within the first year in the program. Students may enroll in an appropriate course designated by the Graduate Affairs Committee and pass it with a B or better grade or retake and pass the assessment exam in the area of the deficiency. Assessment exams are given four times a year—fall, winter, spring, and summer.

### Master of Science Requirements

The MS degree in chemistry requires the completion of 30 credit hours, including the presentation of a thesis. The program requires at least 6 credit hours in research, CHEM 890. Also, at least 15 credit hours in chemistry courses numbered above 701 must be taken, including at least one 700-level course from four of the following six areas: analytical chemistry, inorganic chemistry, organic chemistry, physical chemistry, biochemistry, and polymer chemistry. Students must successfully complete CHEM 700 once, and full-time students must register each semester in CHEM 701. Additional courses, which may be outside the major field, are selected by students in consultation with their advisor and the department’s advising committee.

**Thesis:** The thesis is reviewed by a committee from the department, and an oral examination given by a faculty committee appointed by the Graduate School must be passed.

Students must select a faculty member to be their research advisor by the beginning of their second semester in the graduate program.

### Doctor of Philosophy Requirements

All PhD students are required to take 24 course hours, 12 of which must be in the area of major interest, and 9 of the remaining 12 must be from two of the other five areas. The courses must be numbered 710 or higher. Students are required to begin cumulative examinations at the beginning of their second year. Students must pass six cumulative examinations within the first six attempts to remain in the program.

During their fifth semester, students are expected to develop and orally defend an original research proposal. Two enrollments in departmental seminar and continuous enrollment in departmental colloquia are required. The final requirement for the degree is the defense of a thesis based on original research. Well-prepared entering students should be able to complete the requirements within four years.

**Dissertation:** The dissertation is reviewed by a committee from the department, and an oral examination given by a faculty committee appointed by the Graduate School must be passed.

Students must select a faculty member to be their research advisor by the beginning of their second semester in the graduate program.

Students in the PhD program in good standing, who have completed all required courses, have satisfactorily presented their Departmental Research Seminar, and have defended their Creative Research Proposal, and have satisfied all other requirements for admittance to candidacy for the PhD degree, will upon request and approval by the student’s committee be awarded the MS degree.

### Courses for Graduate/Undergraduate Credit

>**CHEM 514. Inorganic Chemistry (3).** General education further study course. Basic inorganic chemistry emphasizing molecular symmetry and structure, fundamental bonding concepts, ionic interactions, periodicity of the elements, systems 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 C or better.
CHEM 523. Analytical Chemistry (4). Lab fee. General education further study course. Evaluation of data, theory and application of gravimetric analysis and precipitation, neutralization, and oxidation-reduction volumetric analysis. Prerequisite: CHEM 112Q with a C or better.

CHEM 524. Instrumental Methods of Chemical Analysis (4). Lab fee. Introduction to electronanalytical chemistry and optical method of analysis and analysis and separation of complex mixtures, both inorganic and organic. Also discusses basic computer programming as it applies to analytical chemistry. Prerequisite: CHEM 523.

CHEM 531. Organic Chemistry (5). Lab fee. General education further study course. An introduction to the study of carbon compounds emphasizing reaction mechanisms, stereochemistry, and spectrographic analysis. Prerequisite: CHEM 112 with a C or better.

CHEM 532. Organic Chemistry (5). Lab fee. A continuation of CHEM 531 emphasizing the structure and reactions of principal functional groups and compounds of biological interest. Prerequisite: CHEM 531.

CHEM 533. Elementary Organic Chemistry (3). General education further study course. Basic organic chemistry emphasizing topics of importance to health professions and education majors. Special emphasis is placed on carbohydrates, proteins, drugs, pesticides, and energy production. Students should enroll in CHEM 534 simultaneously. Credit is not allowed for both CHEM 533-534 and 531. This course does not meet the needs of chemistry majors or premed students. Prerequisite: CHEM 112 or equivalent.

CHEM 534. Elementary Organic Chemistry Laboratory (2). Lab fee. A basic laboratory course to provide pertinent experiences in the laboratory to fortify the survey lecture course CHEM 533. Prerequisite or corequisite: CHEM 533.

CHEM 545. Physical Chemistry (3). General education further study course. Thermodynamics. Studies gases, first law, thermodynamics, and second and third laws, phase equilibria, solutions, chemical equilibria, electrochemistry, and surface chemistry. Prerequisites: CHEM 112Q, MATH 344 or its equivalent, and one semester of college physics.

CHEM 546. Physical Chemistry (3). Kinetic theory, kinetics, transport phenomena, quantum mechanics, spectroscopy, and statistical thermodynamics. Prerequisites: one year of college physics and MATH 344 or its equivalent.

CHEM 547. Physical Chemistry Laboratory (2). Lab fee. Physical chemistry experiments that illustrate principles learned in CHEM 545 and 546. Prerequisite: CHEM 545 or 546.

CHEM 602. Numerical Methods (2). Application of numerical methods to problems in chemistry and physics. Roots of equations, curve fitting, interpolation, extrapolation, and smoothing of experimental data; numerical differentiation and integration; and computer programming. Prerequisite: Instructor's consent.

CHEM 603. Industrial and Polymer Chemistry (3). Bridges the industrial-academic gap. Includes petroleum refining processes and distillation technology. Inorganic topics include glass technology, electro-refining and electropolishing, and battery chemistry. Discusses cellulose(biomass)-based products such as gelling polysaccharides and natural fibers along with industrial adhesives (clays, zeolites, ion exchange resins, carbon blacks), and emulsion technology. Topics in polymer chemistry include ways of making polymers, resins, elastomers, and synthetic fibers; methods of polymer analysis, structure-property correlations (how structure influences physical properties) plastics recycling, and methods of plastics and composites processing. Prerequisite or corequisite: CHEM 533.

CHEM 605. Medicinal Chemistry (3). For students interested in chemistry related to the design, development, and mode of action of drugs. Course describes organic substances used as medicinal agents and explains the mode of action and chemical reactions of drugs in the body. This course emphasizes the importance and relevance of chemical reactions as a basis of pharmacological activity, drug toxicity, allergic reactions, carcinogenicity, etc., and brings about a better understanding of drugs. Includes transport, basic receptor theory, metabolic transformation of drugs, discussion of physical and chemical properties in relation to biological activity, drug design, structure-activity relationships, and a discussion of a selection number of organic medicinal agents. Prerequisites: CHEM 532 or 533 or equivalent; a semester of biochemistry (CHEM 661 or 662) and a year of biology are strongly recommended.

CHEM 615. Advanced Inorganic Chemistry (3). Includes modern bonding theory, structure and spectra of inorganic compounds, coordination and organometallic chemistry, metalloproteins, inorganic polymer chemistry, mechanisms of inorganic reactions, and solid state chemistry. Prerequisites: CHEM 514 and 546.

CHEM 616. Inorganic Chemistry Laboratory (2). Lab fee. Experimental methods of inorganic chemistry. Prerequisite or corequisite: CHEM 615.

CHEM 660. Numerical Methods (3). Bridges the industrial-academic gap. Includes petroleum refining processes and distillation technology. Inorganic topics include glass technology, electro-refining and electropolishing, and battery chemistry. Discusses cellulose(biomass)-based products such as gelling polysaccharides and natural fibers along with industrial adhesives (clays, zeolites, ion exchange resins, carbon blacks), and emulsion technology. Topics in polymer chemistry include ways of making polymers, resins, elastomers, and synthetic fibers; methods of polymer analysis, structure-property correlations (how structure influences physical properties) plastics recycling, and methods of plastics and composites processing. Prerequisite or corequisite: CHEM 533.

CHEM 663. Biochemistry of Cell Metabolism, Biosynthesis, Structure, Function, and Regulation of Proteins and Nucleic Acids (3). Study of metabolism and control of carbohydrates, lipids, phospho-kerides, triglycerides, steroids, amino acids and proteins; synthesis of purines, pyrimidines, and nucleosides; synthesis and structure of DNAs, RNAs, and proteins; organization and function of genes; evolution of proteins and nucleic acids; hereditary disorders of metabolism; biochemistry of endocrine glands; major vitamins and intermediates in the general and specialized tissues. A fundamental background of biology or microbiology is recommended but not essential. Prerequisite: CHEM 662.

CHEM 664. Biochemistry Laboratory (3) 1R; 6L. Lab fee. Practical training in biochemical procedures and literature searching; experiments include isolation, characterization and assay of biomolecules and use of chromatography, electrophoresis, spectrophotometry, enzyme kinetics, and radioactive labeling techniques. Should be taken concurrently with CHEM 662 or CHEM 663. Prerequisite: CHEM 532 or equivalent.

CHEM 666. Special Topics in Biochemistry (3). (Offered spring semester in odd-numbered years.) Discusses a small number of current problems in biochemistry in depth. Requires reading of published research in the field. Prerequisites: BIOL 204 and CHEM 662 and 663.

CHEM 669. Research in Biochemistry (2). Cross-listed as BIOL 669. SU grade only. Students in the biochemistry field major participate in a biochemistry research project under the direction of a faculty member. Requires a written report summarizing the results. May be repeated once for credit. Prerequisites: BIOL 420 and CHEM 662 or 663 and 664.

CHEM 700. Chemistry Seminar (1). SU grade only. Students give seminars on either papers recently published in the literature or on an altative seminar. Repeatable for credit.

CHEM 701. Chemistry Colloquium (1). SU grade only. Speaker for the colloquium consist of outstanding chemists from institutions other than faculty. Repeatable for credit.

CHEM 702. Environmental Science (3) 1R; 4L. Cross-listed as BIOL 702 and GEOL 702. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes chemical cycling, atmospheric chemistry, aquatic chemistry, and phase interactions. The laboratory portion addresses local environmental problems from a risk assessment perspective. CHEM 702 and 703 (or equivalent) are required for all graduate students in the master's environmental program. Prerequisite: Acceptance into the master's program in environmental science or instructor's consent.
CHEM 703. Environmental Science II (5). Cross-listed as BIOL 703 and GEOL 703. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes environmental chemical analysis, environmental toxicology, aquatic microbial biochemistry, environmental biochemistry, water treatment, photochemical aging, and hazardous waste chemistry. The laboratory portion addresses local environmental problems from a risk assessment perspective. Prerequisite: CHEM 702 and 703 (or equivalent) are required for all graduate students in the master's of environmental program. Prerequisite: CHEM 702 or instructor's consent.

CHEM 704. Environmental Science Colloquium (1). Cross-listed as BIOL 704 and CHEM 704. Students in the master's program in environmental science are required to enroll in this course each quarter. The topics addressed include presentations by guest speakers and required readings for discussion. May also include student involvement in environmentally related community groups.

CHEM 706. Environmental Science Internship (3-6). Cross-listed as BIOL 706 and GEOL 706. Students in the master's program in environmental science may gain interdisciplinary skills in environmental science by participating in applied/or basic research settings.

CHEM 709. Special Topics in Chemistry (2-3). A discussion of topics of special significance and interest to faculty and students. Offerings announced in advance. Repeatable for credit.

CHEM 712. Coordination Chemistry (3). The study of the synthesis, characterization, and properties of coordination compounds. Includes nomenclature, fundamental bonding concepts, principles of synthesis, mechanisms of substitution and electron transfer reactions, catalysis, and solid-state phenomena. Prerequisite: CHEM 615 or equivalent.

CHEM 713. Physical Methods in Inorganic Chemistry (3). An introduction to electronic and vibrational spectroscopy, magnetic susceptibility, EPR, NMR, Mössbauer spectroscopy, and X-ray crystallography as applied to inorganic systems. Emphasis on interpretation of results for understanding the electronic and molecular structure of compounds.

CHEM 714. Physical Organic Chemistry (3). Discussion of advanced topics in stereochemistry and conformational analysis and organic reaction mechanisms. Prerequisite: CHEM 532.

CHEM 723. Advanced Organic Synthesis (3). Discussion of modern synthetic methods in organic chemistry, including carbon-carbon forming reactions, oxidation and reduction reactions, protective groups, and organometallic chemistry. Prerequisite: CHEM 532.


CHEM 741. Quantum Chemistry (3). Theoretical basis of atomic and molecular structure. Includes the postulates of quantum mechanics, exact solutions for the particle-in-a-box and the hydrogen atom, variation and perturbation techniques, electron spin, Hartree-Fock and configuration-interaction methods, molecular-orbital and valence-bond wave functions, and virial and Hellmann-Feynman theorems. Prerequisites: CHEM 546, MATH 344 or equivalent. Prerequisite: CHEM 705 or equivalent.

CHEM 744. Computational Quantum Chemistry (3). An introduction to molecular orbital procedures and methods for calculating a wide range of physical, chemical, and electronic properties of systems large enough to be of interest to inorganic, organic, and biochemists. Using commercial molecular orbital software programs such as MOPAC, SPARTAN, and GAUSSIAN, students learn to select appropriate "model" computational procedures to predict properties of molecules and reactions. By comparison with experiment, students learn to assess the range of applicability and accuracy of the "model" methods as applied to various categories of chemical systems. Properties considered include energies and structures of molecules, ions, and transition states; vibrational frequencies, IE and RAMAN spectra; thermochemical properties, heat of formation, bond and reaction energies, ionization energy barriers; reaction pathways; molecular orbitals, atomic charges, and multipole moments, ionization potentials, bond orders; orbital energies and photoelectron spectroscopy; excited state properties, singlet and triplet surfaces. Prerequisite: CHEM 524 or equivalent.

CHEM 751. Chain Growth Polymerization (3). Mechanisms, kinetic, and thermodynamic aspects of polymerization processes which proceed by a chain growth mechanism, free radicals, anionic, cationic, and Ziegler-Natta and group transfer polymerization. Prerequisites: CHEM 531 and 545.

CHEM 752. Step Growth Polymerization (3). Polymerization processes which proceed by a step growth or ring-opening mechanism. Preparation of thermoplastics, including relationships between molecular weight and reaction conditions. Preparation of thermosets including relationships between structure, conversion, and gelation. Discusses individual systems such as nylon, epoxy resin, and polyimides in detail. Prerequisites: CHEM 531 and 545.

Courses for Graduate Students Only

CHEM 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.

CHEM 814. Organometallic Chemistry (3). A study of the synthesis, structure, bonding, reactivity, and industrial applications of organotransition and nontransition metal compounds. Prerequisite: CHEM 615 or equivalent.

CHEM 815. Bioorganic Chemistry (3). The study of the role of organic chemistry in biological systems. Includes organotransfer, biological catalysis mediated by optical metals, metal storage and transport, ion transport, and the role of transition metals in metabolism. Prerequisites: CHEM 615 and 663 or equivalents.

CHEM 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.

CHEM 823. Analytical Spectroscopy (3). Absorption (UV visible, IR, and atomic absorption), emission, Raman, fluorescence, and phosphorescence methods. Lectures and discussions on theory and practice. Prerequisite: CHEM 524 or equivalent.

CHEM 824. Electroanalytical Chemistry (3). Includes voltammetry, polarography, chromatography, and conductometry, reversible and irreversible diffusion controlled processes; CE (chemical reaction before electrical reaction); EC (electrical reaction before chemical reaction), and catalytic reaction, and organic polarography and voltammetry. Prerequisite: CHEM 524 or equivalent.

CHEM 831. Advanced Physical Organic Chemistry (3). Includes molecular orbital theory, sigma tropic rearrangement, electrocyclic reactions, cycloditions, reactive intermediates, and photochemistry. Prerequisite: CHEM 731.

CHEM 832. Modern Synthetic Methods (3). Discussion of retrosynthetic analysis, applications, asymmetric syntheses, and stereochemistry. Prerequisite: CHEM 732.

CHEM 834. Heterocyclic Chemistry (3). An account of the physical and chemical properties of the main classes of heterocyclic compounds. Prerequisite: CHEM 732.

CHEM 835. Bioorganic Chemistry (3). Includes the chemistry of amino acids and peptides, enzyme structure and function, and inhibitor design. Prerequisites: CHEM 662, 663, 732, 662 and concurrent enrollment in 663 and 732.

CHEM 841. Advanced Quantum Chemistry (3). Consider advanced applications of quantum mechanics to atomic and molecular problems. Includes determinant wave-functions, angular momentum coupling, time-dependent perturbation theory, relativistic considerations, tensor operators, and molecular orbital calculations. Prerequisites: CHEM 705 and 741 or equivalents.
CHEM 842. Chemical Kinetics (3). A description of reacting systems, including the mathematical and experimental characteristics of simple and complex kinetic systems. Discusses the theories of chemical kinetics, as well as the kinetics of homogeneous reactions in the gas phase, the kinetic aspects of solution reactions, heterogeneous reactions, and selected topics of current interest. Prerequisites: CHEM 546 or equivalent.

CHEM 845. Chemical Thermodynamics (3). A presentation of the basic three laws of thermodynamics in a classical framework to increase understanding of real physical systems. Emphasizes theory and its application to chemical systems. Prerequisites: CHEM 545, 546, and MATH 344 or equivalents.

CHEM 846. Molecular Spectroscopy (3). The theoretical basis for spectroscopy and spectroscopic determinations of molecular structure. Includes 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.

CHEM 852. Techniques of Polymer Characterization (3). A study of physical, spectroscopic, and diffraction techniques to determine the size, structure, and morphology of polymers.

CHEM 853. Polymer Properties (3). Kinetics and thermodynamics of the crystallization process and the influence of sample history on the gross morphology of the crystallites. Structural features which preclude the development of polymer crystals and encourage amorphous character, relationships between structure, Tm and Tg, theoretical strengths of materials, the time dependent mechanical behavior of polymers, and the Maxwell and Voigt models of viscoelasticity. The Boltzmann superposition principle and how it can be used to predict creep behavior, mechanisms of deformation, yielding, and fracture in polymers. Prerequisites: degree in chemistry or related subject.

CHEM 861. Enzyme Mechanisms (3). An introduction to the study of enzyme mechanisms. Modern approaches include steady-state, relaxation, and chemical modification methods. Prerequisite: CHEM 662 or 663 or equivalent.

CHEM 863. Analytical Biochemistry (3). A review of modern analytical methods used in biochemistry and molecular biology including: absorbance and fluorescence spectroscopy, chromatography (affinity, gel-filtration, HPLC, ion-exchange, ion-pair), gel electrophoresis, radioactive tracer methods, cloning, sequencing, and recombinant DNA procedures. Prerequisites: BIOL 203 and 204 and CHEM 662 or 663 or equivalents.

CHEM 864. Nucleic Acids: Structure, Chemistry, and Function (3). A comprehensive examination of the structure and conformation of DNA, RNA, and their components, studies reactivity and modification of nucleotides and polynucleotides for different chemicals and mutagens. Reviews chemical synthesis of polynucleotides and sequence analysis of nucleic acids, including site-specific mutagenesis. Studies nucleic acid functions and information transfer in biochemical systems. Also studies major nucleases and discusses DNA-protein interactions.

CHEM 890. Research in Chemistry (Z-12). S/U grade only. Research for the student planning to receive an MS. Research is directed by a faculty member. Repeatable for credit.

CHEM 990. Research in Chemistry (Z-16). S/U grade only. Research for the student planning to receive the PhD. Research is directed by a faculty member. Repeatable for credit.

Communication, Elliott School of (COMM)
Graduate Faculty
Professors: Philip Gaunt (director, Interdisciplinary Communication Research Institute), Vernon Keel
Associate Professors: Les Anderson, Richard Armstrong (associate director, Elliott School), Dan Close, Patricia Dooly (graduate coordinator), Susan S. Huxman (interim director, Elliott School), Sharon H. Iorio (associate dean, Fairmont College of Liberal Arts and Sciences), Keith Williamson
Assistant Professors: Kevin Hager, Jeff Jarman, Michael Wood

Master of Arts in Communication
Areas of Emphasis and Graduate Certificate
The Master of Arts in Communication degree program at Wichita State is designed to provide students with a multidisciplinary foundation in human communication that will serve a broad spectrum of interests and needs in many fields of endeavor. The program is based upon integration and synthesis of academic resources in communication. Also available is a Graduate (Post-Baccalaureate) Certificate awarded for completing a group of related, upper-level skills courses in applied communication.

Admission Requirements
In addition to the general Graduate School admission requirements, applicants for full standing status must have a 3.00 GPA over their last 60 hours of course work, must submit results of the Graduate Record Exam, and must write a statement of purpose for pursuing the Master of Arts in Communication. International students must score at least 600 on the TOEFL and, if applying for a Graduate Teaching Assistantship, must score at least 55 on the TSE.

Degree Requirements
The Master of Arts in Communication requires 36 hours of course work—15 hours of core courses and 21 hours of electives. Students selecting the thesis option may count up to 6 hours of thesis credit toward the required 36-hour total.

Program Core (Required) Courses

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<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td>COMM 801</td>
<td>Introduction to Communication Research</td>
<td>3</td>
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<tr>
<td>COMM 802</td>
<td>Historical and Qualitative Methodologies in Communication Research</td>
<td>3</td>
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<tr>
<td>COMM 803</td>
<td>Empirical/Quantitative Research Methodology in Communication Research</td>
<td>3</td>
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<tr>
<td>COMM 812</td>
<td>Contemporary Theories of Communication</td>
<td>3</td>
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<tr>
<td>COMM 865</td>
<td>Organizational Communication</td>
<td>3</td>
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Other Courses. In addition to the required courses, students, with the advice and consent of their faculty advisor, must select courses to complete the Plan of Study, as discussed in the Graduate School section of the Graduate Bulletin. The Plan of Study will be individualized designed to accommodate a student's background, interests, and needs and must include a minimum of 60 percent of their graduate hours at the 700-800 level (i.e., at least 18 hours for the thesis program of 30 hours or 21 hours for the nonthesis program of 36 hours).

Examinations
Written comprehensive examinations will be administered to all candidates during the final semester of their degree program. In addition, students writing a thesis will present an oral defense of the thesis.

Graduate Certificate in Applied Communication
Designed for students who want concentrated study in communication skills, the Graduate Certificate in Applied Communication is awarded for the successful completion of a program totaling 14 credit hours of graduate course work selected from a prescribed subset of courses. The curriculum is integrated by a 2-hour foundation course and a more advanced course in organizational communication. The remaining 9 credit hours of course work are chosen from a group of elective courses in speaking, writing, and visual communication. An applicant for the program must meet WSU Graduate School Category A requirements. In addition, students whose first language is not English must achieve a TOEFL score of at least 600.

>COMM 533. Communication Analysis and Criticism (3). General education further study course. Introduces the methods used for the analysis and critique of various linguistic, pictorial, and aural elements of communication to better understand consumers of the various forms of public and mass-mediated messages. Analysis includes print advertisements, radio and television messages, newspaper features, and public speeches. Prerequisites: junior standing and COMM 301 with a C or better or instructor's consent.

COMM 552. Methods, Advertising

COMM 555. Communication and Society (3). Emphasizes the role of communication in our society. The course examines the law in the areas of defamation, libel, and privacy. The course considers current legal and ethical issues. Prerequisites: instructor's consent.

COMM 611. Communication Law and Ethics (3). Emphasizes the role of communication in our society. The course examines the law in the areas of defamation, libel, and privacy. The course considers current legal and ethical issues. Prerequisites: instructor's consent.
COMM 630. Communication Law and Responsibility (3). Emphasizes both oral and written aspects of communication law and responsibility. Addresses general functions of the law including the right to communicate, broadcast law, and the law of the press. Includes discussion of the First Amendment rights, libel, privacy, copyright, advertising, obscenity, pornography, and corporate communication concerns. Prerequisite: COMM 301 with a C or better or instructor's consent.

COMM 631. Historical and Theoretical Issues in Communication (3). General education further study course. Examines the development of various issues in communication in historical context. Emphasizes different humanistic and scientific theories of communication and the historical development and emphasis on mediated communication. Uses selected theories to generate critiques of specific communication events. Prerequisites: junior standing and COMM 130 or instructor's consent.

Courses for Graduate/Undergraduate Credit

COMM 500. Advanced Reporting (3). 1R: 41. For juniors and seniors; the techniques of reporting and writing the more complex and important types of news stories. Covers police beat stories, sports, and economic reporting; includes the study and practice of journalistic interviewing. Prerequisites: junior standing, COMM 301 with a C or better, and either 401 or 422.

COMM 502. Public Information Writing (3). Uses basic journalistic skills of clear, precise writing to communicate effectively with various audiences. Students write press releases, speeches, and popularizations of complex documents. Techniques learned are valuable in writing grant proposals, committee reports, pamphlets, and journal articles. Prerequisites: COMM 301 with a C or better, instructor's consent.

COMM 510. Editing for Print (3). Selection, evaluation, and preparation of copy and pictures for publication. Covers copy editing, rewriting, headline and caption writing, and page layout. Prerequisites: junior standing and COMM 301 with a C or better.


COMM 525. Advertising Copywriting (3). Detailed practice at writing various kinds of advertising copy, including print and broadcast forms. Emphasizes terse, precise writing that evokes response sought by advertiser. Prerequisites: COMM 324 and COMM 301 with a C or better or departmental consent.

COMM 526. Media Buying and Selling (3). Principles, methods, and strategies of buying and selling media for advertising, including study of reach and frequency of the various mass media and specialized media, budgeting, research, rates, market share, and other tools of current buying and selling strategies. Prerequisite: COMM 324 or instructor's consent.

COMM 550. Opinion Writing (3). Studies editorial judgment, including practice in the writing of print, broadcast, and electronic opinion pieces, and the examination of traditional and new technology research materials available to opinion writers. Prerequisites: COMM 301 with a C or better and junior standing.

COMM 570. Magazine Production (3). Magazine production, including the selection of subjects, approaches and illustrations: the shooting and editing of photographic stories; layout; the handling of production and management concerns. Prerequisites: COMM 301 and 510 or departmental consent.

COMM 571. Feature Writing (3). Writing features for newspapers and magazines. Nonfiction topics may include personal experience essays, consumer pieces, travel articles, and personality profiles. Prerequisites: COMM 301 with a C or better and junior standing.

COMM 581. Communication Practicum (1-3). Application of theory, principles, and practices to professional settings where students work under instructor supervision to complete their professional preparation in various areas of media and communication. Prerequisites: COMM 301 and instructor's consent.

COMM 604. Field Video Production (3). Application of video equipment and techniques for field productions. Execution of visual and audio expression in relation to effective video productions in a field setting. Prerequisite: COMM 304 or instructor's consent.

COMM 609. Interactive Media Production (3). Investigation and application of production techniques for educational and instructional broadcasting, emphasizing television. Prerequisite: COMM 304.

COMM 612. School Publications Advising (3). Assists those who are preparing to advise and teach who currently supervise a student newspaper or yearbook. Emphasizes techniques for teaching various forms of writing and design, duties relating to production and finance of school publications, and methods to help students become better communicators. Prerequisite: COMM 301 with a C or better or instructor's consent.

COMM 613. Studio B: Practicum in Broadcast Journalism (3). Reporting and writing about events in the University and community. Story assignment and preparation under the instructor's guidance: studio broadcast over WSU Cable Channel 13. May be repeated for credit with advisor's consent. Prerequisite: COMM 422 or instructor's consent.

COMM 626. Integrated Marketing Communications Campaigns (3). Instruction and practice in planning and developing integrated advertising and public relations campaigns. Teaches students to perform a situation analysis, identify objectives, develop strategies and tactics, and write a plan book, as well as produce advertising and public relations campaign materials. Prerequisite: COMM 324 or instructor's consent.

COMM 635. Leadership Techniques for Women (3). Cross-listed as WOMS 635. Provides the female student experience in decision making and improves skills in leadership through role playing and exercise in group dynamics.

COMM 636. Advanced Public Speaking (3). Skills development in a variety of advanced, presentation methods, including speaking from a TelePrompTer, using PowerPoint technology, spokesperson/press conference speaking, conducting a training session, formal manuscript speaking, after dinner speaking, and writing a speech for another person. Prerequisite: COMM 335.

COMM 640. Issues in Corporate Communication (3). Examines how corporations craft messages that are persuasive to their various publics. Special attention to how companies use communication strategies to cope with situations that threaten their reputations.

COMM 650. Communication Training and Development (3). An examination of communication concepts, processes, technologies, and strategies related to training and development. Includes the application of the tools of formal instruction across disciplines and at various educational levels as well as in most professional training settings.

COMM 660. Seminar in Communication (1-3). Special seminars dealing with current problems, issues, or interests in various areas of communication. Repeatable for credit in different topics only.

COMM 661. Directing the Forensics Program (3). A study of the methods and procedures in coaching and directing the high school and collegiate forensic programs (debate and individual events). The future teacher is made aware of the literature and professional organizations in the field.

COMM 675. Directed Study (1-4). Cross-listed as Thea 675. Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

COMM 690. Communication Internship (1-2). Credit for professional experience that integrates theory with a planned and supervised professional experience designed to complement and enhance academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated, but limited to a total of 4 credits in COMM 690 and COMM 481. Graded CR/NC. Prerequisite: departmental consent.

COMM 712. Advanced Interpersonal Communication (3). Advanced exploration of concepts and variables in interpersonal communication through the study of different theories as well as practical experiences in dyadic and small-group communication. Prerequisite: COMM 302 or instructor's consent.
COMM 720. Dimensions of Mass Communication (3). A detailed study of mass media, their role as social institutions; their control, support, content, and audience; and their effects.

COMM 722. The Art of Conversation (3). Conversation is the form of communication people engage in most naturally and frequently, but about which they seldom think seriously. Helps participants enhance their understanding and appreciation of, as well as their skill in, the art of conversation. Includes the nature of conversation, principles of conversational communication, types of conversation, conversation in the media, and conversation analysis. Prerequisites: COMM 302 and junior standing or departmental consent.

COMM 750. Workshops in Communication (1-4).

COMM 770. The Audience (3). Application of research techniques to the measurement of audience behavior emphasizing mass media audiences. Includes focus group interviews, survey research, and radio and television ratings.

Courses for Graduate Students Only

COMM 801. Introduction to Communication Research (3). An integrative approach to an understanding of the nature and scope of communication research and graduate studies in communication and theatre/drama. Provides an overview of current research in the discipline. Inclusion of the basic steps of research, availability of library and other sources; bibliographic search; computer accessing of source materials; organization, style, and format of a research report and citation of sources in accordance with standard style guides. Should be taken at the beginning of the graduate program.

COMM 802. Historical and Qualitative Methodologies in Communication Research (3). An introduction to historical, critical, and observational methodologies in communication research. Emphasizes historical, critical, and observational research, particularly those forms of research common to communication studies. Prerequisite: COMM 801.

COMM 803. Empirical/Quantitative Research Methodology in Communication (3). An introduction to empirical research methods in communication. Emphasizes both experimental and non-experimental research, particularly those forms of research common to communication studies. Studies research design, methods, and reporting techniques. Prerequisite: COMM 801.

COMM 812. Contemporary Theories of Communication (3). Studies selected conceptual models useful in the academic study of human communication, including theories involving such contexts as interpersonal communication, public communication, and mass communication.

COMM 820. Investigation and Conference (1-3). 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 6 hours.

COMM 825. Group Communication (3). Examines communication processes that operate in groups in various contexts. Provides an overview of relevant theory, as well as methodologies through which group communication may be critically analyzed in applied settings.

COMM 830. Theories of Rhetoric: Classical (3). Cross-listed as ENGL 825. An intensive study of the rhetorical theories of classical writers from 466 B.C.E. to the decline of Roman oratory. Principal emphasis on Isocrates, Plato, Aristotle, Quintilian, Cicero, and Longinus.

COMM 831. Theories of Rhetoric: Renaissance to Early Modern (3). Cross-listed as ENGL 826: A study of the emerging patterns of rhetoric from the Second Sophistic to modern times. Analyzes the rhetorical systems associated with such figures as Augustine, Pseudo-Aristotle, Bivar, Sheridan, Stecke, Rush, John Quincy Adams, Blair, Campbell, and Whately.

COMM 860. Seminar in Communication (1-3). Special seminars dealing with current problems, issues, or interests in areas of communication. Repeatable for credit in different topics only.

COMM 865. Organizational Communication (3). Cross-listed as MGMT 865. An analysis of communication models emphasizing their applications to communication problems in organizations. Examines social psychological processes underlying persuasion in interpersonal relations and through the mass media. Critically analyzes communication systems and techniques within formal organizations.

COMM 870. Directed Study (1-3). Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

COMM 875-876. Thesis (1-3). Prerequisite: departmental consent.

Community Affairs, School of

The School of Community Affairs, created in 1999, brings together the programs of criminal justice, ethnic studies, and gerontology to form a unique and diverse curriculum to better serve the needs of students to work in an ever-changing urban and global community. Additionally, the Midwest Criminal Justice Institute (MCJI) and the Regional Community Policing Training Institute (RCPTI) provide opportunities to blend teaching, research, and service. As a result, the School of Community Affairs not only serves as a quality educational unit for students, but also functions as a research and service unit that assists with a broader range of needs identified in the community.

Criminal Justice (CJ)

Graduate Faculty

Professors: Paul Cromwell (director, School of Community Affairs), Michael Palmiotto

Associate Professors: Andra Barnister (director, RCPTI, and graduate coordinator), Ronald G. Iacovetta, Delores Craig-Moreland (director, JRI), Martha Smith

Assistant Professors: Alison McKenney Brown (internship coordinator), Brian Withrow (director, MCJI)

Master of Arts in Criminal Justice

Admission Requirements

The Master of Arts in Criminal Justice at Wichita State University is housed in the School of Community Affairs. It is one of the nation’s oldest criminal justice graduate degree programs. Intended to advance learning beyond the more general undergraduate educational curriculum, the program expands the knowledge base of both graduating seniors and the administrative cadre of working professionals to optimally perform in their chosen careers in criminal justice.

Applications are accepted for fall semester admission only.

In addition to the Graduate School admission requirements, applicants must submit (1) three letters of reference from people acquainted with the applicant's background and potential; (2) a brief autobiographical statement describing particular interests, experiences, and goals related to academic and professional work in criminal justice; and (3) verbal and quantitative scores on the Graduate Record Exam (GRE).

Applicants are evaluated with respect to (1) undergraduate grade point average (a minimum GPA of 3.00 based on the last 60 hours required for consideration of admission to degree status); (2) amount, type, and scope of undergraduate preparation; (3) reference letters; and (4) GRE scores. Final recommendation on a candidate’s admission to the program is made to the Graduate School by the graduate coordinator of the criminal justice program.

Degree Requirements

The degree requires a minimum of 36 hours, including 21 hours taken in courses numbered 800 or above.

Core Curriculum. All degree candidates are required to complete CJ 802, 882, 883, 894, and an approved graduate-level research methods course. CJ 802 and 884 must be completed in the first semester of study with a B or better. Candidates during their final semester may choose to complete an applied research paper for 3 hours of credit, complete a thesis for 6 hours of credit, or pass an oral or written comprehensive examination.

It is recommended that students complete the core requirements prior to enrollment in elective classes. Each core requirement course will be offered once each academic year. Elective courses will be selected in consultation with the student's graduate advisor.

Examinations

All students are required to take qualifying examinations, which includes a writing requirement and a compre-
hensive exam, after the completion of no fewer than 12 credit hours and no more than 18 credit hours. Students must pass both portions of the qualifying exam before continuing in the criminal justice program.

These thesis candidates and candidates who choose an applied research paper are required to defend orally both their prospectus and their final project. Students electing the 36-hour straight course work track are required to pass a written comprehensive examination.

Courses for Graduate/Undergraduate Credit

**CJ 501. Integrity in Public Service (3)** Cross-listed as ETH S 501, GERON 502, P ADM 501. Explores the student's basic standard of personal and professional integrity and how those principles apply to their daily life as a member of the community and as an employee of a government or social service agency. Employing a case study method, using cases and examples from a wide range of government and non-profit agency experiences. Students become aware of the moral and ethical issues which may arise in their professional and personal lives. Begin to develop critical thinking and analytical skills regarding ethical behavior; and become more personally and professionally responsible. Prerequisite: CJ 191.

**CJ 593. Crime Causation and Criminal Justice Policy (3)** General education further study course. Introduction to theoretical issues in criminal justice. Primary emphasis is the etiology of criminal and delinquent activity and the response of the criminal justice system to such behavior. Discusses the significant contributions of outstanding criminologists, as well as elaborating the application of these perspectives to criminal justice agencies. Prerequisite: CJ 191.


**CJ 600. Forensic Anthropology (3)** Cross-listed as ANTH 600. Encompasses the area of criminal investigation involving biological evidence: blood, hair, fingerprint, dentition, and skeletal system. Covers procedures of collection, preservation, marking, transportation, referral, laboratory analysis, classification, and identification emphasizing anthropological interpretation. Prerequisite: CJ 191.

**CJ 610. Correctional Counseling (3)** Analysis of the role of a correctional counselor. Emphasizes current practices in community-based and institutional correctional counseling. Discusses applications of theories of counseling which are widely used in correctional settings, rehabilitative programs, and special needs of offenders. Prerequisite: CJ 191.

**CJ 621. Environmental Law (3)** Cross-listed as ETH S 621 and P ADM 621. An in-depth analysis of emerging federal, state, and local legislation; judicial decisions, and administrative policies in environmental protection. Explores the role of a variety of governmental agencies and nongovernmental organizations as related to prevention and enforcement processes of environmental protection. Includes issues in the development and implementation of environmental policy. Prerequisite: CJ 191.

**CJ 625. Computer Applications for Public Policy (3)** Cross-listed as ETH S 625, GERON 625, P ADM 625. Familiarizes students with major types of software applications for microcomputers and their use in public policy analysis.

**CJ 641. Forensic Psychiatry (3)** Analysis of the role of psychiatry in the criminal justice process. Introduces the student to concepts and procedures of forensic psychiatry. Prerequisite: CJ 191.

**CJ 643. Forensic Science (3)** An overview of the various sciences used in the forensic investigation of crime, including toxicology, drug identification, questionable documents, fingerprint identification, trace evidence analysis, firearm and toolmark identification, blood evidence analysis, finger identification, forensic pathology, forensic serology, forensic odontology, and forensic anthropology. Prerequisite: CJ 191.

**CJ 651. Dispute Resolution (3)** Cross-listed as ETH S 651, GERON 651, P ADM 651. Examines a range of topics including mediation, counseling, typologies, communications, mediation, arbitration, and other discipline techniques. Includes criminal and victim mediation and both inter-group and intra-organization relations and dispute resolution techniques. Analyzes case studies.


**CJ 659. Forensic Accounting (3)** Cross-listed as ANTH 659. Utilizes critical thinking skills to analyze and interpret financial information using a decision-oriented approach. Students learn to read and interpret financial statements and balance sheets, and to develop an investigative strategy for financial crimes. Prerequisite: CJ 191.

**CJ 660. Forensic Anthropology (3)** Cross-listed as ANTH 660. Explores the use of forensic anthropology in criminal investigations. Students learn to identify and interpret biological evidence, including skeletal remains, in order to reconstruct the events of a crime. Prerequisite: CJ 191.

**CJ 661. Environmental Law (3)** Cross-listed as ETH S 661 and P ADM 661. A comprehensive examination of environmental law, including issues related to the protection of natural resources, wildlife, and hazardous materials. Prerequisite: CJ 191.

**CJ 665. Forensic Psychology (3)** Cross-listed as ANTH 665. Examines the role of forensic psychology in the criminal justice process. Students learn to identify and interpret psychological evidence, including eyewitness testimony, in order to reconstruct the events of a crime. Prerequisite: CJ 191.

**CJ 671. Forensic Accounting (3)** Cross-listed as ANTH 671. Explores the use of forensic accounting in criminal investigations. Students learn to identify and interpret financial information, including financial statements and balance sheets, in order to reconstruct the events of a crime. Prerequisite: CJ 191.

**CJ 675. Computer Applications for Public Policy (3)** Cross-listed as ETH S 675, GERON 675, P ADM 675. Familiarizes students with major types of software applications for microcomputers and their use in public policy analysis.

**CJ 681. Advanced Special Topics in Criminal Justice (1-4)** Detailed study of topics in criminal justice with particular emphasis established according to the expertise of the various instructors. Prerequisites: CJ 191 and junior, senior, or graduate-level standing.

**CJ 797. Policy Analysis and Program Evaluation (3)** Cross-listed as P ADM 845. An overview of approaches to public policy analysis and program evaluation. Examines the
roles of participants in public policy development, implementation, and evaluation. Explores policy and program functions and their intended and unintended impacts. Focuses on methodologies for collection of data and their use in the assessment of programs and program impacts. Prerequisites: an approved statistics class and an approved methods class.

Courses for Graduate Students Only

CJ 802. Quantitative Methods for Public Sector Professionals (3). Cross-listed as GERON 802 and P ADM 802. Uses standard microcomputer statistical software and analysis to introduce statistics and quantitative analysis for organizational and policy decision making. Emphasizes the application of statistics and writing with qualitative evidence to real public sector policy questions. Assumes little or no background in statistics and software applications. Prerequisite: either CJ 702, GERON 702, or P ADM 702.

CJ 816. Correctional Administration (3). Analyzes basic methods utilized in the organization and accomplishment of objectives in correctional institutions. Reviews methods utilized in traditional correctional institutions, diagnostic centers, halfway houses, and other treatment models.


CJ 820. Terrorism and Modern Societies (3). A broad overview of the many theoretical approaches to the study of terrorism and studies recurring issues regarding the interpretation of various types of terrorism. Focuses not only on theoretical concerns, but also on policy debates and the substantive ramifications of current events. Examines the range and complexity of both domestic and international terrorism and also to different approaches to the study of terrorism.

CJ 821. Hostage Negotiation (3). A comprehensive examination of theory, research, and practice in hostage negotiation from the perspectives of both law enforcement and the behavioral sciences. Explores the range and complexity of both domestic and international hostage negotiations with the focus not only on theoretical concerns, but also on policy debates and the substantive ramifications of current events. Explores the need for more rigorous application of behavioral science to the practice of crisis negotiation.

CJ 850. Workshop (1-6). Specialized instruction using variable format in relevant criminal justice subjects. Repeatable for credit up to 6 hours. Restricted to graduate students.

CJ 853. Crime Prevention through Environmental Design (3). Examines the premises and concepts of Crime Prevention through Environmental Design (CPTED), including access control, natural surveillance, territorial reinforcement, and activity support. Emphasizes case studies and field research.

CJ 855. Seminar on Juvenile Justice (3). An analysis of the criminal justice process as related to the youthful offender. Emphasizes functional components, such as training of correction personnel, community contribution for delinquency prevention and control, police-school relations, and ethical, administrative and operational aspects of juvenile justice agencies.

CJ 861. Police Administration (3). A comprehensive survey and analysis of administrative philosophy, problems, procedures, organizations, and functions of effective agency organization. Considers administrative skills related to operations and personnel.

CJ 881. Internship (3-6). Supervised field placement in a criminal justice agency. For 3 credits, the student works 192 hours and completes an academic project under the direction of a faculty member. Prerequisites: 15 hours of graduate-level criminal justice courses and consent of criminal justice agency and internship coordinator.

CJ 882. Individual Directed Study in Criminal Justice (3-6). Faculty directed readings and/or research in special areas of interest in the field of criminal justice. Prerequisite: consent of graduate coordinator and instructor.

CJ 891. Seminar in the Judicial Process (3). Reviews and analyzes the legal and theoretical issues affecting the administration and operation of the judicial system. Examines actual practice as well as statutory and case law.

CJ 892. Criminal Justice and Community Action (3). An overview of the literature on community organizations and its assessment. Discusses consequences of varying degrees of community disorganization, particularly in terms of the various theories about crime and community organization. Reviews crime prevention strategies which focus on community organization. Students gain knowledge and practical skills related to community organization as it relates to crime. Students perform community organization assessments and relate the outcome to related crime rates.

CJ 893. Seminar on the Application of Criminological Theory (3). An in-depth analysis of the major theories of criminology and of their importance to the criminal justice process. Emphasizes the student's development of a consistent and valid frame of reference.

CJ 894. Proseminar in Criminal Justice (3). Familiarizes students with critical issues facing the criminal justice system. Reviews issues which face law enforcement, the courts, corrections, and the juvenile justice system, considering the integrity of the entire criminal justice system.

CJ 895. Seminar in Policing (3). Familiarizes students with current law enforcement topics as the historical development of policing, the police role, occupational socialization, and problems of police work.

CJ 896. Seminar in Corrections (3). Focuses on the major issues and dilemmas facing modern corrections in America.

CJ 897. Advanced Research Methods (3). Cross-listed as GERON 897 and P ADM 897. Advanced research course; studies the selection and formulation of research problems, research design, hypothesis generation, scale construction, sampling procedures, and data analysis and interpretation. Prerequisites: either CJ 597, ETI S 597, GERON 597, P ADM 597, or equivalent.

CJ 898. Applied Research Paper (1-3). Original research project under a faculty member's direction. Project requires a written report and defense of that report before a faculty committee. Must be an independent project, not a group project. Intended to be a major project or capstone activity completed at the end of a student's program of study. Prerequisite: graduate-level research methods class.

CJ 899. Thesis (3-6). Prerequisite consent of graduate advisor.

Ethnic Studies (ETH S)

Graduate Faculty
Assistant Professor: Anna M. Chandler

Although a graduate program is not currently available in ethnic studies, the Department of Ethnic Studies participates extensively with other departments in the multidisciplinary Master of Arts in Communications program. See requirements for that program in the Fairmont College of Liberal Arts and Sciences, Elliott School of Communications section of the Graduate Bulletin.

Courses for Graduate/Undergraduate Credit

> ETH S 512. Aging and Ethnicity (3). Cross-listed as GERON 512. General education further study course. Addresses the needs of students interested in (1) providing service to elderly: (2) exploring the "issues" of; (3) learning more about the rights of; (4) learning the legal procedures for resolving specific problems of; and (5) offering practical solutions for the difficulties encountered by elderly persons. Prerequisites: ETH S 100, GERON 100, SOC 111, or instructor's consent.

> ETH S 532. Women in Ethnic America (3). General education further study course. Cross-listed as HIST 532 and WON 532. An in-depth, thematic understanding of the historical experiences of women of color across space and time in US history. Employing a female-centered framework of analysis, this course explores the intersections of race, class, gender, and sexuality in women's lives.

ETH S 545. Cross-Cultural Communications Theory (3).
An examination of current cross-cultural communication theory and its impact on contemporary cross-cultural issues.

ETH S 580. Individual Projects (3). Student conducts independent research related to a specific ethnic group. Prerequisite: 50 hours of Wichita State credit or program consent. Repeatable for a total of 6 hours.


ETH S 725. Concepts of Cross-Cultural Communications (3). A critical survey of the concepts of cross-cultural communications. An in-depth examination of the rationale used to evaluate different ethnic groups' language and behavior. Course provides a conceptual understanding of special implications and necessary adaptations of communications between, and among, diverse ethnic groups in our society.

ETH S 750. Workshop (1-4). Focuses on the nature and scope of ethnic studies. Emphasizes the unique experiences of ethnic groups in this country.

Gerontology (GERON) Graduate Faculty
Professor: Raymond H. Hull, Communicative Disorders and Sciences; Samuel J. Yeager, HWS Public Administration
Associate Professor: Linda Bakken, Administration, Counseling, Educational, and School Psychology; Delores Craig-Mooreland, CMA Criminal Justice; William C. Hays, CMA Gerontology (graduate coordinator, gerontology); Alicia A. Huckstadt, Nursing; Nancy McCarthy Snyder, HWS Public Administration; James H. Swan, Public Health Science; Marilyn L. Turner, Psychology
Assistant Professor: Anna M. Chandler, CMA Ethnic Studies; Ruth B. Pickard, Public Health Science
Instructor: Mary Corrigan, CMA Gerontology

The gerontology program offers courses of study leading to the Master of Arts (MA) degree in gerontology. Because gerontology is concerned with gaining and applying knowledge about all aspects of aging in a wide range of professional settings, it is by nature, multidisciplinary. The graduate degree program in gerontology at Wichita State draws upon the faculty and resources of the Hugo Wall School of Urban and Public Affairs and faculty and courses in the colleges of liberal arts and sciences, education, and health professions.

Master of Arts in Gerontology
The gerontology program requires a minimum of 39 hours leading to the MA degree.

Admission Requirements
In addition to the Graduate School admission requirements, applicants must have a grade point average in their last 60 hours of their bachelor's degree of 3.000 (on a 4.000 scale) and must submit names of three references. Students without an undergraduate statistics course are required to take a graduate-level statistics course approved by their advisor. International students must have a score higher than 575 on the TOEFL exam.

Degree Requirements
Students must take certain required core courses with a minimum total of 39 hours including a terminal research project.

**Core Curriculum**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>GERON 518, Biology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>NURS 789, Chronic Illness and Aging</td>
<td>3</td>
</tr>
<tr>
<td>GERON 663, Economic Insecurity</td>
<td>3</td>
</tr>
<tr>
<td>GERON 702, Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>GERON 715, Adult Development and Aging</td>
<td>3</td>
</tr>
<tr>
<td>GERON 798, Multidisciplinary Perspectives on Aging</td>
<td>6</td>
</tr>
<tr>
<td>GERON 802, Aging Programs and Policies</td>
<td>3</td>
</tr>
<tr>
<td>GERON 810, Advanced Gerontology Internship*</td>
<td>3</td>
</tr>
<tr>
<td>GERON 850, Selected Topics in Gerontology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives** | 36

**Terminal Research Project** (one of the following)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>GERON 886, Applied Research Paper</td>
<td>3</td>
</tr>
<tr>
<td>GERON 889, Thesis</td>
<td>3</td>
</tr>
</tbody>
</table>

Total | 39

*GERON 850, Internship, may be waived for those with extensive approved practical experience.

**With the approval of their advisor, students may use their elective hours and terminal research project to pursue an emphasis.

Relevant courses in other departments or programs which students may consider include P ADM 702, 710, 725, 745, 775, 802, 845, 865; NURS 789; ACCT 800; MKT 800; PHS 804, 812, 818, 822, 826, 834, 858; and PSY 813. With the consent of their graduate program advisor and program approval, students may take other courses not listed as elective hours.

Students should consult the Gerontology Program Handbook for additional guidance on the program.

Graduate Minor in Gerontology
The minor is a 12-15-hour concentration in gerontology taken as part of a graduate degree program in another department. Students who wish to pursue the gerontology emphasis must fulfill the requirements in both departments.

Courses for Graduate/Undergraduate Credit

**GERON 501. Field Experience (3-6).** A supervised field experience in an agency or organization planning or providing services to older people, individually designed to enhance each student's skills and knowledge of the aging service network. Repeatable for 6 hours credit. Prerequisite: 12 hours of gerontology credit and instructor's consent.

**GERON 502. Integrity in Public Service (3).** Cross-listed as CJ 501, ETH S 501, PADM 501. Exposes the student to basic principles of personal and professional integrity and how those principles apply to their daily life as a member of the community and as an employee of a government or social service agency. Employed a case study method, using cases and examples from a wide range of government and non-profit agency experiences. Students become aware of the moral and ethical issues which may arise in their professional and personal lives; begin to develop critical thinking and analytical skills regarding ethical behavior; and become more personally and professionally responsible. Prerequisite: junior- or senior-level or instructor's consent.

**GERON 512. Aging and Ethnicity (3).** Cross-listed as ETH S 512. General education further study course. Addresses the needs of students interested in (1) providing services to (2) exploring the "issues" of (3) becoming familiar with the rights of (4) learning the legal procedures for resolving specific problems of and (5) offering practical solutions for the difficulties encountered by ethnic older persons. Prerequisites: ETH S 100, GERON 100, SOC 111 or instructor's consent.

**GERON 513. Sociology of Aging (3).** Cross-listed as SOC 513. Analysis of the social dimensions of old age, including changing demographic structure and role changes and their impact on society. Prerequisite: SOC 111.

**GERON 514. Anthropology of Aging (3).** Cross-listed as ANTHR 514. An anthropological analysis of the later stages of the life cycle with historical and cross-cultural perspectives.

**GERON 515. Women and Aging (3).** Introduces students to issues in aging that are unique to women, to women's diverse developmental patterns, and to research methods appropriate for studying aging women and their life experiences. Topics include physical change, role transitions, and adaptation from a lifespan perspective.
GERON 518. Biology of Aging (3). Cross-listed as BIOL 518. An introduction to the phenomenon of aging, including a survey of age-related processes and mechanisms of senescence, emphasizing humans. Students earning graduate credit in the program develop an individual research project based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: a basic course in biology that satisfies the general education requirements.

GERON 520. Family and Aging (3). Cross-listed as SOC 520. An analysis of the families and family systems of older people. Emphasizes demographic and historical changes, widowhood, caregiving, and intergenerational relationships as these relate to the family life of older people. Prerequisites: GERON 101, SOC 111, or junior standing.

GERON 550. Selected Topics in Gerontology (2-6). Study in a specialized area of gerontology with the focus on a specific issue of interest to students. Emphasizes knowledge and skills in applied areas of gerontology as they relate to an emerging area of research and application. Repeatable up to 6 hours. Prerequisite: instructor's consent.

GERON 551. Workshop (3). Specialized instruction using a variable format in relevant gerontology subjects. Repeatable for credit up to 6 hours.

GERON 560. The Aging Network (3). An overview of federal, state, and local programs concerned with planning, managing, or directing services of the elderly population. Prerequisite: 9 hours of gerontology credit or instructor's consent.


GERON 651. Dispute Resolution (3). Cross-listed as CJ 651, ETH S 651, and P ADM 651. Examines a range of topics including causation, typologies, communications, mediation, arbitration, and other dispute resolution techniques. Includes criminal and victim mediation and both inter-group and inter-organization relations and dispute resolution techniques. Analyzes case studies.

GERON 663. Economic Insecurity (3). Cross-listed as ECON 663. Personal economic insecurity, such as unemployment, old age, health care, disability, and erratic economic fluctuations. Includes costs and benefits of government action to aid in meeting such insecurity. Prerequisites: ECON 202 or instructor's consent, and junior standing.

GERON 700. Grant Proposal Preparation (3). Concerned with the process of planning and proposal development, including responses to published guidelines, grant proposal planning, and proposal development and submission. Examines the preparation and methods of preparing an application, and the process of evaluation. Students write and evaluate proposals.

GERON 702. Research Methods (3). Cross-listed as CJ 702, ETH S 702, P ADM 702. Introduces students with applied public policy research methods. Emphasizes locating, collecting, analyzing, and utilizing both primary and secondary sources of data of the type used in policy planning, and administrative research. Students must complete several short research projects.

GERON 715. Adult Development and Aging (3). Explores theory and research related to the development of adults and the aging process. Using an interactive, interdisciplinary perspective, the course examines the process of change, transition, growth, and development across the adult lifespan. Prerequisites: GERON 700 or 6 hours of gerontology.

GERON 720. Independent Readings in Gerontology (1-3). Directed study in a specialized topic in gerontology. Repeatable up to 6 hours. Prerequisite: 12 hours of gerontology credit and departmental consent.

GERON 750. Workshop in Gerontology (1-3). Provides specialized instruction, using a variable format in a gerontologically relevant subject. Repeatable for credit.

GERON 781. Cooperative Education (3-6). Provides practical field experience, under academic supervision, that is suitable for graduate credit and complements and enhances the student's academic program. Repeatable up to 6 hours. Prerequisites: 12 hours of gerontology and instructor's consent.

GERON 789. Advanced Research Methods (3). Cross-listed as CJ 797, ETHS 797, P ADM 797. Advanced research course studies the selection and formulation of research problems, research design, hypothesis generation, scale construction, sampling procedures, and data analysis and interpretation. Prerequisite: either CJ 407, ETH S 407, GERON 407, P ADM 407, or equivalent.

GERON 800. Applied Research Paper (1-3). Original research project under a faculty member's direction. Project requires a written report and defense of that report before a faculty committee. Must be an individual effort, not a group project. Includes a project to capstone activity completed at the end of a student's program of study. Prerequisite: graduate-level research methods class. Repeatable.

GERON 809. Thesis (1-3). Repeatable, but total credit hours counted toward degree shall not exceed 4 hours.

Computer Science (CS)
Graduate Faculty:
Professor: Shang-Ching Chou
Associate Professors: Rajiv Bagai, Prakash Ramanan (chairperson)
Assistant Professors: Rodney Bates (graduate coordinator), Chun-Chih Chang, Satishrau Prabhaikar

Master of Science in Computer Science
Admission:
Applicants must hold a bachelor's degree with a major in computer science or a closely related field. Applicants must have a minimum of 15 hours of upper-level computer science courses as defined by the Graduate Committee. The following courses are acceptable:

a) Math courses: MATH 205, MATH 206, MATH 207, MATH 208
b) CS courses: C S 411, 510, 511

In addition, applicants must submit an application for admission, an essay, and evidence of a satisfactory academic background. The following requirements are recommended:
1) Have taken at least 18 credits of upper-level computer science courses.
2) Have a grade point average of 3.0 or better in the upper-level computer science courses.
3) Either a) Have taken at least 3 credits of mathematics beyond the level of calculus,
b) Have taken at least 3 credits of upper-level mathematics courses
Quantitative Research Methods: 3 credits
A general Graduate Record Examination (GRE) score of 500 or better is preferred. A good GRE score is preferred. Applicants may be admitted on a conditional basis and may be required to take additional coursework to improve their academic performance.

Any CS courses taken while enrolled at WSU. The maximum number of CS credits allowed is 12.

Degree Requirements:
1. Complete 30 hours of coursework, including:
   a) Course work in Computer Science (CS)
   b) Course work in an approved interdisciplinary major
   c) Course work in a minor field
2. A minimum of 9 hours of coursework must be taken at the 600 level or above.
3. A minimum GPA of 3.0 in all coursework.
4. A minimum 3.0 GPA in the final 12 hours of coursework.

For more information, please contact the Graduate Coordinator for the Computer Science Department.
in Aging

Master of Science

The Department of Computer Science offers the Master of Science (MS) degree program. Through a combination of advanced courses and electives, the MS program seeks to provide a level of concentration suitable for advanced professional work and/or further graduate study in computer science.

Admission Requirements

All candidates for graduate study must have a bachelor's degree (in any field) from an accredited institution. In addition, for MS degree status for Nondegree A status, a candidate's GPA in the last 60 hours of course work should be at least 2.75. (A probationary admission can be granted to candidates with a GPA in the last 60 hours of course work between 2.60 and 2.750.) All international applicants must have a score of at least 550 on the TOEFL exam.

Required background courses: This consists of Math and CS courses.
1. Math courses: Two semesters of university level math at the level of Calculus I or above.
2. CS courses: A programming course, CS 300, 320, 411, 510, 540, 560.

In addition to the graduate school requirements for admission, the applicant should meet all of the following requirements pertaining to the required background courses:
1. Have taken two semesters of university level math at the level of Calculus I or above.
2. Have at least a B average in all of the background courses taken.
3. Either
   a) Have obtained at least a B grade in any one CS background course, or
   b) Have obtained a total of at least 1000 in the Quantitative and Analytical Writing sections of the general GRE (where Analytical Writing score is the raw score times 100).
4. Have taken a programming course with at least a B grade; otherwise, must start at CSWU in the summer term and take CS 211 in that term.

Any CS background course not previously taken, or taken with a grade below C, must be (re)taken at WSU. The student must have at least a B average in all 9 of the background courses before he/she will be allowed to take any course numbered 600 or above.

Degree Requirements

The MS degree requires 30 credit hours for the thesis option or 33 credit hours for the project option.
1. Computer theory (3 credit hours)—CS 720, Theoretical Foundations of Computer Science.
2. Advanced courses (12 credit hours)—Four computer science courses numbered 800-889 or CS 898.
3. Electives (9 credit hours)—A coherent block of graduate-level courses from computer science or closely related technical fields, as approved by the candidate's graduate advisor. All computer science electives must be at the 600-level or above.
4. Thesis/Project:
   A. Thesis (6 credit hours)—The thesis option is usually exercised by students planning to pursue a PhD degree in computer science. This option requires 6 credit hours of Thesis research (CS 892) in a specialized area of computer science under the supervision of a computer science graduate faculty advisor. This should culminate in a written thesis. The student should pass an oral final examination by an ad hoc faculty committee headed by the thesis advisor. This examination will pertain to, but is not limited to, the subject matter of the thesis. (30 total hours)
   B. Project (9 credit hours)—The project option is usually exercised by students planning to work in industry. This option requires 3 credit hours of Project (CS 891), one computer science course numbered 800-889 or CS 898, and one computer science course at the 600-level or above. The project will be supervised by a computer science graduate faculty advisor and can be job-related. The student should write a report on the project and pass an oral final examination by an ad hoc faculty committee headed by the project advisor. This examination will pertain to, but is not limited to, the subject matter of the project. (33 total hours)

Courses for Graduate/Undergraduate Credit

CS 501. Numerical Programming Techniques (3). 2R; 2L. A study of the programming techniques used to solve linear equations, interpolation, integrate, and solve systems of linear equations. Discusses the implications of finite precision floating point arithmetic. Also covers techniques for initial and boundary value problems in ordinary differential equations. Selected algorithms are implemented on the computer. Prerequisites: MATH 243 and CS 300 with grades of C or better.

CS 510. Programming Language Concepts (3). Theoretical concepts in the design and use of programming languages, including scope of declarations, storage allocation, subroutines, modules, formal methods for the description of syntax, and semantics. Introduction to the concepts of different styles of languages—implicative languages, functional languages, logical languages, object-oriented languages, etc. Prerequisite: CS 410 with a C or better.

CS 540. Operating Systems (3). 3R; 1L. Covers the fundamental principles of operating systems; process synchronization, scheduling, resource allocation, deadlock, memory management, file systems. Studies a specific operating system in depth. Programming assignments consist of modifications and enhancements to the operating system studied. Prerequisite: CS 440 with a C or better.

CS 560. Data Structures and Algorithms II (3). 3R; 1L. Design and analysis of algorithms and proof of correctness, Analysis of time and space complexities of various algorithms including several sorting algorithms, hashing, binary search trees, and height balanced trees. Algorithm design techniques including divide and conquer, greedy strategies, and dynamic programming. Elementary graph algorithms. Prerequisites: CS 300, CS 320, and Math 243 and STAT 460 with a C or better in each.

CS 612. Systems Programming (3). 2R; 2L. A study of system software including assemblers, disassemblers, macroprocessors, link editors, loaders, language translators, and debuggers. Practical experience in building system software through programming laboratory exercises. Prerequisites: CS 300 and 312 with a C or better.

CS 615. Compiler Construction (3). 2R; 2L. First compiler course for students with a good background in programming languages and sufficient programming experience. Covers over-all design and organization of compilers and interpreters, lexical and syntax analysis, construction of symbol tables, scope analysis, type checking, error recovery, run-time organization, intermediate code and its interpretation, code generation, and optimization. Project-oriented course. Emphasizes practical experience gained through the design and implementation of a simplified but non-trivial compiler for a strongly typed, procedural language. The implementation is carried out in a modern systems programming environment. Prerequisite: CS 510 or equivalent with a C or better.

CS 632. Symbolic Computation with LISP (3). An in-depth study of LISP as a functional programming language with its application to artificial intelligence, polynomial computation, and theorem proving. Complete substantial programming projects in LISP. Prerequisites: Math 243 with a C or better, and CS 300 and CS 320 with a B or better in each; or CS 410 or CS 560 with a C or better, or departmental consent.

CS 644. Advanced Unix Programming (3). Improves skills in C programming under the Unix environment. Covers file I/O, both buffered and unbuffered, working with the Unix file system, concurrent programming with multiple processes, and process control. Also includes the use of signals and concepts of interprocess communication with pipes and FIFOs. Students must have prior knowledge of C language and its use of structures and pointers. Prerequisite: CS 300 with a C or better or instructor's consent.

CS 655. Information Delivery on the Internet (3). Explores the capabilities of providing information on the World Wide Web. Information is typically provided through some sort of Web site that incorporates static text and the dynamic capabilities of the Web. Learn how to create an interactive Web site through the use of CGI and Java programming and how to interconnect a Web site to databases and generate images on the fly. Java portion covers a wide range of Java language and the Apple interface and utilities. Prerequisite: CS 300 with a C or better or instructor's consent.

CS 665. Introduction to Database Systems (3). Fundamental aspects of database systems, including conceptual database design, entity-relationship modeling, and object-oriented modeling; the relational data model and its foundations, relational languages, and SQL (Structured Query Language); logical database design, dependency theory, and nor-
CS 771. Artificial Intelligence (3). Heuristic versus algorithmic methods, principles of heuristic approach, and cognitive processes. Also covers objectives and methods of artificial intelligence research and simulation of cognitive behavior. Includes a survey of appropriate examples from various areas of artificial intelligence research. Prerequisites: CS 300 and 320 with a C or better in each.

CS 776. Expert Systems (3). Planning, construction, and application of expert systems. Discusses major aspects of expert systems, facts with various examples, including data representation, knowledge bases, inference engines, user interfaces, expert systems, and problem solving with cooperation. Introduces issues of knowledge representation and expression in a production system. Prerequisite: CS 410 with a C or better or instructor's consent.

CS 780. Cooperative Education in Computer Science (1-3). Practical experience in a professional environment to complement and enhance the student's academic program. For master's level CS students. Repeatable, but not to satisfy degree requirements. Offered Cranford only. Prerequisite: departmental consent and graduate GPA of 3.00 or above.

CS 799. Individual Projects (1-3). Allows beginning graduate students and mature undergraduate students to pursue individual projects of current interest in computer science. Graded S/U only. Prerequisite: departmental consent.

Courses for Graduate Students Only


CS 817. Advanced Java Technology (3). Covers advanced features of the Java language, the underlying implementation technology (Java Virtual Machine), and extensions of the Java technology. Includes concurrent object-oriented programming and Java core reflection, and extensions of the Java technology providing parametric polymorphism and persistence. Includes challenging programming projects. Time also devoted to recent Java research and development results. Prerequisites: CS 510 with a B or better.

CS 821. Analysis of Algorithms (3). Deals with advanced topics in the design and analysis of algorithms, including sorting networks, algorithms for parallel computers, Strassen's algorithm for matrix multiplication, polynomial multiplication and the FFT, number theoretic algorithms (gcd computation), and hard problems and intractability. Prerequisites: CS 560 with a B or better; CS 720 is recommended.

CS 822. Parallel Algorithms (3). Deals with the design and analysis of parallel algorithms for various combinatorial problems in the Random Parallel Access Machine (PRAM) model. Covers models of parallel computation, the PRAM model, basic techniques for designing parallel algorithms, algorithms on lists and trees, and algorithms for selection, merging, sorting, searching, as well as algorithms for graph problems. Prerequisite: CS 560 with a B or better.

CS 841. Advanced Computer Architecture (3). A study of advanced topics in computer architecture like parallel processing, stack architectures, computer performance evaluation, and reliability of computer systems. Studies architectures of typical systems belonging to the IBM, CDC, and Burroughs families of computers. Prerequisite: CS 540.


CS 843. Distributed Computing Systems (3). A study of hardware and software features of on-line multiple computer systems emphasizing network design and communications. Includes distributed databases, interprocessor communication and centralization versus distribution. Also includes study of the use of microcomputers in representative configurations. Prerequisites: CS 540 and 742.

CS 862. Advanced Database Systems (3). This course covers recent developments and advances in database technology. It is designed for students who have had a first database course and have a good background in the related computer science disciplines. Possible topics include extended relational database management systems, object-oriented database management systems, deductive databases, database types and database languages and systems, distributed databases. Prerequisite: CS 665.

CS 867. Object-Oriented Databases (3). Covers object-oriented technology as it applies to databases and persistent object systems. Focuses on the advantages of the object-oriented database technology in complex application areas such as the database and persistent technology and the associated tools have an important role here, along with the related industrial standards such as CORB. Provides design and implementation experience using a challenging application. Devoted to recent research and development results. Prerequisites: CS 665 and an eight-hour programming language course such as CS 217 or 360L or instructor's consent.

CS 871. Artistic Performances (3). Performance of existing methods and techniques in the context of recent developments in performance art. Prerequisite: consent of instructor.

CS 872. Advanced Artificial Intelligence (3). Advanced topics on existing research and applications in the field of artificial intelligence. Prerequisite: consent of instructor.
CS 872. Machine Learning and Discovery (3). An advanced study of computer programs that learn, improve performance, and make discoveries. Includes objectives, methods, and research paradigms for such systems, a survey of existing methods and applications, including the most recent developments; theoretical principles for learning and discovery systems; computational theories of learning processes and cognitive models of human learning; concept and theory formation; and use of analogy in learning. Includes participation in a group project such as developing a computer learning system. Prerequisite: CS 771 or 776.

CS 873. Computer Vision (3). An introduction to computer vision, a rapidly growing subfield of artificial intelligence. The basic topic is the understanding or description of images by a computer or robot. Covers two-dimensional Fourier analysis, scene matching and understanding, texture, motion, shape recognition, relational image structure, and human perception. Prerequisite: CS 771 or instructor's consent.

CS 874. Simulation and Modeling (3). An up-to-date treatment of important aspects of simulation modeling, including data collection, input and output data analysis, modeling principles, simulation with general-purpose programming languages, and special-purpose simulation languages. Emphasizes theory, design, and implementation of modeling languages. Prerequisites: CS 500 and STAT 460 with a C or better, or instructor's consent.

CS 881. Software Specification and Design (3). A detailed presentation of the techniques and tools available for the specification of software requirements and their translation into a design. Includes formal specification and design methods such as structured analysis, object-oriented design, and ISD. Prerequisite: CS 680.

CS 886. Software Project Management (3). Presents the knowledge, techniques, and tools necessary to manage the development of software products. Includes the phases and activities involved in building a project, the skills and tools required for estimating and scheduling, and the responsibilities of the individuals involved. Prerequisite: CS 680.

CS 891. Project I (3). An intensive project involving the analysis and solution of a significant practical problem which must be supervised by a CS graduate faculty advisor; it can be job-related. Students must write a report on the project and pass an oral final examination by an ad hoc faculty committee headed by the project advisor. Graded SU only. Prerequisite: departmental consent.

CS 892. Thesis (1-6). May be repeated for up to 6 hours of credit. Graded SU only. Prerequisite: departmental consent.

CS 893. Individual Reading (1-5). Graded SU only. Prerequisite: departmental consent.

CS 898. Special Topics (2-3). Topics of current interest to advanced students of computer science. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

Criminal Justice
See Community Affairs, School of.

English (ENGL)
Graduate Faculty
Distinguished Professor: Albert Goldbarth (Adele B. Davis Distinguished Professor of Humanities)

Profs: Tina Bennett-Kastor, Sarah B. Daugherty, Lawrence M. Davis, Jeanine M. Hathaway, Philip H. Schneider, William F. Woods

Ass. Prof: Christopher K. Brooks, Margaret Dawe (chairperson), W. Stephen Hathaway, Diane D. Quant, (graduate coordinator), Richard S. Spillman, Donald R. Wineke, Peter T. Zoller

Assistant Prof: Anne Carroll

Both the Master of Arts (MA) degree in English and the Master of Fine Arts (MFA) degree in creative writing are offered by the English department at Wichita State University.

Master of Arts
The Master of Arts (MA) program in English is designed to equip graduate students with the knowledge and skills necessary both to the outstanding teacher and to the well-prepared candidate for further graduate study. The graduate committee of the department accordingly requires its master's candidates to follow a course of advanced study that leads to a comprehensive knowledge of English and American literature rather than a course that develops specialization in one or two areas. Candidates also are given training in the principles of literary criticism and in the use of bibliographical tools so that they will have a general competence in criticism and research, although they may not be professional critics or research experts.

Admission Requirements
Applicants must meet the general requirements of the Graduate School, with the additional requirement that they have a 3.00 average in their previous work in English courses. The coordinator of graduate studies in English will then evaluate the applicant's transcript and baseline writing, and research, although they may not be professional critics or research experts.

The coordinator and the student establish a Plan of Study that takes into account the student's interests and future vocational plans.

Transfer of Credit: Students must complete 24 hours of credit at Wichita State within the English department. Students may transfer up to 9 hours of credit on the Plan A program and up to 6 hours of credit on plans B and C. If the credit to be transferred comes from a program in which the student took a graduate degree, the time limits imposed by the Graduate School on further transfers of credit will not apply.

Language Requirements: Master's degree candidates in English may fulfill the department's foreign language requirements in any one of the following ways:

1. By submitting a transcript showing the successful completion of at least 15 hours of undergraduate work in a single foreign language and the equivalent of one year of French or German.
2. By completing the required 15 hours of undergraduate work in a single foreign language.
3. By taking a test administered by the Department of Modern and Classical Languages and Literatures in the elected foreign language, with a successful score determined by the English department.
4. By submitting a transcript showing successful completion of 6 hours of linguistics.

Master's candidates with a creative writing emphasis (Plan C) have the additional option of successfully completing 6 semester hours of foreign literature in translation in courses approved by the department's graduate committee as a substitute for the language requirement.

Degree Requirements
ENGL 800, Introduction to Graduate Study in English, normally should be included in the student's first semester of graduate study.

All work to be counted toward the MA degree in English must be in courses numbered above 700—with the exception of 680. Theory and Practice in Composition—and the following courses in linguistics and in literature: ENGL 515, 521, 522, 524, 526, 527, 610, 615, 667, and 672. ENGL 515 and 615 may be taken to fulfill in part the major or and/or optional course requirements of the degree plans. ENGL 521, 522, 524, 526, and 527 may be taken to fulfill the period and/or optional course requirements of the degree plans. Candidates offering 500-, 600-, or 700-level English courses for graduate credit must satisfy a higher differential of performance relative to undergraduate students in the same courses, with the nature of this differential set by professors.

There are three programs leading to the degree. Plan A, which emphasizes literature, composition, and pedagogy, is especially designed for teachers. Plan B, which requires the student to submit a master's essay, places more emphasis on research, scholarly writing, and the independent study of literature. Plan C emphasizes creative writing. Students are assumed to be following Plan A unless they declare another plan.
Plan A requires the completion of 11 courses for a total of 33 semester hours distributed as follows: ENGL 800, Introduction to Graduate Study in English; two genre courses; three period courses in the ENGL 817-823 series and/or 521-527 series, with a minimum of two courses in English literature and one course in American literature; one course in composition theory and pedagogy (ENGL 680 or 780); and four elective courses in linguistics, literature, or methods of teaching English. With the approval of the Graduate Studies Committee, one or more of these courses may be taken in the College of Education. Regents' rules require that at least seven courses be at or above the 700 level. A master's essay is not required, but students must take a comprehensive examination on one period, one genre, and one area of composition, rhetoric, or linguistics. In consultation with the candidate, an advisor in each of the three examination fields will designate up to five books, in addition to those covered in the candidate's course work, for which the student will be responsible. The book list will thus include a maximum of 15 works. This list must be approved by the graduate coordinator.

Plan B requires ten courses for a total of 30 semester hours distributed as follows: ENGL 800, Introduction to Graduate Study in English; two major author or special topics courses (ENGL 515, 615, 805, 840, 841, 845, or 860), one of which may serve as a context for the development of a thesis prospectus; one genre course consistent with the thesis topic; one period course consistent with the thesis topic; four elective courses; and ENGL 870. Master's Essay. Regents' rules require that at least six courses be at or above the 700 level. A candidate's Plan of Study, approved by the graduate coordinator, should include an appropriate range of courses in canonical and modern literature. Plan B also requires a comprehensive examination on one period (or linguistics), one genre, and one major author or special topic related to the master's essay, as arranged with the thesis advisor. The first two examination fields should also be consistent with the subject of the master's essay. In consultation with the candidate, an advisor in each of the three examination fields will designate up to five books, in addition to those covered in the candidate's course work, for which the student will be responsible. The book list will thus include a maximum of 15 works. This list must be approved by the graduate coordinator.

Plan C, a program with an emphasis on creative writing, requires the completion of 30 semester hours plus a comprehensive examination and a thesis, which must be original work in fiction, poetry, or some other suitable literary form. A student's program, individually designed in consultation with the director of creative writing, must include 9 semester hours in the graduate creative writing sequence. The final comprehensive examination will be based on a list of 30 book-length works that the student will be held accountable for; the works will be chosen from the creative writing program master list in consultation with the director of creative writing and with the approval of the graduate coordinator. The number of sections of the Plan C comprehensive examination and its length will be equivalent to that given under Plan B, although the content will be based on the list of book-length works described above.

Admission to the Plan C program will be made upon the recommendation of the director of creative writing upon approval of a manuscript or other written evidence of ability to complete the degree. Such recommendation is subject to the final approval of the graduate coordinator.

Master of Fine Arts in Creative Writing

The degree program for the Master of Fine Arts (MFA) in creative writing places emphasis on the development of skills and understanding in the practice of imaginative writing and upon related academic study. It is not exclusively a studio program; rather, it encourages the development of writers who are able, as the result of additional course work in English, to demonstrate skills useful in teaching, editing, and other related areas. A core of workshops and tutorials leads to a final writing project: a collection of fiction or poetry, a novel, or some other appropriate work. Flexibility is provided in academic course work to allow for a variety of possible interests.

All MFA students are required to take ENGL 800, Introduction to Graduate Study in English. Teaching assistants must take ENGL 780, Advanced Theory and Practice in Composition, unless specifically exempted.

Admission Requirements

Applicants must meet the general requirements of the Graduate School, with the additional requirement of a 3.00 grade point average in their previous course work in English. The coordinator of graduate studies in English, in consultation with the director of creative writing, evaluates the applicant's transcript, prescribing additional undergraduate hours for those who have fewer than 24 credit hours of acceptable course work in English. Courses in freshman composition, grammar, teaching methods, journalism, speech, etc. may not be included in the required 24 hours. Exceptions may be made for outstanding students who have majored in related fields. With the permission of the director of creative writing, gifted writers may study in the program as special students with no specific degree intentions.

Applicants who have earned their undergraduate degrees more than 10 years before their application for admission must be interviewed by the graduate coordinator before they are admitted into the program.

Applicants who have earned their degrees in countries where English is not the native language must score at least 600 on the TOEFL (Test of English as a Foreign Language) Examination before they may be admitted to the program.

Degree Program Status. Applicants who seek to be admitted with full standing in the degree program must submit a sample of original writing in fiction (approximately 20 pages), poetry (about six poems), or other appropriate form to the director of creative writing at the time they seek admission.

Counseling. All MFA candidates in English are advised by the coordinator of graduate studies in English and the director of creative writing. The graduate coordinator will help the student select a Plan of Study which will take into account the student's interests and future vocational plans.

Transfer of Credit. A minimum of 24 of the total 48 semester hours required for the degree must be taken at Wichita State. No more than 24 hours of credit may be transferred toward the degree from other graduate work taken at Wichita State or at another school. If the credit is to be transferred from a program in which the student took a graduate degree, the time limit imposed by the Graduate School on transfer of credit will not apply.

Degree Requirements

Course Work. The 48 semester hours of course work are apportioned into two categories: required and elective courses.

A. Required Courses

1. A minimum of 3 hours per semester in ENGL 800, Creative Writing: Fiction, or 805, Creative Writing: Poetry, to a maximum of 12 semester hours.
2. Three hours in ENGL 800, Introduction to Graduate Study in English, or the equivalent, required of all graduate students. ENGL 800 normally should be included in the student's first semester of graduate study.
3. Three hours in ENGL 830, Graduate Studies in Drama: 832, Graduate Studies in Fiction; or 834, Graduate Studies in Poetry. With departmental consent, each course may be repeated for a maximum of 6 hours credit.
4. Four hours in ENGL 841, Graduate Studies in Contemporary Literature; 860, Graduate Seminar in Special Topics; or another suitable seminar in literature. With departmental consent, seminars may be repeated for a maximum of 12 hours credit.
5. Two to 6 hours in ENGL 875, MFA Final Writing Project.
6. For purposes of enrichment, candidates must take at least 3 graduate hours in the humanities or fine arts outside English. The choice is contingent upon the student's having the proper prerequisites.
7. Graduate teaching assistants are required to take ENGL 780, Advanced Theory and Practice in Composition, unless specifically exempted.

B. Elective Courses

Elective courses may be taken to pursue historical, technical, or theoretical studies that the candidate finds useful, to strengthen areas of weakness, or simply to enrich their degree program appropriately. All candidates must successfully complete a minimum of 15 elective hours in English courses numbered 500 and above, with the exception of English courses numbered 515 through 527, which may be taken for graduate credit with the approval of the graduate coordinator.
which asks students to apply the analytical approaches of their major fields to current issues of broad, general interest. Second objective: 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.

ENGL 780. Advanced Theory and Practice in Composition (3). For teaching assistants in English. An examination of new theories of rhetoric, recent research in composition, and new promising developments in composition programs in schools and colleges. Prerequisites: consent of creative writing director. Repeatable for credit when content varies. Prerequisite: ENGL 315 or departmental consent.

Creative Writing

Courses for Graduate/Undergraduate Credit

ENGL 517-518. Playwriting I and II (3-3). Cross-listed as Theatre 516 and 517. The writing of scripts for performance. Emphasizes both verbal and visual aspects of playwriting. Repeatable for credit. Prerequisite: instructor's consent.

ENGL 555. 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.

ENGL 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.

Courses for Graduate Students Only

ENGL 801. Creative Writing: Fiction (3). Advanced work in creative writing. Repeatable for credit. Prerequisite: consent of creative writing director.

ENGL 803. Creative Writing: Nonfiction (3). Advanced work in creative nonfiction: forms of nonfiction requiring a distinctive voice and demanding a formal artistry generally associated with fiction. Prerequisite: consent of creative writing director.

ENGL 805. Creative Writing: Poetry (3). Advanced work in the writing of poetry. Repeatable for credit. Prerequisite: consent of creative writing director.

ENGL 875. MFA Final Writing Project (1-6). Tutorial work in creative writing in prose fiction with visiting writer. Prerequisite: consent of creative writing director.

ENGL 881. Writer's Tutorial: Poetry (3). SU/grade only. Tutorial work in creative writing in poetry with visiting writer. Prerequisite: consent of creative writing director.

Linguistics

Courses for Graduate/Undergraduate Credit

ENGL 667. English Syntax (3). Cross-listed as LING 667 and ANTH 667. Studies the basic principles of English syntax, covering the major facts of English sentence construction and relating them to linguistic theory. Prerequisite: ENGL 315 or equivalent or departmental consent.

ENGL 672. Studies in Language Variety (3). Cross-listed as LING 672. Introduces the study of language variety with special attention to regional and social dialect in American and methods of studying it. May be repeated for credit when content varies. Prerequisite: ENGL 315 or departmental consent.

ENGL 681. Editing American English (3). Students master the rules and conventions of grammar, sentence structure, spelling, punctuation, usage, and mechanics, and learn how to apply them while they are revising and editing a written text. Students work as tutors in the Writing Center to learn and understand the practical application of editing rules. Includes instruction in the conventions of editing Standard English (also known as Edited American English) and in methods of effective tutoring. Prerequisites: ENGL 101 and 102.

ENGL 777. Teaching English as a Second Language (2-3). Cross-listed as LING 777. Discusses current methods of teaching English to non-native speakers. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use.


Literature

Courses for Graduate/Undergraduate Credit

ENGL 503. Studies in American Literature I (3). The major fiction, poetry, and nonfiction prose of the classic American period. Discusses the development of the novel and romance, the transcendental period, and the rise of western and regional literatures.

ENGL 504. Studies in American Literature II (3). Fiction, poetry, and drama from the late 19th century to after World War II. Readings also may include literary criticism and other types of nonfiction prose. Discussions cover themes, topics, and literary forms inspired by the social and cultural movements and events of the first half of the 20th century.

ENGL 512. Studies in Fiction (3). Subjects announced each semester. Repeatable for credit.

ENGL 513. Studies in Poetry (3). Subjects announced each semester. Repeatable for credit.
ENGL 514. Studies in Drama (3). Subjects announced each semester. Repeatable for credit.

ENGL 515. Studies in Shakespeare (3). Subjects announced each semester. Repeatable for credit, except by students who take ENGL 340. Prerequisites: junior standing and one college literature course, or instructor's consent.

ENGL 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.

ENGL 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.

ENGL 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.

ENGL 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.

ENGL 527. Readings in Victorian Literature (3). Writers from Carlyle to Yeats studied in relation to political events and the social, scientific, and religious thought of the age. Prerequisites: junior standing and one college literature course, or instructor's consent.


ENGL 533. Studies in Contemporary Literature (3). Modern literature, primarily British and American, since 1950. Subjects announced each semester. Repeatable for credit.

ENGL 535. Literary Images of Women: Diverse Voices (3). Cross-listed as WOM S 535. Explores literature written in English by women of diverse ethnic, racial, class, and other backgrounds, as well as of varying sexual orientations, ages, and degrees of physical ability. Materials analyzed both as literary works and as expressions of women's differences from one another. Works selected on their specific attention to the question of gender as it intersects with other elements of culture.

ENGL 536. Writing by Women (3). Cross-listed as WOM S 536. Explores various themes in critical approaches to literature composed by women writers, especially those whose works have been underrepresented in the literary canon. Genres and time periods covered, critical theories explored and specific authors studied vary in different semesters.

ENGL 537. Contemporary Women's Drama (3). Cross-listed as WOM S 537. Examines contemporary plays by and about women to discover and explore the insights of the various playwrights into the lives and roles of women. In addition to reading and analyzing plays, students write plays of their own.

ENGL 580. Special Studies (1-3). Topic selected and announced by the individual instructor. Repeatable for credit. Prerequisite: departmental consent.

ENGL 610. Old English (3). Cross-listed as LING 610. Studies the Old English language in enough detail to enable the reading of some prose and poetry, including parts of Beowulf in the original. Some literature, including all of Beowulf, is read in translation, with attention to important literary and cultural features of the period.

ENGL 615. Chaucer (3) Chaucer's Canterbury Tales, Troilus and Cressida, and selected lyrics, with a few works by other late 14th century authors and some critical and historical studies. Focuses on close reading of Chaucer in Middle English. Prerequisites: junior standing and one college literature course, or instructor's consent.

ENGL 618. Editing American English (3). Students master the rules and conventions of grammar, sentence structure, spelling, punctuation, usage, and mechanics, and learn how to apply them while they are revising and editing a written text. Students work as tutors in the Writing Center to learn and understand the practical application of editing rules. Includes instruction in the conventions of editing Standard English (also known as Edited American English) and in methods of effective tutoring. Prerequisites: ENGL 101 and 102.

ENGL 750. Workshop (1-4). Repeatable for credit.

Courses for Graduate Students Only

ENGL 800. Introduction to Graduate Study in English (3). Prepares students to perform effectively in graduate classes in English. Covers (1) basic bibliographical tools; (2) terminology both technical and historical; (3) various approaches to the study of literature, such as intrinsic analysis of a literary work; the relationships of biography to literary study; and the relevance of other disciplines, such as psychology; to literature; and (4) the writing of interpretative research essays. Maintains a balance between criticism and research throughout the semester.

ENGL 817. Graduate Readings in 20th Century British Literature (3). Yeats, Joyce, Lawrence, Auden, Spender, and their contemporaries.

ENGL 821. Graduate Readings in American Literature I (3). From the beginnings to 1870 emphasizing Emerson, Thoreau, Hawthorne, Melville, Whitman and Dickinson.

ENGL 822. Graduate Readings in American Literature II (3). From 1870 to 1920 emphasizing James, Twain, Crane, Dreiser, Robinson and Frost.

ENGL 823. Graduate Readings in American Literature III (3). From 1920 to 1970, including Eliot, Stevens, Hemingway, Faulkner, and their contemporaries.

ENGL 825. Theories of Rhetoric: Classical (3). An intensive study of the rhetorical theories of classical writers from 466 B.C. to the decline of Roman oratory. Emphasizes Plato, Aristotle, Quintillian, Cicero and Longinus.

ENGL 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. Analyzes the rhetorical systems associated with such figures as Augustine, Fenelon, Balbus, Sheridan, Steele, Rush, John Quincy Adams, Blair, Campbell, and Whately.

ENGL 830. Graduate Studies in Drama (3). Selected topics in the history and nature of dramatic literature.

ENGL 832. Graduate Studies in Fiction (3). Selected topics in the development of the form and content of prose fiction.

ENGL 834. Graduate Studies in Poetry (3). Selected topics in forms, techniques, and history of poetry.

ENGL 840. Graduate Studies in Criticism (3). Selected topics in the theory and practice for literary criticism.

ENGL 841. Graduate Studies in Contemporary Literature (3). Covers selected topics in the literature of the last quarter-century, including literature in translation. Deals with a broad range of authors and genres. Repeatable for credit with change of content and departmental consent.

ENGL 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.

ENGL 855. Directed Reading (2-3). For graduate students who want to pursue special research in areas not normally covered in course work. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

ENGL 860. Graduate Seminar in Special Topics (1-3). Intensive study of selected texts, writers, or literary problems. Seminar discussions, reports, and research projects. Repeatable for credit with departmental consent.

ENGL 870. Master's Essay (1-3).

Environmental Science

Although applications are not being accepted for the program pending restructuring of the program, students will find applicable courses for graduate credit in the departments of Physics, Biology, Chemistry, and Geology.
Ethnic Studies
See Community Affairs, School of.

Geography (GEOG)
Although there is no graduate program in geography, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit

GEOG 510. World Geography (3). A study of world regions including an analysis of each region's physical, political, economic, historical, and cultural geography. Focus on a specific geographical problem for an in-depth study and analysis. Prerequisites: instructor's consent. May not be taken if credit has been received for GEOG 210Q.

GEOG 530. Geography of Latin America (3). General education further study course (social science). Physical, political, economic, historical and human geography of Latin America.

GEOG 542. Geography of Europe (3). General education further study course (social science). Physical, political, economic, historical, and human geography of Europe.

GEOG 695. Special Studies in Geography (1-3). 2R or 2R; 3L. Lab fee (Lab is included when appropriate). Systematic study in a selected area of topical interest in geography. Course given on demand; repeatable for credit when content differs. May require field trips. Prerequisite: junior standing.

Geology (GEOL)
Graduate Faculty

Professors: William D. Bischoff (Dean, Fairmount College of Liberal Arts and Sciences), James N. Gundersen, Salvatore J. Mazzullo

Associate Professors: Collette D. Burke, John C. Gries (Chairperson)

Assistant Professors: William Parcell, Wun Yang (Graduate coordinator)

Although applications are not being accepted for the MS program in geology pending restructuring of the graduate program, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit

GEOL 526. Sedimentary Geology (3). 2R; 3L. Origin, classification, primary structures, and physieochemical processes controlling deposition of sedimentary rocks. Reviews diagenesis of carbonate rocks and evaporites. Includes a survey of modern and ancient sedimentary depositional environments and petrographic study of sedimentary rocks in thin sections. May require field trips. Prerequisite: GEOL 102 (with lab) or 111.

GEOL 540. Field Mapping Methods (2). 6L. Field mapping methods with special reference to use of level, compass, barometer, alidade, and airphoto. Field trips required. Prerequisite: GEOL 102 (with lab) or 111Q or GEOL /GEOG 201.

GEOL 544. Structural Geology (3). 2R; 3L. Stress-strain theory and mechanics of rock deformation, description, and genesis of secondary structural features in crustal rocks resulting from diastrophism, elements of global tectonics, and laboratory solution of geologic problems in three dimensions and time. May require field trips and field problems. Prerequisites: MATH 112 or 123; GEOG 312; and GEOL 324 or 526.

GEOL 552. Physical Stratigraphy (3). 2R; 3L. Description, classification, methods of correlation, and determination of relative ages of stratigraphic rock units; stratigraphic principles and practices; importance and use of biostratigraphy; the nature of cyclic sedimentation and controls on deposition; elements of sequence stratigraphy; measurement and correlation of stratigraphic sections in outcrops. Requires field trips. Prerequisites: GEOG 312 and 526.

GEOL 550. Geomorphology and Land Use (2). General education further study course. Includes identification of landforms and their genesis; processes producing landforms; the influence of geomorphology in aspects of natural hazards such as landslides, floods, earthquakes, and volcanic activity; soil erosion, drainage basin modification, coastal and desert environments; mineral resource exploitation, and their effects on humans; importance of these influences in environmental management and land-use planning. Prerequisite: GEOG 111 or 102 or GEOL /GEOG 201.

GEOL 562. Regional Geology of the United States (2). A detailed regional survey of the general geology, geomorphology, stratigraphy, and structural geology of the U.S., including its national parks, and their interrelationships. Requires field trips (instructor's option). Prerequisite: GEOG 102 or 111 or GEOL /GEOG 201.

GEOL 564. Remote Sensing Interpretation (3). 2R; 3L. Introduces interpretation techniques for most types of images acquired by remotely positioned means. Physical principles that control various remote sensing processes using the electromagnetic spectra are applied to geology, land use planning, geography, resource evaluation, and environmental problems. Derivative maps generated from a variety of images. May require field trips. Prerequisite: GEOG 102 or 111 or GEOL /GEOG 201.


GEOL 574. Special Studies in Paleontology (3). 2R; 3L. General education further study course. A systematic study in selected areas of biogeography and paleontology. Content differs, upon demand, to provide in-depth analysis in the fields of: (a) invertebrate paleontology, (b) vertebrate paleontology, (c) micropaleontology, (d) palynology, and (e) paleoclimatology. Gives appropriate laboratory instruction in the systematic, taxonomic, and biogeographical relationships within the selected fields listed. May require field trips. Repeatable for credit to cover all five areas listed.

GEOL 602. Laboratory Methods in Geology (1). Methods of data collection and analysis of geologic samples; special instruction in the use of (a) scanning electron microscope; (b) X-ray diffraction; (c) atomic absorption spectrophotometry; (d) cathodoluminescence petrography; and (e) other instrumentation. Repeatable for credit. Prerequisite: GEOG 312, 320, or instructor's consent.

GEOL 621. Geochemical Cycling (3). Capstone course. The geochemistry of earth materials and the important geochemical processes; cycles operating on and within the atmosphere, hydrosphere, and lithosphere through time; anthropogenic effects on these cycles today. Prerequisites: GEOG 312 (with lab) or GEOG 111 and CHEM 111, or instructor's consent.

GEOL 630. Field Studies in Geology (2-6). (A) Geology of Kansas (1-3); (B) Geology and Natural History of Tropical Marine Environments; (C) Off-campus, systematic field study in a selected area of geological significance. Course given on demand; repeatable for credit when locality and/or content differs. Where appropriate, travel, lodging, and board costs are charged. Prerequisite: Instructor's consent.

GEOL 640. Field Geology (6). Capstone course. Field investigation of sedimentary, igneous, and metamorphic rock units and their structures. Includes the application of mapping methods in solving geologic problems. Held at an off-campus field camp for five weeks (including weekends). Preparation of geologic columns, sections, maps, and an accompanying report are due on campus during the sixth week. Prerequisites: GEOL 324, 540, 544, and 552.

GEOL 650. Geohydrology (3). 2R; 3L. Capstone course. The hydrologic cycle, physical, and chemical properties of water; fluid flow through permeable media; exploration for and evaluation of groundwater; water quality and pollution; and water law. Prerequisites: GEOL 552, MATH 242 and 243, or instructor's consent.

GEOL 657. Earth Science Instructional Methods (3). Practice in teaching an introductory course in the earth sciences. Developing and presenting the latest scientific laboratory techniques and evaluating their effectiveness. May be taken more than once if content and objectives differ. Prerequisite: senior standing and department chairperson's permission.

GEOL 678. Geologic Perspectives on Climatic Change (3). Capstone course. Modern climate and climatic changes and analysis of climatic deterioration; systematic study of geologic evidence of climate change through time. Emphasizes theoretical concepts, feedback mechanisms, and recognition of effects of climatic perturbations in the rock record. Prerequisites: GEOG 312 and 526.
GEOL 680. Geologic Resources and the Environment (3). 3R; 3L. Occurrence and origin of metallic and nonmetallic economic mineral deposit; laboratory examination of ores and industrial minerals; Occurrence and supply, regeneration, and future demand for water and soil resources; and fossil and nuclear fuels. Studies environmental aspects of resource exploitation and use, generation and disposal of waste; environmental hazards, and reclamation. May require field trips. Prerequisite: GEOL 524.

GEOL 682. Petroleum Geology (3). 3R; 3L. The origin, migration, and accumulation of oil and gas in the earth's crust; petroleum deposit types in common hydrocarbon fields; origin and types of porosity systems, and distribution of world petroleum supplies. Introduces subsurface study techniques. May require field trips. Prerequisite: GEOL 526 and 552.

GEOL 684. Methods of Subsurface Analysis (2). 1R; 3L. Methods of remotely logging and describing the geologic occurrence of subsurface strata; characterization of subsurface strata, including laboratory analysis of recovered subsurface samples; application to petroleum geology; mineral resource evaluation, and environmental geology. Prerequisites: GEOL 512, 526, and 552; or instructor's consent.

GEOL 690. Special Studies in Geology (1-5). Systematic study in selected areas of geology. Offered on demand; repeatable for credit when content differs. Requires laboratory work or field trips (instructor's option). Prerequisite: instructor's consent.

GEOL 698. Independent Study in Geology (1-3). Independent study on special problems in selected areas of geology: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) geochronology, (f) economic geology, (g) sedimentation, (h) stratigraphy, (i) geophysics, and (j) petroleum. Requires a written final report. Prerequisite: consent of sponsoring faculty.

GEOL 702. Environmental Science I (2) 3R; 3L. Cross-listed as BIOL 702 and CHEM 702. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes chemical cycling, atmospheric chemistry, aquatic chemistry, and phase interactions. Prerequisite: acceptance in the master's program in environmental science or instructor's consent.

GEOL 703. Environmental Science II (2) 3R; 3L. Cross-listed as BIOL 703 and CHEM 703. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes environmental chemical analysis, environmental toxicology, aquatic microbial biochemistry, environmental biochemistry, water treatment, photochemical smog, and hazardous waste chemistry. The laboratory portion addresses local environmental problems from a risk assessment perspective. GEOL 702 and 703 (or equivalent) are required for all graduate students in the master's of environmental science program. Prerequisite: GEOL 702 or instructor's consent.

GEOL 704. Environmental Science Colloquium (1). Cross-listed as BIOL 704 and CHEM 704. Students in the master environmental science are required to enroll two semesters during their program of study. Includes presentations by guest speakers and required readings for class discussion. May also include student involvement in environmentally related community groups and projects. Graded S/U only. May be repeated for up to four hours credit.

GEOL 706. Environmental Science Internship (3-5). Cross-listed as BIOL 706 and CHEM 706. Students in the master's program in environmental science may gain interdisciplinary skills in environmental science by participating in applied and/or basic research internship projects with local business, industry, or government agencies. Internship options are an alternative to thesis research for degree completion. Enrollment in internship projects requires an approved proposal. Completion of an internship for graduation requires a formal oral presentation of the internship activity and a written report. Prerequisites: Environmental Science I and II.

GEOL 720. Geochemistry (3). The chemistry of natural aqueous solutions and their interaction with minerals and rocks; thermodynamics and kinetics of reactions; emphasis on application to sedimentary environments and environmental problems. Requires some laboratory work. Prerequisites: GEOL 524 and Chem 112 or instructor's consent.

GEOL 724. Soils (3). Geologic analysis of soil types, their formation, occurrence, and mineralogy; soil management and conservation; environmental aspects of soil occurrence including study stability, pollution, and reclamation. Prerequisites: GEOL 725 and Chem 112 or instructor's consent.

GEOL 725. Clay Mineralogy (3). 2R; 3L. An evaluation of compositional and structural elements of clay-mineral families; related phyllosilicates and associated diagnostic authigenic minerals in sedimentary environment. Also laboratory identification and classification of minerals by x-ray powder diffraction and thermal analysis. Prerequisite: GEOL 526.

GEOL 726. Carbonate Sedimentology (3). 2R; 3L. The origin and genetic description of carbonate sediments and rocks. Includes mineralogical stability in natural waters, meteoric marine and diagenetic burial, diagenetic processes and products; trace-elements and isotopes as diagentic tools; carbonates and limestone classification of carbonates and rocks of modern and ancient depositional system. May require field trips. Prerequisites: GEOL 526, 552, or equivalent.

GEOL 727. Carbonate Diagenesis (3). 2R; 3L. Analysis of diagenesis of carbonate sediments and rocks. Includes mineralogical stability in natural waters, meteoric marine and diagenetic burial, diagenetic processes and products; trace-elements and isotopes as diagentic tools; carbonates and limestone classification of carbonates and rocks. Origin and pore space. Prerequisite: GEOL 726 or instructor's consent.

GEOL 740. Basin Analysis (3). A practical course in analysis of petroleum-bearing or other sedimentary basins; emphasizes detailed subsurface mapping to document depositional, tectonic, and burial history of sedimentary basins; subsurface lithostratigraphic and geological sample analysis and evaluation of sedimentary facies and hydrocarbons maturation history. Includes compilation of existing data to determine geologic evolution of basins. Prerequisites: GEOL 562, 684, or instructor's consent.

GEOL 745. Advanced Stratigraphy (3). Analysis of stratigraphic sequences at the local to global scale in terms of sequence stratigraphic concepts and high-resolution interpretation of depositional sequences (from outcrop and subsurface data); seismic sequence stratigraphy, and significance of unconformities in sequence identification and development; local to global correlation of sequences and sea level history through time cratonic sequences of North America. Required 7-day field trip. Prerequisites: GEOL 312, 526, and 726.

GEOL 750. Workshop in Geology (1-3). Short-term courses with special focus on geological problems. Prerequisites: graduate standing and/or instructor's consent.

GEOL 751. Advanced Geohydrology (3). Integration of practical and theoretical coverage of subsurface fluid flow as applied to aquifers. Covers the movement of water in both the saturated and unsaturated zones and the occurrence of non-aquifers. Includes groundwater quality, sources of ground water contamination, retardation of contaminants, retardation and attenuation of dissolved solids and the response of inorganic and organic substances to subsurface quality and framework chemistry. Computer simulation models were used experimentally along with detailed analysis of case histories, including those related to environmental geoscience. Prerequisite: GEOL 650, 681, MATH 344 or instructor's consent.

GEOL 760. Exploration Geophysics (3). Introduces the theory and application of geophysical techniques for hydrocarbon, mineral, and groundwater prospecting. Includes use of seismic techniques; instrumentation for acquisition on land and sea; seismic processing, structural and stratigraphic models; structural; seismic exploration and seismic reflection techniques. Includes completion of geology undergraduate math and physics requirements; MATH 344 or 559; GEOL 523 and 544; and instructor's consent.

GEOL 781. Advanced Numerical Geology (3). Involves practical implementation of algorithms and computer code. Includes the use of multivariate techniques and development of the computer algorithm; skills needed to handle very large databases. Covers standard statistical approaches to data analysis; treatment of applied linear algebra and matrix theory; and the application of linear and nonlinear discriminant analysis, various factor analytic techniques, fuzzy and fuzzy clustering, linear and non-linear multivariate analysis, and other forms of data modeling. Prerequisites: GEOL 561 or equivalent, competence in one or more high level computer languages. Math 344 or 355, and instructor's consent.
Courses for Graduate Students Only

GEOL 800. Research in Geology (3). 9L Research in special areas of geology: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geology, (g) sedimentation, (h) stratigraphy, (i) geophysics, and (j) petroleum. Requires a written final report. Prerequisite: instructor's consent.

GEOL 808. History of Geology (1-3). Selected events and personalities in geology that have led to our present understanding of geology's place in science. Prerequisite: instructor's consent.

GEOL 810. Advanced Graduate Studies in Geology (1-8). Systematic study in a selected topic of professional or applied geology. Course given upon demand; repeatable for credit when content differs. May require field trips. Prerequisite: graduate standing, instructor's consent, and two years of professional postgraduate practice in geology.

GEOL 821. Special Studies in Geochemistry (3). A systematic study in special areas of geochemistry. Content differs upon demand to provide in-depth analysis in fields of (a) sedimentary carbonate and silicate geochemistry and mineralogy, (b) organic geochemistry, (c) high pressure and temperature thermodynamic properties of earth materials, (d) exploration geochemical geochemistry, (e) oceanic geochemical cycling, (f) stable isotope geochemistry. May be repeated for credit to cover all six areas listed. May require some laboratory work. Prerequisite: GEOL 720 or instructor's consent.

GEOL 823. Igneous and Metamorphic Petrology (3). 1R. Mineral paragenesis, bulk chemical compositions, physical chemical relationships, textures, structures, origins, and classification of igneous and metamorphic rocks. Thin-section studies to facilitate rock identifications and the determination of petrogenetic relationships. May require field trips. Prerequisite: instructor's consent.


GEOL 830. Field Studies in Geology (2-6). Off-campus, systematic field study in a selected area or region of geologic significance. Course given upon demand; repeatable for credit when locality and content differ. Prerequisites: travel, lodging, and board costs are charged. Prerequisites: summer field geology (or equivalent) and instructor's consent.

GEOL 840. Geodynamics (3). Physical and geologic principles of crustal deformation and tectonic interpretation. Studies the relationship of interior earth processes to crustal deformation with special reference to global tectonics. May require field trips. Prerequisite: instructor's consent.

GEOL 852. Field Stratigraphy (3). 2R; 3L. Advanced concepts and principles of stratigraphic analysis and interpretation emphasizing original sources and current research investigations. Required field problem and field trips. Prerequisites: GEOL 544 and 552 or instructor's consent.

GEOL 860. Special Topics in Geophysics (3). Systematic study in one or more selected topics of theoretical and applied geophysical techniques. Emphasizes applications of state-of-the-art concepts and principles to problems of regional to global significance. Potential topics include seismic stratigraphy, vertical seismic profiling, reversion petrophysical response estimations, shallow aquifer geophysical modeling, geophysical basin modeling, and regional and global environmental modeling. Prerequisites: GEOL 681, 760; MATH 344 or 555; or instructor's consent.

GEOL 870. Advanced Biogeology (3). 2R; 3L. Paleontological reconstruction of ancient plant/animal communities and environments emphasizing community structure, biostratigraphy, synthesis of total raw data, and problem solving. May require field trips. Prerequisite: a course in biogeology or equivalent.

GEOL 881. Special Topics in Numerical Geology (3). Systematic study in one or more topics of theoretical and applied quantitative analysis appropriate for environmental and geological research. Emphasizes applications of state-of-the-art concepts and principles to problems of regional to global significance. Potential topics include quantitative shape analysis, petroleographic image analysis, multi-variable linear and non-linear unmixing, extrapolation and interpolation techniques, quantitative isostratigraphic techniques, modeling global phenomena, and simulations of multi-phase flow in aquifers and reservoirs. Prerequisites: GEOL 681, 781; and MATH 344 or 555; or instructor's consent.

GEOL 890. Thesis (1-6). Prerequisite: departmental consent.

Gerontology

See Community Affairs, School of.

History (HIST)
Graduate Faculty

Distinguished Professor: H. Craig Miner (Willard W. Garvey Distinguished Professor of Business History and chairperson)

Professors: John E. Dreifort (graduate coordinator), James C. Duram, Anthony P. Gythiel, Phillip D. Thomas

Associate Professors: John D. Born, Jr., Judith R. Johnston, Michael T. Kelly, Willard C. Klunder, Keith H. Pickus, Craig L. Torbenson

Assistant Professors: Helen Hundley, Ariel Loftus, Jay Price (director of public history program), Benson Tong

Master of Arts and Areas of Specialization

The history department offers courses of study leading to the Master of Arts (MA) degree with specialization in U.S. history, European history, and public history.

Admission Requirements

Admission to the MA program in history requires completion of an undergraduate major in history, or the equivalent; a grade point average of 2.750 or better, including all undergraduate hours; and a 3.000 grade point average in history. Under unusual circumstances applicants with less than a 3.000 average in history may be granted a probationary or conditional admission. International students are required to have a minimum TOEFL of 600.

Degree Requirements

Students may follow one of three plans for a graduate degree in history: a thesis program, a nonthesis program, and a program in public history.

Thesis Program

Course (Hrs.)
HIST 725, Advanced Historical Method ............. 3
HIST 727, Readings in History ................. 3
HIST 729, 730, 733, 734, Seminars .............. 9
HIST 500- and 600-level Courses ............. 12
HIST 801, Thesis Research ...................... 2
HIST 802, Thesis .................................. 2
Total ................................................. 31

At least one seminar and one lecture-based course must be taken outside the student's primary comprehensive field.

Students must pass a foreign language competency examination, a written examination in one comprehensive field, and pass an oral examination in defense of the thesis. The written examination must precede the oral examination.

Nonthesis Program

Course (Hrs.)
HIST 725, Advanced Historical Method ............. 3
HIST 727, Readings in History ................. 6
HIST 729, 730, 733, 734, Seminars .............. 12
HIST 500- and 600-level Courses ............. 15
Total ................................................. 36

Students must pass written examinations in two comprehensive fields.

Thesis Program in Public History

Course (Hrs.)
HIST 701, Introduction to Public History ............. 3
One course selected from the following: ............. 3
HIST 702, Historical Preservation .............. 3
HIST 703, Museum Administration .......... 3
HIST 705, Introduction to Archives .............. 3
HIST 704, Interpreting History to the Public ............. 3
HIST 725, Advanced Historical Method ............. 3
HIST 729, 730, 733, 734, Seminars .............. 6
HIST 500- and 600-level Courses ............. 9
HIST 801, Thesis Research ...................... 2
Courses for Graduate/Undergraduate Credit

-HIST 501. The American Colonies (3). General education further study course. Colonization of the New World emphasizing the British colonists and their development.

-HIST 502. The American Revolution and the Early Republic (3). General education further study course. Examination of selected phases of the revolutionary, confederation, and federal periods.

-HIST 503. The Age of Jefferson and Jackson (3). General education further study course. This course examines the eras of Thomas Jefferson and Andrew Jackson; that is, roughly the period from 1800 to 1850. During that time, the United States experienced dramatic territorial growth, cultural ferment, and reform movements; engaged in two major international wars; and in general, a number of Indian conflicts; and moved toward the sectional showdown over slavery that culminated in a bloody Civil War. The focus is on political, social, and military history, as America expanded from the Mississippi River across the North American continent.

-HIST 504. Civil War (3). General education further study course. This course explores the origins and history of the bloodiest war this nation has ever fought. Students will study antebellum America, focusing on the sectional differences between North and South, the institution of slavery, and the abolitionist crusade; and the battles of the Civil War.

-HIST 505. The United States, 1865 to 1900 (3). Covers the great economic, political, social, and moral questions of the 19th century. Includes industrialism, the frontier, the city, immigration, race, class, culture, empire, gender, and reform.

-HIST 507. The United States, 1900-1945 (3). General education further study course. Major topics explored in this chapter include World War I, the Great Depression, and World War II. While this period in U.S. history is noteworthy for conflict, consensus in the form of Progressivism, the New Deal, and the emergence of the modern presidency; also characterized these decades. An examination of political leadership will be a major component of this course. The emphasis, however, will be "history from the bottom up" as we examine the lives of ordinary Americans.
HIST 541. Modern France (3). General education further study course. History of the major trends in French history from Napoléon to De Gaulle emphasizing French attempts to adjust politically, socially, economically, and culturally to the changing conditions of modern industrial society.

HIST 545. Neither War Nor Peace: The World Since 1945 (3).

HIST 553. History of Mexico (3). General education further study course. Pre-Columbian Mesoamerica; the Spanish conquest and the colonial period; the independence movement; Juárez, the Reform, and the French intervention; the Porfiriat; the Mexican Revolution; Mexico in recent years.

HIST 558. The Ancient Near East (3). General education further study course. Political and cultural history of ancient Mesopotamia, Iran, Egypt, Palestine, Syria, and Asia Minor to the death of Alexander the Great.

HIST 559 & HIST 560. Greek History (3 & 3). General education further study courses: 559: the Hellenic world from prehistoric times to the end of the Peloponnesian War, 490-404 B.C.; 560: the 4th century and the Hellenistic period.


HIST 566 & HIST 567. Medieval History (3 & 3). General education further study courses: 566: the history of Europe from the fall of the Roman Empire through the Crusades, 500-1200; 567: history of Europe, 1200 to 1500.

HIST 568. Social, Economic, and Intellectual History of the Middle Ages (3). Examines fundamental themes in the development of the social, economic, and intellectual history of the Middle Ages, emphasizing the rise of cities, universities, scholastic thought, diverse patterns of daily life, and economic activities of the Middle Ages.

HIST 569. Medieval England (3). An examination of the development of Medieval England from the Anglo-Saxon invasions until the end of the 14th century. The Norman Conquest, the rule of the Angevins, the reign of Edward I, and the daily life of those peoples who become the English will receive particular attention.

HIST 575. The Italian Renaissance (3). General education further study course. Italian history from the 14th through the 16th centuries emphasizing cultural achievements.

HIST 576. The Reformation (3). General education further study course. Cross-listed as REL 476. The great religious changes in the 16th century in the political, social, and intellectual contexts.

HIST 577. Medieval Women (3). Deals with the lives and attainments of Christian women in Late Antiquity and the Middle Ages.

HIST 581. Europe, 1789-1870 (3). General education further study course. A focused survey of European social, cultural, and political history from 1789-1870. Among the topics covered are the Enlightenment, the French Revolution, industrialization, romanticism, nationalism, liberalism, socialism, the revolutions of 1848, and the role of women in European society.

HIST 582. Europe, 1871-1945 (3). General education further study course. A focused survey of European history between the years 1871-1945. Among the subjects covered are the phenomena of nation building and the imperial project, the rise and growth of European socialism, the emergence of a "mass society," the role of women and minorities, the origins and impact of World War I, inter-war politics and diplomacy; the Nazi Era, and World War II.


HIST 588. History of Early Russia (3). General education further study course. Covers the social, political, and cultural history of Kievan and Muscovite Russia.

HIST 589. History of Imperial Russia (3). General education further study course. A survey of the political, social, and cultural history of Imperial Russia.

HIST 592. History of the Soviet Union (3). General education further study course. A survey of Soviet history from the Bolshevik Revolution to the present.

HIST 593. Former Soviet Union (3). General education further study course. An examination of contemporary life in the former USSR: historical background, Marxist/Leninist ideology, industrial and agricultural economies, roles played by women, national minorities and dissidents in Soviet society, the press, literature and art, health care, and prospects for the country's future.

HIST 599. Experimental Course in History (3). Experimental courses in history are courses designed by the faculty to respond to particular student or faculty interest. They will have the same academic standards and expectations as other 500-level courses offered by the department.

HIST 613. European Diplomatic History (3). General education further study course. European international politics and diplomatic practices, emphasizing the actions of the great powers and their statesmen. Versailles settlement, totalitarian aggression, appeasement, World War II, the cold war, and decolonization of Southeast Asia and the Middle East as prelude to major power involvement.

HIST 639. Religion in America (3). Covers major trends in American religious history focusing on the scholarly issues related to the study of these subjects. Students explore such subjects as religious awakenings, fundamentalism, pentecostalism, and rationalism and examine how historians have studied and disagreed over these topics.

HIST 698. Historiography (3). Review of the major schools of historical thought, philosophies of history, and eminent historians from the ancient world to the present. Required of history majors.

HIST 701. Introduction to Public History (3). Introduces the various areas of public history including historic preservation, archival administration, museum studies, litigation support, and corporate history. Students learn the philosophies, techniques, and practices that comprise the field and ways these areas interact with their academic training. Prerequisite: graduate standing or instructor's consent.

HIST 702. Historic Preservation (3). Advanced survey of the multifaceted, multidisciplinary field of historic preservation. Presents a broad and sophisticated view of the many arms of preservation in the U.S., as well as the numerous opportunities available to trained professionals in the field. Prerequisite: HIST 701 or instructor's consent.

HIST 703. Museum Administration (3). Addresses the many facets of museum administration from a specialist's point of view. Covers collecting, management, law and ethics, and resource development. Gives a close view of the operations of American museums. Prerequisite: HIST 701 or instructor's consent.

HIST 704. Interpreting History to the Public: Explaining the Past (3). Looks at ways history can be communicated to audiences, including scholarly texts, popular written histories, movies, videos, guidebooks, museums, and other similar media. Explores the differences between various forms of historical communication and assesses the ways they reach audiences. Students learn to discern various components of historical texts to use in the design of interpretation materials on their own. Prerequisite: HIST 701 or instructor's consent.

HIST 705. Introduction to Archives (3). Introduces the basic knowledge, theory, and related skills of archival administration, including the nature of information, records, and historical documentation; the role of archives in modern society; and issues and relationships that affect archival functions. Covers the theory and skills necessary to understand and apply basic archival functions. Prerequisite: graduate standing and/or instructor's consent.

HIST 725. Advanced Historical Method (3). Reviews basic historical research methods, the general character of field bibliographies and recent interpretations, and the techniques of professional narrative development. Required of graduate degree students during their first year of enrollment. Prerequisite: departmental consent.

HIST 727. Readings in History (3). Readings in ancient, medieval, modern, European, and American field bibliographies. Repeatable for credit. Prerequisite: departmental consent.

HIST 729. Seminar in American History (3). Repeatable for credit. Prerequisite: departmental consent.
HIST 730. Seminar in American History (3). Repeatable for credit. Prerequisite: departmental consent.

HIST 733. Seminar in European History (3). Repeatable for credit. Prerequisite: departmental consent.

HIST 734. Seminar in European History (3). Repeatable for credit. Prerequisite: departmental consent.

HIST 750. Workshop in History (1-3). Repeatable for credit but does not satisfy requirements for history majors.

HIST 781. Cooperative Education in History (1-2). Graduate history students participate in internship experiences through the Cooperative Education program. Prerequisite: HIST 803. Prerequisite: instructor's consent.

Courses for Graduate Students Only

HIST 801. Thesis Research (1-2).

HIST 802. Thesis (1-2).

HIST 803. Internship in Public History (1-2). Public history students practice their skills in summer or semester internships. Type and level of responsibility vary depending on student's interests and work setting. Internship should be in an area related to student's MA thesis. Prerequisites: HIST 701 and consent of public history faculty.

HIST 810. Special Topics in History (1-3). Repeatable for credit to a maximum of 6 hours.

Hugo Wall School of Urban and Public Affairs

See Urban and Public Affairs, Hugo Wall School of.

Liberal Studies (LAS-I)

Graduate Coordinator: David Soles (philosophy), Advisory Committee: Wilson Baldrige (modern languages), Elise Shovin (psychology), Ron Matson (sociology), Benson Tong (history) Ramona Lina Schwichtenberg (women's studies)

The Master of Arts in Liberal Studies (MALS) program is designed for people who wish to pursue a particular topical or interdisciplinary interest at the graduate level, but find the existing programs either too specialized or insufficiently individualized. The liberal studies program offers students an opportunity to design a program of study to answer their particular needs and interests in a focused, coherent manner.

Admission Requirements

Applicants must have a bachelor's degree from an accredited institution. Applicants must also have a grade point average of 3.00 or better for the last 60 hours of course work. No more than 6 hours of graduate credit from another institution will be considered for transfer into the liberal studies program.

When submitting an application to the Wichita State Graduate School, students must contact the MALS office for an initial interview with the graduate coordinator. In addition, students must complete a brief essay describing their motivation for selecting the liberal studies program, outlining their proposed three areas of study and showing how the program will contribute to their educational and career goals. Deadlines for application are April 1 for the fall semester and October 1 for the following spring semester.

The Liberal Studies Advisory Committee may request that the applicant submit Graduate Record Examination scores (verbal and quantitative).

Three graduate faculty representing at least two of the three departments in which the student's work will be concentrated should be secured as program advisors. One of these advisors, who must be a graduate faculty member of Fairmount College of Liberal Arts and Sciences, will serve as the student's primary advisor and chair the student's committee.

Before completing the first 12 hours of graduate work in the program, the student must:

1. Complete selection of members of the faculty thesis or terminal project committee and inform the graduate coordinator.
2. With the assistance of this committee, prepare a Plan of Study to be approved by the graduate coordinator and the Graduate School.
3. Complete LAS-I 800, Research Goals and Strategies, for 3 credit hours.

Once accepted by the Graduate School, the Plan of Study becomes the student's individualized curriculum and any changes to it must be approved by the student's thesis or terminal project committee.

Degree Requirements

The structural framework for the degree is a Plan of Study, developed by the student in consultation with faculty in the program. It must include:

1. A minimum of 36 semester hours of credit
2. No more than 12 semester hours from any one department
3. A maximum of 12 hours in a college other than liberal arts and sciences
4. At least 22 of the 36 total hours in courses numbered 700 or above
5. Three of the 36 hours in LAS-I 800, Research Goals and Strategies

A master's thesis for 6 hours' credit or a terminal project for 6 hours' credit.

Graduate Certificate in Great Plains Studies

Fairmont College of Liberal Arts and Sciences offers a Graduate Certificate in Great Plains Studies, an interdisciplinary program for professional or personal enrichment. This certificate is for students interested in taking a concentration of courses from a number of disciplines focusing on a common topic, the Great Plains.

Requirements: Graduate students must meet requirements for admission to the WSU Graduate School in a degree program or nondegree, category A status. They must have a cumulative grade point average of at least 3.000 for all courses comprising the graduate certificate program with no grade below C. The Graduate School does not accept transfer credit for certificate programs.

Great Plains Studies students enrolled in LAS-I 800 work with the instructor and the Great Plains Studies coordinator to develop an appropriate focus.

Students complete 20 hours of course work, including three required courses (LAS-I 501, 510, and 800) with the remaining courses selected from the designated courses: ANTH 612, ANTH 613, BIOL 503, BIOL 575, ENGL 860, GEO 562, GEO 570, HIST 553Q, and HIST 556.

Courses for Graduate/Undergraduate Credit

LAS-I 801. Great Plains Experience (1-3). Offered during fall and spring semesters as a 1-hour field experience and in the summer session as a 3-hour field experience. Course requirements for the Great Plains Studies certificate program. Prerequisites: LAS-I 201 or instructor's consent.

LAS-I 510. Great Plains Seminar (3). Prerequisite: completion of the Great Plains Studies certificate program. Focuses on contemporary issues and critical contexts for research. Students develop research projects appropriate to their classification as undergraduates or graduates and which reflect their particular interests in Great Plains Studies. Supplemental materials provided by faculty through lectures, consultation, course materials, and mentoring. Prerequisites: 12 hours of Great Plains Studies course work, including LAS-I 201 and 511; undergraduates must have senior status or instructor's consent.

LAS-I 700. Workshop: Special Topics (1-3). Meets identified needs of specific audiences.

Courses for Graduate Students Only

LAS-I 800. Research Goals and Strategies (3). Introduces the methodology and practice of interdisciplinary research. Emphasizes the integration of methods native to the humanities, social sciences and natural sciences. Develops skills required for the writing of research papers and theses. Required of all students in the Master of Arts in Liberal Studies (MALS) program during the first 12 hours of course work.

LAS-I 875. Thesis (1-6). For students who are finishing the Master of Arts in Liberal Studies. The student writing a thesis is enrolled in this course until the thesis is completed and is required to have this course included in all thesis requirements. Prerequisite: consent of student's degree committee chairperson and instructor.

LAS-I 885. Terminal Project (1-6). For students who are near the end of their MALS program and involve in a terminal project. The terminal project may have many aspects such as field work, other individualized activities, or a combination of both. Graduate Coordinator approval is required for all such projects.

Linguistic Competence Professors:

Although this is not a requirement, the following courses are offered:

Group A- Language

LING 667, 668. Languages of the Americas and their cultures
LING 672, 673, 674. Cross-linguistic typology
LING 680, 681. Fieldwork in languages and cultures

Group B—Fieldwork Courses for

LING 505, 506. Fieldwork in American Indian languages
LING 506, 507. Fieldwork in African languages
LING 508. Fieldwork in Asian languages
LING 509. Fieldwork in European languages

as field work, other individualized activities, or a combination of both. Graduate Coordinator approval is required for all such projects.

Great Plains Studies students enrolled in LAS-I 800 work with the instructor and the Great Plains Studies coordinator to develop an appropriate focus.

Students complete 20 hours of course work, including three required courses (LAS-I 501, 510, and 800) with the remaining courses selected from the designated courses: ANTH 612, ANTH 613, BIOL 503, BIOL 575, ENGL 860, GEO 562, GEO 570, HIST 553Q, and HIST 556.

Courses for Graduate/Undergraduate Credit

LAS-I 801. Great Plains Experience (1-3). Offered during fall and spring semesters as a 1-hour field experience and in the summer session as a 3-hour field experience. Course requirements for the Great Plains Studies certificate program. Prerequisites: LAS-I 201 or instructor's consent.

LAS-I 510. Great Plains Seminar (3). Prerequisite: completion of the Great Plains Studies certificate program. Focuses on contemporary issues and critical contexts for research. Students develop research projects appropriate to their classification as undergraduates or graduates and which reflect their particular interests in Great Plains Studies. Supplemental materials provided by faculty through lectures, consultation, course materials, and mentoring. Prerequisites: 12 hours of Great Plains Studies course work, including LAS-I 201 and 511; undergraduates must have senior status or instructor's consent.

LAS-I 700. Workshop: Special Topics (1-3). Meets identified needs of specific audiences.

Courses for Graduate Students Only

LAS-I 800. Research Goals and Strategies (3). Introduces the methodology and practice of interdisciplinary research. Emphasizes the integration of methods native to the humanities, social sciences and natural sciences. Develops skills required for the writing of research papers and theses. Required of all students in the Master of Arts in Liberal Studies (MALS) program during the first 12 hours of course work.

LAS-I 875. Thesis (1-6). For students who are finishing the Master of Arts in Liberal Studies. The student writing a thesis is enrolled in this course until the thesis is completed and is required to have this course included in all thesis requirements. Prerequisite: consent of student’s degree committee chairperson and instructor.

LAS-I 885. Terminal Project (1-6). For students who are near the end of their MALS program and involve in a terminal project. The terminal project may have many aspects such as field work, other individualized activities, or a combination of both. Graduate Coordinator approval is required for all such projects.
as field work, practicum, curriculum development, or some other individualized activity. The project must have been approved by the student’s advisory committee and the MALS Graduate Coordinator prior to beginning work on any terminal activity, whether thesis or project. While the terminal project allows for more creative flexibility than the thesis option, students and their terminal project committee should be aware that the standards of quality and research expectations are equivalent. The student involved in a project must be enrolled in this course until the project is completed and all project requirements have been satisfied.

Linguistics (LING) Graduate Faculty

Professors: Tina L. Bennett-Kastor, Lawrence M. Davis

Although there is no graduate program in linguistics, the following courses are available for graduate credit.

Group A—Basic Linguistic Theory

Courses for Graduate/Undergraduate Credit

LING 667. Linguistics. English Syntax (3). Cross-listed as ENGL 667 and ANTH 667. Studies the basic principles of English syntax, covering the major facts of English sentence construction and relating them to linguistic theory. Prerequisite: LING 315 or equivalent or departmental consent.

LING 672. Linguistics. Studies in Language Variety (3). Cross-listed as ENGL 672. Introduces the study of language variety, emphasizing regional and social dialect in America and methods of studying it. May be repeated for credit when content varies. Prerequisite: LING 315 or departmental consent.


LING 682. Linguistics. Structure of a Selected Non-Indo-European Language (3). Language offered depends on student demand and staff availability. May be conducted as a field methods course; repeatable for credit when different languages are offered. Prerequisite: LING 315.

Group B—Linguistic Study of Specific Languages or Language Groups

Courses for Graduate/Undergraduate Credit


LING 505. Russian. Russian Phonology (2). Cross-listed as RUSS 505.


LING 610. English. Old English (3). Cross-listed as ENGL 610. Studies the Old English language in enough detail to enable the reading of some prose and poetry, including parts of Beowulf in the original. Some literature, including all of Beowulf is read in translation, with attention to important literary and cultural features of the period.

LING 635. French and Spanish. Introduction to Romance Linguistics (3). Cross-listed as FREN 635 and SPAN 635.

Group C—Areas of Contact Between Linguistics and Other Disciplines

Courses for Graduate/Undergraduate Credit

LING 545. Psychology. Psycholinguistics (3). Cross-listed as PSY 545.

LING 651. Language and Culture (3). Cross-listed as ANTH 651 and MCLL 651. Prerequisite: 3 hours of linguistics or MCLL 351 or 6 hours of anthropology.

LING 727. Teaching English as a Second Language (2-3). Cross-listed as ENGL 727. Discusses current methods of teaching English to non-native speakers. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use.


Others

Courses for Graduate/Undergraduate Credit

LING 590. Linguistics. Special Studies (1-3). Topic selected and announced by individual instructor. Credit is assigned to Group A, B, or C depending on content. Repeatable for credit when content varies.

LING 595. Linguistics. Directed Readings (1-3). Credit assigned to Group A, B, or C depending on content. Repeatable for credit.

Mathematics and Statistics

Graduate Faculty

Professors: Andrew Acker, Dharam V. Chopra, Alan R. Ecker, Buma L. Friedman (chairperson), John J. Hutchinson, Victor Isakov, Peter Kuchment, Kirk E. Lancaster, Kenneth G. Miller (graduate coordinator), Hao Mukerjee, Philip E. Parker, Ziqi Sun. Associate Professors: Stephen W. Brady, Thomas DeLillo, Lop-Hing Ho, Xiaoli Hu, Zhihui Jia, Daowei Ma, Vassilis Papapanicolau Assistant Professors: Chuncheng Ma

The Department of Mathematics and Statistics offers courses of study leading to the Master of Science (MS) degree in mathematics and the Doctor of Philosophy (PhD) degree in applied mathematics.

Mathematics (MATH)

Master of Science

Admission Requirements

Students will be admitted to full graduate standing if they have the equivalent of an undergraduate degree in mathematics, have a grade point average of at least 3.000 in mathematics courses, and meet Graduate School admission requirements.

Degree Requirements

To complete the MS degree, students must earn 33 semester hours of graduate credit, with a minimum of 24 semester hours in courses in mathematics or statistics offered by the department (exclusive of the thesis) numbered 600 or above. The 33 hours must include the completion of three two-semester sequences in mathematics and/or statistics numbered 600 or above.

Students who plan to enter the PhD program in applied mathematics should include Real Analysis I and II (MATH 743 and 843) and Numerical Linear Algebra (MATH 751) in their MS program of study.

Generally not more than 6 hours of approved work may be transferred from another university. Students may take either a thesis or a non-thesis option. Students electing to write a thesis should enroll in MATH 885 for up to 6 hours credit. A student's program must be approved by the department. A comprehensive examination is required of all degree candidates.

*Complex and Vector Analysis for Engineers (798) and mathematics or statistics courses numbered below 600 do not count toward the 33 hours needed for the MS in mathematics.

Doctor of Philosophy

The primary emphases in the doctoral program in applied mathematics are partial differential equations, probability and statistics, and computational mathematics.

Admission Requirements

Admission to the doctoral program will be through the Admissions and Exceptions Committee of the department. Students may enter the doctoral program in mathematics and statistics if they have the prerequisites for the initial required courses, have taken the advanced GRE, and have a 3.000 overall grade point average and a 3.250 grade point average in mathematics and statistics.

Students may satisfy the prerequisites for the initial requirements if they have taken 3 hours of course work in each of the following: advanced calculus, modern algebra, linear algebra, and numerical methods.
Degree Requirements
To complete the PhD program in applied mathematics, the student must satisfy the course, language, and residency requirements given below; pass the qualifying and preliminary examinations; and write a dissertation containing original research in applied mathematics.

Course Requirements: A total of at least 94 hours of graduate credit is required. Partial Differential Equations for Engineers (MATH 757) and Complex and Vector Analysis for Engineers (MATH 758) and mathematics or statistics courses numbered below 700 may not be included. At least 36 hours must be in mathematics and statistics courses numbered above 800 (exclusive of PhD Dissertation [MATH 985]). Courses used toward a master's degree may be included. A maximum of 36 hours may be transferred from another university at the discretion of the student's committee.

Real Analysis I and II (MATH 743 and 843) and Numerical Linear Algebra (MATH 751) are required of all students. In addition a student must complete one of the following two sets of requirements:

A) Complex Analysis I and II (MATH 745 and 845), Partial Differential Equations I and II (MATH 755 and 855), Functional Analysis I and II (MATH 941 and 942), and Numerical Analysis of Partial Differential Equations (MATH 852).

B) Theory of Statistics I and II (STAT 771 and 772), Theory of Probability I and II (STAT 861 and 862), Theory of Statistical Inference I and II (STAT 870 and 871), and Theory of Linear Models I and II (STAT 872 and 873).

Language Requirements: The student must demonstrate proficiency in either two foreign languages or in one foreign language and one high level computer language. The foreign languages are Chinese, French, German, and Russian. The language proficiency will be demonstrated by passing an examination that consists of the translation, with the use of a dictionary, of one or more passages of mathematics text from the foreign language into English.

Residency Requirement: The student must complete at least one academic year in residence as a full-time student at WSU.

Qualifying Exam: The qualifying exam is a written examination administered near the end of the fall and spring semesters. The exam is a six-hour exam given on two different days within the same week period. The topics covered by the exam are real analysis, numerical analysis, advanced calculus, and linear algebra. The exam should be taken at the first opportunity after completing Real Analysis I and II (MATH 743 and 843) and Numerical Linear Algebra (MATH 751).

A student who does not pass on the first attempt may be permitted to take the exam a second time. A person who retakes the exam must retake the entire exam. The exam may be retaken only once.

PhD Committee: Upon the student passing the qualifying exam, the graduate coordinator, in consultation with the student, recommends to the departmental PhD Advisory Committee a PhD committee for the student. The student's PhD committee consists of the student's dissertation advisor as chair and four other members. At least one, but no more than two, of the committee members shall be from departments outside the Department of Mathematics and Statistics. Within one semester after passing the qualifying exam the student should submit a Plan of Study to the committee for approval. This committee serves as examining committee for both the preliminary and final exams.

Preliminary Exam: The preliminary exam covers specific topics relevant to the student's research area as determined by his or her PhD committee. The student must meet as soon as possible with the committee to set the topics to be covered. For full-time students, the exam should normally be taken about one year after passing the qualifying exam. Before the preliminary exam is taken, one of the two language requirements must be satisfied. A student who fails the preliminary exam may be permitted to retake the exam if the committee so determines.

Dissertation and Final Exam: Upon passing the examination, the student becomes a candidate for the PhD degree. Soon thereafter the student must submit a written dissertation proposal to his or her committee for approval. While working on the dissertation the student shall enroll for a total of at least 18 hours of PhD Dissertation. The student must be enrolled in the University during the spring semester after admission to candidacy until the completion of the dissertation. After the dissertation is completed, the student must present and defend it before the committee. This defense constitutes the final exam. The dissertation defense is open to the public.

Courses for Graduate/Undergraduate Credit
Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

MATH 501. Elementary Mathematics (3). A study of topics necessary to an understanding of the elementary school curriculum, such as set theory, real numbers, and geometry. Not for major or minor credit. Prerequisites: elementary education major and MATH 111 or equivalent with C or better or departmental consent.

MATH 511. Linear Algebra (3). An elementary study of linear algebra, including an introduction to linear transformations and matrices over finite dimensional spaces. Prerequisites: MATH 243 with C or better.

MATH 513. Fundamental Concepts of Algebra (3). Defines group, ring, and field and studies their properties. Prerequisites: MATH 415 and 511 with C or better or departmental consent.

MATH 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 C or better.

> MATH 531. Introduction to the History of Mathematics (3). General education issues and perspectives course. Studies the development of mathematics from antiquity to modern times. Solves problems using the methods of the historical period in which they arose. Requires mathematical skills. Prerequisites: MATH 511 and two additional courses at the 500 level or above, with C or better in each.

MATH 545. Integration Techniques and Applications (3). Studies the integration techniques used in applied mathematics. Includes the standard two-dimensional Riemann integral, line and surface integrals, Green's Theorem, Stokes' Theorem, and the Divergence Theorem. Also includes the study of improper integrals with application to special functions. Prerequisite: MATH 344 with C or better.

MATH 547. Advanced Calculus I (3). Covers the calculus of Euclidean space including the standard results concerning functions, sequences, and limits. Prerequisites: MATH 344 and 415 with C or better in each.

MATH 551. Numerical Methods (3). Approximating roots of equations, interpolation and approximation, numerical differentiation and integration, and the numerical solution of first order ordinary differential equations. Some computer use. Prerequisites: MATH 344 and 451 with C or better or departmental consent.

MATH 553. Mathematical Models (3). Covers case studies from the fields of engineering technology and the natural and social sciences. Emphasizes the mathematical involved. Each student completes a term project which is the solution of a particular problem approved by the instructor. Prerequisite: MATH 344 with C or better or departmental consent.

MATH 555. Differential Equations I (3). A study of first order equations including separation of variables and exact equations; second order equations including the general theory of linear equations, constant coefficients, underdetermined coefficients, variation of parameters, and special methods for solution using power series and the Laplace transform methods. A standard course in differential equations for students in the sciences and engineering. Credit not allowed in both MATH 550 and 555. Prerequisite: MATH 243 with C or better or departmental consent.

MATH 580. Selected Topics in Mathematics (3). Topic chosen from topics not otherwise represented in the curriculum. May be repeated up to a maximum of 6 hours credit with departmental consent. Prerequisite: departmental consent.

MATH 615. Elementary Number Theory (3). Studies properties of the integers by elementary means. Prerequisites: MATH 344 with C or better or departmental consent.

MATH 621. Elementary Geometry (3). Studies Euclidean geometry from an advanced point of view. Prerequisite: MATH 344 with C or better or departmental consent.

MATH 640. Advanced Calculus II (3). A continuation of MATH 547. Prerequisites: MATH 511 and 547 with C or better in each.
MATH 655. Differential Equations II (3). A continuation of MATH 555 (but with more emphasis on theoretical issues) that covers higher order differential equations, systems of first order equations (including the basics of linear algebra), some numerical methods, and stability and behavior of solutions for large times. Prerequisite: MATH 555 with C or better or departmental consent.

MATH 657. Optimization Theory (3). Introduces selected topics in linear and nonlinear optimization. Develops the revised simplex method along with a careful treatment of duality. Then extends the theory to solve parametric, integer, and mixed integer linear programs. Prerequisite: MATH 511 with C or better.

MATH 690. Introduction to Mathematical Logic (3). An axiomatic development of elementary mathematical logic through first-order logic culminating in theories of completeness and consistency. Investigates connections with Boolean algebra, formal languages, and computer logic. Prerequisite: MATH 415 or 511 with C or better or departmental consent.

MATH 713. Abstract Algebra I (3). Treats the standard basic topics of abstract algebra. Prerequisite: MATH 513 with C or better or departmental consent.

MATH 714. Applied Mathematics (3). A study of mathematical techniques applicable to physics and other sciences. Instructor selects topics, such as power series, infinite products, asymptotic expansions, WKBJ method, contour integration and residue methods, integral transforms, Hilbert spaces, special functions, and integral equations. Prerequisite: MATH 555 or instructor's consent.

MATH 720. Modern Geometry (3). Examines the fundamental concepts of geometry. Prerequisite: MATH 513 with C or better or departmental consent.

MATH 725. Topology I (3). Studies the results of point set and algebraic topology. Prerequisite: MATH 547 with C or better or departmental consent.

MATH 743. Real Analysis I (3). Includes a study of the foundations and analysis of the real number system. Prerequisite: MATH 640 with C or better or departmental consent.

MATH 745. Complex Analysis I (3). Studies the theory of analytic functions. Prerequisite: MATH 640 with C or better or departmental consent.

MATH 750. Workshop (1-3). Topics appropriate for mathematics workshops that are not in current mathematics courses. May be repeated to a total of 6 hours credit with departmental consent.

MATH 751. Numerical Linear Algebra (3). Includes analysis and computer programs for direct and iterative methods for the solution of systems of linear equations, linear least squares problems, eigenvalue problems, and analysis, and reduction by orthogonal transformations. Prerequisites: MATH 511, 547, and 551 with C or better in 511 or departmental consent.

MATH 753. Ordinary Differential Equations (3). Covers existence, uniqueness, stability, and other qualitative theories of ordinary differential equations. Prerequisite: MATH 545 or 547 with C or better or departmental consent.

MATH 755. Partial Differential Equations I (3). Studies the existence and uniqueness theory for boundary value problems of partial differential equations of all types. Prerequisite: MATH 547 with C or better or departmental consent.

MATH 757. Partial Differential Equations for Engineers (3). Includes Fourier series, the Fourier integral, boundary value problems for the partial differential equations of mathematical physics, Bessel and Legendre functions, and linear systems of ordinary differential equations. Prerequisite: MATH 555 with C or better.

MATH 758. Complex and Vector Analysis for Engineers (3). A survey of some of the mathematical techniques needed in engineering including an introduction to vector analysis, line and surface integrals and complex analysis, contour integrals, and the method of residues. Not applicable toward a graduate degree in mathematics. Prerequisite: MATH 555 with C or better.

Courses for Graduate Students Only:

MATH 813. Abstract Algebra II (3). A continuation of MATH 713. Prerequisite: MATH 713 or equivalent.

MATH 818. Selected Topics in Number Theory (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.

MATH 825. Topology II (3). A continuation of MATH 725. Prerequisite: MATH 725 or equivalent.

MATH 828. Selected Topics in Topology (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.

MATH 829. Selected Topics in Geometry (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.

MATH 839. Selected Topics in Foundations of Mathematics (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.

MATH 843. Real Analysis II (3). A continuation of MATH 743. Prerequisite: MATH 743 or equivalent.

MATH 845. Complex Analysis II (3). A continuation of MATH 745. Prerequisite: MATH 745 or equivalent.

MATH 848. Calculus of Variations (3). Includes Analytic geometry, variational methods, and applications to problems of dependence on the theory of functional analysis. Prerequisite: MATH 547 or 757.

MATH 849. Selected Topics in Analysis (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.


MATH 852. Numerical Analysis of Partial Differential Equations (3). Includes analysis of algorithms for the solution of initial value problems and boundary value problems for systems of PDEs with applications to fluid flow, structural mechanics, electromagnetic theory, and control theory. Prerequisite: MATH 751.

MATH 854. Tensor Analysis with Applications (3). After introducing tensor analysis, considers applications to continuum mechanics, structural analysis, and numerical grid generation. Prerequisite: MATH 545 or 757.


MATH 857-858. Selected Topics in Engineering Mathematics I and II (3-3). Advanced topics in mathematics of interest to engineering students, including tensor analysis, calculus of variations and partial differential equations. Not applicable toward the MS in mathematics.

MATH 859. Selected Topics in Applied Mathematics (2-3). Repeatable with departmental consent.

MATH 880. Proseminar (1). Oral presentation of research in areas of interest to the students. Prerequisite: major standing.

MATH 881. Individual Reading (1-5). Repeatable up to a maximum of 6 hours credit with departmental consent. Prerequisite: departmental consent.

MATH 885. Thesis (1-4). May be repeated to a maximum of 6 hours credit. Prerequisite: departmental consent.

MATH 941-942. Applied Functional Analysis I and II (3-3). Introduces functional analysis and its applications. Prerequisites: MATH 843 and 755 (MATH 755 may be a corequisite).

MATH 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.

MATH 952. Advanced Topics in Numerical Analysis (3). Advanced topics of current research interest in numerical analysis. Topics chosen at instructor's discretion. Possible areas of concentration are numerical methods in ordinary differential equations, partial differential equations, and linear algebra. Prerequisites: MATH 751, 851, and instructor's consent.
MATH 958 & MATH 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.

MATH 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. Prerequisites: must have passed the PhD qualifying exam and instructor's consent.

MATH 985. PhD Dissertation (1-9). Repeatable to a maximum of 24 hours. Prerequisite: must have passed the PhD preliminary exam.

Statistics (STAT)

Courses for Graduate/Undergraduate Credit

Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

STAT 570. Special Topics in Statistics (3). Covers topics of interest not otherwise available. Prerequisite: departmental consent.

>STAT 571-577. Statistical Methods I and II (3-3). General education further study course. Includes probability models, points and interval estimates, statistical tests of hypotheses, correlation and regression analysis, introduction to nonparametric statistical techniques, least squares, analysis of variance, and topics in design of experiments. Prerequisite: MATH 243 with C or better or departmental consent.

>STAT 574. Elementary Survey Sampling (3). General education further study course. Reviews basic statistical concepts. Covers simple, random, stratified, cluster, and systematic sampling, along with selection of sample size, ratio, estimation, and costs. Applications studied include problems from the social and natural sciences, business, and other disciplines. Prerequisite: any elementary course in statistics, such as STAT 370, SOC 501, or PSY 471 with a C or better.

>STAT 576. Applied Nonparametric Statistical Methods (3). General education further study course. Studies assumptions and needs for nonparametric tests, rank tests, and other nonparametric inferential techniques. Applications involve problems from the social and natural sciences, business, and other disciplines. Prerequisite: any elementary statistics course such as STAT 370, SOC 501, or PSY 471 with a C or better.

>STAT 761. Probability (3). A study of axioms of probability, discrete and continuous random variables, expectation, examples of distribution functions, moment generating functions, and sequences of random variables. Prerequisite: MATH 344 with C or better.

STAT 681-686. Theory of Probability I and II (3-3). The axiomatic foundations of probability theory emphasize the coverage of probability measures, distribution functions, characteristic functions, random variables, modes of convergence, the law of large numbers and central limit theorem, and conditioning and the Markov property. Prerequisites: MATH 743 and STAT 761 or 771.


STAT 764. Analysis of Variance (3). An introduction to experimental design and analysis of data under linear statistical models. Studies single-factor designs, factorial experiments with more than one factor, analysis of covariance, randomized block designs, nested designs, and Latin square designs. Uses computer packages for doing problems. Prerequisites: STAT 571 and MATH 344 and 351 with C or better in each or departmental consent.

STAT 771-772. Theory of Statistics I and II (3-3). An examination of stochastic dependence distributions of functions of random variables, limiting distributions, order statistics, theory of statistical inference, nonparametric tests, and analysis of variance and covariance. Prerequisite: MATH 545 or 547 with C or better or departmental consent.

STAT 774. Statistical Computing I (3). Trains students to use statistical software for statistical modeling and writing technical reports. Provides an introduction to the advantages of computer software packages. Students perform complete statistical analyses of real data sets. Prerequisites: STAT 763 and 764 or departmental consent.

STAT 775. Applied Statistical Methods I (3). Covers selected topics from time series analysis including basic characteristics of time series, autocorrelation, stationarity, spectral analysis, linear filtering, ARIMA models, Box-Jenkins forecasting and model identification, classification, and pattern recognition. Prerequisite: STAT 763 with C or better or departmental consent.

STAT 776. Applied Statistical Methods II (3). Covers selected topics from multivariate analysis including statistical theory associated with the multivariate normal, Wishart and other related distributions, partial and multiple correlation, principal component analysis, factor analysis, classification and discriminant analysis, cluster analysis, James-Stein estimates, multivariate probability inequalities, majorization and Schur functions. Prerequisite: STAT 764 with C or better or departmental consent.

Courses for Graduate Students Only


STAT 872-873. Theory of Linear Models I and II (3-3). An introduction to the theory of linear models and analysis of variance. Includes multivariate normal distribution, distributions of quadratic forms, general linear models, general linear hypothesis, confidence regions, linear and quadratic, intervals, design models (1-factor and 2-factor), analysis of covariance, and components-of-variance models. Prerequisites: MATH 511 and STAT 772.

STAT 875. Design of Experiments (3). A study of basic concepts of experimental design which include completely randomized design, randomized block design, randomized complete block design, factorial experiments, confounding, split-plot designs, incomplete block designs, and intra- and inter-block information. Prerequisite: STAT 752 or 772.

STAT 876. Nonparametric Methods (3). An introduction to the theory of nonparametric statistics. Includes order statistics, tests based on runs of data, goodness of fit, rank order statistics, one-, two-, and k-sample problems, rank order statistics, measure of association for bivariate samples, and asymptotic efficiency. Prerequisite: STAT 772.

STAT 877. Multivariate Statistical Methods (3). Elementary theory and techniques of analyzing multidimensional data; covers Hotelling's T2, multivariate analysis of variance, principal components analysis, linear discriminant analysis, canonical correlation analysis, and analysis of categorical data. Prerequisites: MATH 511 and STAT 772.

STAT 878. Special Topics (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.

STAT 879. Individual Reading (1-5). Prerequisite: departmental consent.

STAT 881. Statistical Computing II (3). Teaches special graphics and numerical methods needed in the analysis of statistical data. Includes advanced simulation techniques, numerical methods for linear and nonlinear problems, analysis of missing data, smoothing and density estimation, projection pursuit methods, and graphics techniques. Prerequisites: MATH 751 and STAT 772 with C or better or departmental consent.

STAT 971 & STAT 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.

STAT 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 PhD qualifying exam and instructor's consent.
Modern and Classical Languages and Literatures

Graduate Faculty

Professors: Pedro Bravo-Elizondo, Dieter Saalmann (chairperson), Gary Toops

Associate Professors: Wilson Baldridge, John Koppenhaver, Eunice Myers, Brigitte Roussel

Assistant Professors: Patrick E. Kehoe

French (FREN)

Although a complete graduate program is not available currently in French, the following courses may apply toward a master's degree if approved in advance of enrollment by the student's advisor, the chairperson of the Department of Modern and Classical Languages and Literatures, and the dean of the Graduate School.

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 LAS literature requirement.

FREN 505. French Phonetics (3). 28; 1L. Cross-listed as LING 505. Includes articulatory phonetics, phonemics, sound/symbol correspondences, dialectal and stylistic variations. Required for future French teachers. Prerequisite: any 200-level course or departmental consent.

FREN 515. Major Topics in French (1-4). Special studies in (a) language, (b) literature, (c) commercial French, (d) language laboratory, (e) music, (f) composition, (g) problems in teaching French, (j) civilization, (k) translation, (l) conversation, and (m) phonetics. Repeatable for credit. Prerequisite: departmental consent.

FREN 525. Advanced French Conversation (3). Designed to increase proficiency in spoken French. Assignments include oral reports, dialogues, and work in the language laboratory. Prerequisite: FREN 304 or departmental consent.

FREN 526. Advanced French Composition and Grammar (3). Emphasizes theme writing, original compositions, and detailed study of modern French grammar. Prerequisite: FREN 324 or departmental consent.

FREN 540. French Literature in English Translation (3). Topic varies. May be used to satisfy the LAS literature requirement and may count toward a French major or minor if readings and papers are done in French.

FREN 541. French Literature of Africa and the Caribbean in English Translation (3). A study of the concept of Negritude through the works of major contemporary African and Caribbean writers. No knowledge of a foreign language is necessary. May be used to satisfy the LAS literature requirement and may count toward a French major or minor if readings and papers are done in French.

FREN 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, social evolution, and intellectual traditions. Interdisciplinary course complements studies in French language and literature. Class work and required readings are in French. Prerequisite/corequisite: FREN 300.

FREN 552. Contemporary French Civilization (3). Emphasizes the major events, themes, ideas, trends, and movements in French civilization since the Revolution. Interdisciplinary course complements French language and literature courses. Class work and readings are in French. Prerequisite/corequisite: FREN 300.

FREN 623. Seminar in French (3). Seminar in French literature, language, or civilization. Prerequisite: FREN 300. Repeatable for credit.

FREN 630. Renaissance French Literature (3). Analyzes and discusses major French works, 1500-1600. Prerequisite: FREN 300.

FREN 631. 17th Century French Literature (3). Prerequisite: FREN 300.

FREN 632. 18th Century French Literature (3). Prerequisite: FREN 300.

FREN 633. 19th Century French Literature (3). Prerequisite: FREN 300.

FREN 634. 20th Century French Literature 1900-1945 (3). Analyzes and discusses major works of French fiction, poetry, and drama from the Belle Epoque through World War II. Prerequisite: FREN 300.

FREN 635. Introduction to Romance Language Linguistics (3). Cross-listed as LING 635 and SPAN 635. An introduction to the historical phonology and morphology of the romance languages emphasizing French and Spanish. Prerequisite: departmental consent.

FREN 636. Contemporary French Literature (3). Analyzes and discusses major works of French fiction, poetry, and drama, 1945-present. Prerequisite: FREN 300.

FREN 725. French Composition and Stylistics (3). Offers background in rhetoric and stylistics as an approach to literary models, with a view to developing the creative use of style together with grammatical accuracy in writing. Practice in revision forms the basis of this course. Prerequisite: FREN 526 or departmental consent.

FREN 750. Workshop in French (2-4). Repeatable for credit.

German (GERM)

Although a complete graduate program is not available currently in German, the following courses may apply toward a master's degree if approved in advance of enrollment by the student's advisor, the chairperson of the Department of Modern and Classical Languages and Literatures, and the dean of the Graduate School.

Courses for Graduate/Undergraduate Credit

GERM 524. Advanced German Conversation and Composition (3). Prerequisite: GERM 524 or instructor's consent.

GERM 650. Directed Studies in German (1-3). Enrollment in any of the areas listed takes place only upon consultation with the department and agreement of the instructor concerned: (a) introduction to the study of German literature; (b) survey I: from the medieval period through the Age of Goethe; (c) survey II: 19th century to 1945; (d) contemporary literature, including the literatures of East and West Germany, 1949-1989; (e) special topics in literature, repeatable once for credit; (f) special topics in language, repeatable once for credit. Prerequisite: GERM 344 or instructor's consent.

GERM 751. German Civilization since the Middle Ages (3). Survey of German civilization from the Middle Ages to the present. Emphasizes the social, political, historical and intellectual evolution of the German-speaking countries. Special attention paid to the foundation of the German Reich in 1871, World War I, the Weimar Republic, National Socialism and the Holocaust, the creation of the Federal Republic and the German Democratic Republic in 1949, and the unification process initiated in 1989. Prerequisite: GERM 441Q or departmental consent.

GERM 752. German Literature from the Eighteenth Century to the Present (3). The following offerings available: a) Genre Studies: novel, novella, prose, and poetry; b) Literary Movements: storm and stress, classicism, romanticism, realism, fin de siècle, expressionism, post-1945 literary trends; c) Major Authors: e.g., Goethe, Schiller, Rilke, Kafka, Boll, Grass, Wolf; d) Special Topics: intellectual life in Weimar Germany, literature and exile, literature in film, writers in East and West Germany. Two literatures? Prerequisite: GERM 650 or departmental consent.

Greek (Ancient Classical) (GREEK)

Although a complete graduate program is not available currently in Greek, the following courses may apply toward a master's degree.

Courses for Graduate/Undergraduate Credit

GREEK 515. Special Studies in Greek (1-4). Topic announced by instructor. Repeatable for credit. Prerequisite: GREEK 224 or instructor's consent.
GREEK 532. Advanced Greek (3). Thucydides. Prerequisite: GREEK 531.

Latin (LATIN)
Although a complete graduate program is not available currently in Latin, the following courses may apply toward a master's degree.

Courses for Graduate/Undergraduate Credit
LATIN 224 or departmental consent is the prerequisite for all upper-division courses.


LATIN 541. Roman Lyric Poetry (3). The lyric poems of Catullus and Horace emphasizing imagery, symbolism, structure, diction, and meter.

LATIN 542. Vergil's Aeneid (3). Selected books of the Aeneid in the original and in the rest in translation. Studies imagery, symbolism, structure, meter, and diction. Considers the place of the Aeneid in Augustan Rome and in the epic tradition.

LATIN 543. Roman Drama (3). A study of Roman comedy and tragedy, their Greek background, and their influence on European literature. Includes selected plays of Plautus, Terence, and Seneca, some in the original and some in translation.

LATIN 546. Advanced Latin (3). Directed reading of Latin. Reading may be combined with Latin prose composition at the option of the student. Repeatable for credit when content varies.


LATIN 652. Cicero (3). The orations, letters, and essays of Cicero. Concentrates on Cicero as the master of Latin prose and as one of the most important political figures of the fall of the Roman Republic.

LATIN 653. Lucretius and Epicureanism (3). Reading of Lucretius' De Rerum Natura and study of Epicureanism, the atomic theory, and Democritian materialism. Gives consideration to the place of Lucretius in Latin poetry.

Modern and Classical Languages and Literatures (MCLL)

Course for Graduate/Undergraduate Credit
MCLL 661. Language and Culture (3). Cross-listed as ANTH 651 and LING 651. An introduction to the major themes in the interactions of language and society and language and culture, including ethnography of communication, linguistic relativity, and determinism; types of language contact; the linguistic repertoire and cross-cultural discourse analysis. Content may vary with instructor. Prerequisite: 3 hours of linguistics or MCLL 351 or 6 hours of anthro.

Russian (RUSS)
Although a complete graduate program is not available currently in Russian, the following courses may apply toward a master's degree.

Courses for Graduate/Undergraduate Credit
RUSS 505. Russian Phonology (2). Cross-listed as LING 505. Corrective pronunciation and auditory perception for non-native speakers of Russian. Includes articulatory phonetics, phonemics, and phonemic structures, as well as the study and production of intonation contours (intonation and intonation contour). Prerequisite: any 200-level course or instructor's consent.

RUSS 515. Special Studies in Russian (1-3). Advanced reading and translation in Russian social sciences, literature, and civilization. Repeatable for credit. Prerequisite: departmental consent.

Spanish (SPAN)

Master of Arts and Areas of Specialization
The Department of Modern and Classical Languages and Literatures offers courses of study leading to the Master of Arts (MA) degree in Spanish. This degree program allows for specialization in Spanish language and literature and in Spanish-American literature.

Admission Requirements
Admission to the program requires the completion of 24 hours of undergraduate Spanish, 8 hours of which were on the junior-senior level (12 hours advanced for native speakers), and a 3,000 GPA in Spanish.

Degree Requirements
The MA degree in Spanish requires the completion of 32 semester hours beyond the BA degree, including at least two seminars—SPAN 623, 831, or 832—that require research papers. Of these hours, 20 must be in courses numbered 620 or above.

Each program may include up to 9 hours of related fields and at least 23 hours of Spanish, including SPAN 526 and three of the following survey courses—351, 522, 620, 621—if their equivalents were not taken as undergraduate courses.

A candidate for a degree must pass SPAN 526 or an equivalent course with a B or better at either the undergraduate or graduate level.

Related fields typically include another foreign language; art; English, American, and foreign literatures; Latin American history; or geography. All related field courses must be approved by the chairperson of the Department of Modern and Classical Languages and Literatures or the graduate coordinator.

Special recommendation is strongly made that all MA candidates in Spanish earn a minimum of 4 hours of transferable credit in a university located in a Spanish-speaking country.

Examinations
Before the MA degree in Spanish is granted, all candidates must pass written and oral comprehensive examinations over reading lists in three areas of specialization of their choice and prove by written examination a reading knowledge of a second foreign language.

Courses for Graduate/Undergraduate Credit
Upper-division courses are given on a rotating basis. SPAN 300 is a prerequisite for all upper-division literature and civilization courses, unless otherwise indicated. All literature courses, including SPAN 223 and 300, may fulfill the general education literature requirement.

SPAN 505. Spanish Phonetics (2). Cross-listed as LING 505. Includes articulatory phonetics, phonemics, sound/symbol correspondences, dialectical and stylistic variations. Required for future Spanish teachers. Prerequisite: any 200-level course or departmental consent.

SPAN 505. Spanish Pronunciation (2). Cross-listed as LING 505. Includes articulatory phonetics, phonemics, sound/symbol correspondences, dialectical and stylistic variations. Required for future Spanish teachers. Prerequisite: any 200-level course or departmental consent.

SPAN 525. Spanish Conversation III (2). Increases proficiency in spoken Spanish. Assignments include oral reports and dialogues. Prerequisite: SPAN 325 or departmental consent.

SPAN 525. Spanish Literature (1-3). Special studies in (a) language, (b) literary reports, (c) commercial Spanish, (d) language laboratory, (e) music, (f) composition, (g) contemporary topics, (h) advanced conversation. Repeatable for credit. Prerequisite: departmental consent.

 SPAN 526. Advanced Spanish Grammar and Composition (3). Prerequisite: SPAN 220 or departmental consent.

SPAN 531. Survey of Spanish Literature (3). Main currents of Spanish literature from 1700 to the present. Prerequisite: SPAN 300 or departmental consent.

SPAN 532. Survey of Spanish Literature (3). Spanish literature from the beginning to 1700. Prerequisite: SPAN 300 or departmental consent.

SPAN 534. Contemporary Spanish Theater (3). Prerequisite: SPAN 300 or departmental consent.

SPAN 536. Contemporary Spanish Novel (3). Prerequisite: SPAN 300 or departmental consent.

SPAN 540. Contemporary Spanish Literature in English Translation (3). Content may vary from semester to semester, including Spanish and/or Latin-American literature. No knowledge of a foreign language is necessary. May be used to satisfy the general education literature requirement and may count toward a Spanish major or minor if readings and papers are done in Spanish and prerequisite of SPAN 300 is met. Repeatable for credit.

SPAN 550. S Spanish of the Cultural d modern era and the on the language and cultural history.

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SPAN 552. Business Spanish (3). Provides the opportunity to learn and practice commercial correspondence, business vocabulary, translation, and interpretation of business texts. Prerequisite: SPAN 526.

SPAN 557. Literary and Technical Translating in Spanish (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.

SPAN 620. Survey of Latin-American Literature (3). Main currents of Latin-American literature, 1500-1800. Prerequisite: SPAN 300 or departmental consent.

SPAN 621. Survey of Latin-American Literature (3). Main currents of Latin American literature, 1800-present. Prerequisite: SPAN 300 or departmental consent.

SPAN 622. Special Studies in Spanish (1-4). Topic for study chosen with aid of instructor. Repeatable for credit. Prerequisite: instructor's consent.

SPAN 623. Seminar in Spanish (1-5). Seminar in Spanish literature, language, or civilization. Repeatable for credit. Prerequisite: SPAN 300.

SPAN 625. Contemporary Latin-American Novel (3). Prerequisite: SPAN 300 or departmental consent.

SPAN 626. Spanish Civilization (3). Intensive study of Spanish culture, including historical and geographical factors in its development and its contributions to world civilization. Prerequisite or corequisite: SPAN 300 or departmental consent.

SPAN 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. Prerequisite or corequisite: SPAN 300 or departmental consent.

SPAN 631. Latin-American Short Story (3). Study of the Latin-American writers in contemporary Latin-American literature. Prerequisite: SPAN 300 or departmental consent.

SPAN 635. Introduction to Romance Linguistics (3). Cross-listed as FREN 635 and LING 635. An introduction primarily to the historical phonology and morphology of the Romance languages emphasizing French and Spanish. Prerequisite: departmental consent.

SPAN 640. Mexico: Its People and Culture (3). Study of the cultural development of Mexico, exploring the legacy of ancient cultures and the Spanish encounter in areas such as literature, the arts, music, and film industry. Prerequisite: SPAN 300 or departmental consent.

SPAN 650. South America: Its People and Cultures (3). Study of the cultural development of South America, exploring the legacy of Indian cultures and the Spanish encounter in areas such as literature, the arts, music, and film industry. Prerequisite: SPAN 300 or departmental consent.

SPAN 750. Workshop in Spanish. (2-4). Repeatable for credit.

Courses for Graduate Students Only

SPAN 801. Spanish Linguistics (3). Historical and structural study of the Spanish language.


SPAN 826. Spanish Grammar and Stylistics (3). Intensive study of advanced grammar and stylistic usage.

SPAN 827. Latin American Civilization and Culture (3). Introduction to historical and cultural development in Latin America, exploring the legacy of the Spanish encounter/colonization. Emphasizes Spanish colonization. Prerequisite: graduate standing.

SPAN 831. Seminar in Spanish Literature (3). (a) Middle Ages, (b) Renaissance, (c) Golden Age, (d) Cervantes, (e) modern novel, (f) Generation of 1968, (g) a romanticism, (h) 20th century poetry, (i) criticism, (j) literature, (k) 20th century theatre, and (l) contemporary Spanish novel.

SPAN 832. Seminar in Latin-American Literature (3). (a) colonial period, (b) contemporary novel, (c) short story, (d) poetry, (e) modernism, (f) essay, (g) theater, and (h) Latin-American literature.

Philosophy (PHIL)

Graduate Faculty
Professor: Gerald H. Paske
Associate Professors: Robert Feleppa, A.J. Mandt, Ben F. Rogers, David Soles (chairperson), Deborah H. Soles
Assistant Professor: J.W. Mallory

Although there is no graduate degree in philosophy, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit

PHIL 518. Recent British-American Philosophy (3). Examination of philosophical ideas and movements in recent British and American philosophy. Discusses movements such as logical positivism, pragmatism, ordinary language philosophy, and analytic philosophy. Readings are selected from figures such as Russell, Wittgenstein, F. P. H. Quine, and Mill.

PHIL 519. Empiricism (3). A study of the philosophical views that emphasize sensory experience rather than reasoning as a source of knowledge with particular attention to the philosophies of Hobbes, Locke, Berkeley, Hume, and Mill.

PHIL 540. Theory of Knowledge (3). A critical examination of the nature of knowledge and of the philosophical problems concerning skepticism, knowledge of the self, material objects; other minds; the past, present, and future; universals; and necessary truths. Includes selections from both historical and recent writings. Prerequisite: one course in philosophy.

PHIL 546. Rationalism (3). A study of the philosophical views that emphasize reason rather than sensory experience as the source of knowledge with particular attention to the philosophies of Descartes, Spinoza, and Leibniz.

PHIL 549. Topics in Ancient Philosophy (3). Explores one or more significant issues in the philosophy of the Stoics. The examination of one issue may continue 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 issues treated are: the nature of what is, the concept of the soul, the meaning of the self, the relation of integrity 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.

PHIL 550. Metaphysics (3). An exploration of some basic topics in the theory of reality. Includes such notions as space, time, substance, causality, particulars, universals, appearance, essence, and being. Prerequisite: one course in philosophy.

PHIL 555. Philosophy of the Social Sciences (3). Studies such topics as the relations of science with social science and philosophy, methodological problems peculiar to social science, the nature of understanding concepts, and the roles of mathematics and formal theories in social science.


PHIL 590. Special Studies (3). Topic for study announced by instructor. Repeatable for credit. Prerequisite: instructor's consent.

PHIL 699. Directed Reading (2-3). For the student interested in doing independent study and research in a special area of interest. Repeatable for credit. Prerequisite: departmental consent.

Courses for Graduate Students Only

PHIL 605. Business and Morality (3). Critically examines moral issues particularly germane to business. Includes theories of distributive justice, theories of property rights, the role of business as a social institution, employment rights and obligations, environmental issues, and theories of socially
responsible investment practices. Readings from classical and contemporary authors.

PHIL 816. Ethics and Psychology (3). Cross listed as PSY 816. An in-depth analysis of moral issues that arise in the profession of psychology. Provides a detailed familiarization with current moral controversies and develops ethical reasoning skills that will enable one to address new issues as they arise. Representative topics include: informed and voluntary consent, rights of human research subjects, privacy and confidentiality, assessment, conflicts of obligations, ownership of research results, multiple relationships in teaching, research and practice, conflicts between therapeutic and forensic roles, objectivity in research, the nature and boundaries of teaching psychology, etc.

PHIL 850. Directed Reading (3). For the graduate student desiring independent study and research in an area of special interest. May be repeated for credit. Prerequisite: departmental consent.

Physics (PHYS)
Graduate Faculty
Professors: David R. Alexander, Elizabeth C. Behrman, Hussein Hamdeh (graduate coordinator), James C. Ho, Pawan K. Kaboli (chairperson)
Associate Professors: Gerald Lopez, Syed M. Taher, Caroline K. E. Ho (chairperson)
Assistant Professor: Jason Fergusson

Although applications are not being accepted for the M.S. program pending restructuring of the graduate program in physics, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit

*PHYS 501. Special Studies in Physics for Educators (1-3). 3L. A series of courses covering basic physical concepts which provide physical science background for teachers. Repeatable for a maximum of 5 hours. Prerequisite: in-service or pre-service teacher.

PHYS 516. Advanced Physics Laboratory (2). 4L. Experiments in classical and modern physics stressing scientific methods and experimental techniques. The experiments are open-ended projects requiring individual study. Repeatable up to a maximum of 8 credit hours. Corequisite: PHYS 551.

PHYS 517. Electrons Laboratory (2). 1R; 3L. Experiments in electronics that treat some of the applications of electronics in scientific research. Experiments cover the uses of microcircuits, transistors, IC, and digital circuits. Prerequisite: PHYS 314.

PHYS 551. Modern Optics (3). Geometrical and physical optics, coherence theory, and Fourier optics. Additional topics may include radiation, scattering, optical properties of solids, and optical data processing. Prerequisites: PHYS 214 or 314 and MATH 344.

PHYS 600. Individual Readings in Physics (1-3). Repeatable but total credit may not exceed 6 hours for physics majors. Prerequisite: departmental consent.

PHYS 601. Individual Readings in Astrophysics (1-3). Studies several topics in astrophysics, and astrophysics in depth. Lectures, independent readings, and student projects may be assigned. May be repeated up to 6 hours. Prerequisite: instructor's consent.

PHYS 616. Computational Physics Laboratory (2). 1R; 2L. Provides a working knowledge of computational techniques with applications in both theoretical and experimental physics, including a brief introduction to the FORTRAN language. Prerequisites: PHYS 551 and MATH 555.

PHYS 621. Elementary Mechanics (3). Motion of a particle in one and several dimensions, central forces, the harmonic oscillator, and the Lagrangian formulation of mechanics. Prerequisites: PHYS 214 or 314 and MATH 344 with grades of C or better.

PHYS 631. Electricity and Magnetism (3). Direct and alternating currents; electric and magnetic field theory, including an introduction to Maxwell's electromagnetic wave theory. Prerequisites: PHYS 214 or 314 and MATH 344 with grades of C or better.

PHYS 641. Thermodynamics (3). The laws of thermodynamics, distribution functions, Boltzmann equation, transport phenomena, fluctuations, and an introduction to statistical mechanics. Prerequisites: PHYS 214 or 314 and MATH 344.

PHYS 651. Quantum Mechanics (3). Introduction to quantum mechanics, the Schrödinger equation, elementary perturbation theory, and the hydrogen atom. Prerequisite: PHYS 551.

PHYS 681. Solid State Physics (3). A one-semester introduction to solid state physics, which explores and explains—in terms of the microscopic processes that produce them—the thermal, mechanical, and electronic properties of solids. Discusses practical applications and interdisciplinary material. Prerequisite: PHYS 551.

Courses for Graduate Students Only

PHYS 800. Individual Readings (1-3). Repeatable for credit up to 3 hours. Prerequisites: 30 hours of physics and departmental consent.

PHYS 801. Selected Topics in Physics (2-3). Repeatable for credit up to 6 hours. Prerequisite departmental consent.

PHYS 802. Seminar (1). Review of current periodicals; reports on student and faculty research. Repeatable for credit up to 2 hours. Prerequisite: 20 hours of physics.

PHYS 809. Research (1-3). Repeatable for credit up to 6 hours.

PHYS 811. Quantum Mechanics (3). The Schrödinger and Heisenberg formulations of quantum mechanics. Applications include rectangular potentials, central forces, and the harmonic oscillator. Also includes spin, time independent and time dependent perturbation theory. Prerequisites: PHYS 621 and 651 or departmental consent and MATH 555.

PHYS 821. Classical Mechanics (3). The Lagrangian, Hamiltonian, and Hamilton-Jacobi methods of mechanics and an introduction to variational calculus. Applications selected from central forces, rigid bodies, relativity, small oscillations, and continuous media. Prerequisites: PHYS 621 and MATH 555.

PHYS 831. Classical Electricity and Magnetism (3). Maxwell's equations with application to static electricity and magnetism. Also includes electromagnetic fields, vector potentials, Green's functions, relativity, optics, and magneto-hydrodynamics. Prerequisites: PHYS 631 and MATH 555.

PHYS 871. Statistical Mechanics (3). An introduction to the basic concepts and methods of statistical mechanics with applications to simple physical systems. Prerequisites: MATH 555 and PHYS 621.

PHYS 881. Solid State Physics (3). A second course in solid state physics for students who have had an introduction to the subject. Transport, dielectric and optical properties, magnetic properties, superconductivity, and applications to semiconductor devices. Prerequisites: MATH 555, PHYS 651, and 681, or departmental consent.

Political Science (POL S)
Graduate Faculty
Professor: Melvin A. Kahn
Associate Professors: Kenneth Ciboski; David Ericson; James F. Sheffield, Jr. (chairperson)

Although applications are not being accepted for the graduate program in political science, the following courses are available for graduate credit.

Courses for Graduate/Undergraduate Credit

POL S 505. The Politics of Health (3). Shows how governments in the United States make decisions in the health field; describes the political forces shaping public policy in health, and analyzes the arguments for and against an increased governmental role in health.

POL S 523. Government and Politics of Latin America (3). General education further study course. An examination of the political institutions and processes that currently exist in the Latin American republics. Emphasizes the social, economic and psychocultural factors affecting these institutions and processes.

POL S 524. Politics of Modern China (3). General education further study course. Studies China's political system since 1949 in the light of domestic developments and foreign involvements, and the relations between the two. Includes an introduction to the political structure of the People's Republic and its foreign policies. Reading assignments include those on the international problems facing China and the communist countries and China's dealings with the rest of the world.

POL S 547. Congress Process (3)."
Psychology (PSY)

Graduate Faculty
Professors: Charles A. Burdial, Jr. (chairperson); Peter A. Cohen (dean, College of Health Professions); Darwin Dorr; Gary Greenberg; Charles Halcomb; Gregory J. Meissen; Elise R. Shore; James J. Snyder
Associate Professors: Alex Chaparro, Louis J. Madvene, Donald W. Nance, Marilyn L. Turner, Robert D. Zettle (graduate coordinator)
Assistant Professors: Paul D. Ackerman, Darce L. Dat-teri, Rhonda K. Lewis, Daniel S. McConnell

Degrees Offered
The psychology department offers courses of study leading to the Doctor of Philosophy degree. Students may complete requirements for study in human factors psychology, community psychology, or community/clinical psychology.

Admission Requirements
For all students: Appropriate applications for admission should be filed with the dean of the Graduate School and the psychology department by February 1 (community/clinical) or March 1 (human factors and community) for enrollment in the following fall. Of admission or rejection around April 1. Students enrolled in the application cycle must be acquainted with the applicant's academic background, potential, and goals related to academic and professional work. Additional program requirements:

Human Factors: Students must complete the following: PSY 812, Biological and Philosophical Foundations of Psychology; PSY 813, Cognitive/Learning Foundations of Behavior; PSY 814, Personality and Individual Differences; PSY 815, Social/Developmental Foundations of Behavior; PSY 810 and 811, Advanced Research Methods I and II; and Ethics in Psychology (PSY 816). Students in all programs must successfully complete a predoctoral research program (PSY 911) for a minimum of 10 hours before admission to doctoral candidacy. Students taking a qualifying examination upon completion of all required courses. On passing this examination, students can be admitted to doctoral candidacy and begin work on a dissertation. All doctoral degree students are required to complete a dissertation with a minimum of 12 hours of enrollment in PSY 910. The dissertation ordinarily is a major research project which must be preceded by approval of a formal written proposal by the student's dissertation committee. In addition to regular course examinations, all students must pass an oral examination based on their dissertation.

Additional program requirements:

Human Factors: Students must complete the following: PSY 812, Seminar in Human Factors Psychology; PSY 946, Seminar in Motor and Sensory Processes; PSY 947, Seminar in Perception; PSY 921, Philosophical Principles of Human Factors; and PSY 922, Seminar in Software Psychology. To complete the PhD program, a minimum of 90 credit hours (of required courses and electives) is required. Of the electives, 12 credit hours must be courses outside of the Human Factors Program. The program has a calculus tool requirement that must be satisfied before a student is admitted to candidacy. Students must satisfy this requirement by (a) satisfactorily completing a college-level calculus course; (b) demonstrating proficiency on an exam; or (c) providing other evidence of such skills. Students must complete a research internship of 3 hours per semester over a period of two semesters for a total of 6 hours and must enroll in Graduate Research each semester for a total of 15 credit hours. In addition, sufficient electives must be taken to bring the total number of hours to a minimum of 90.

Community: Students must complete the following: PSY 830, Seminar in Community/Clincal Psychology; PSY 931, Seminar in Applied Research Methods in Community Settings; PSY 938, Seminar in Prevention; PSY 937, Seminar in Community and Organizations; and two of the following courses: PSY 935, Seminar in Cognitive-Behavioral Assessment; PSY 930, Advanced Psychopathology; or PSY 936, Seminar in Cognitive-Behavioral Therapy. Community students are required to take a minimum of 12 hours of practicum which includes at least 3 hours of clinical practicum (PSY 932 & PSY 933). In addition, sufficient electives must be taken to bring the total number of hours to a minimum of 90.

Community/Clincal: This program meets the Association of State and Provincial Psychology Boards/National Register of Health Service Providers in Psychology “Guidelines for Defining Doctoral Degree of Psychology.” Therefore, graduates on this designated program who decide to apply for licensing as a psychologist typically will meet the educational requirements for licensing. However, in each jurisdiction, there are may be additional requirements that must be satisfied. For exact information, please contact the state or provincial licensing board in the jurisdiction in which you plan to apply.

Once licensed, graduates are eligible to apply for a credential as a Health Service Provider in Psychology. Graduation from a designated program ensures that the program completed meets the educational requirements for the National Register credential. However, there are additional requirements that must be satisfied prior to being credentialed by the National Register of Health Service Providers in Psychology. For further information, consult the National Register’s web site: http://www.nationalregister.org.

Students must complete the following: PSY 830, Seminar in Community/Clincal Psychology; PSY 935, Seminar in Cognitive-Behavioral Assessment; PSY 930, Advanced Psychopathology; PSY 936, Seminar in Community and Organizations; and two of the following courses: PSY 931, Seminar in Applied Research Methods in Community Settings; PSY 938, Seminar in Prevention, or PSY 937, Seminar in Community and Organizations. Community/Clincal students are required to take a minimum of 12 hours of practicum which includes at least 3 hours of Community practice (PSY 933 & PSY 932). A one calendar year internship is required for all students.

Courses for Graduate/Undergraduate Credit
PSY 502. Comparative Psychology (3). Develops a unified theoretical perspective about the origins of behavior of all animals. Focuses on the evolution and development of behavior. Field trips supplement lectures. Prerequisite: one course from Group 1.

PSY 508. Psychology Tutorial (3). Selected topics in psychology. Repeatable for a maximum of 6 hours credit. Instructor's consent may be required. Check Schedule of Courses. Prerequisite: PSY 111.

PSY 514. Psychology of Health and Illness (3). A survey of the relationships between psychology/behavior and physical health and illness. Includes stress and coping, health habits, symptom perception, health care provider-client relationships, hospitalization, and prevention. May include a self-study of life style and behavior in relation to health and illness. Prerequisite: PSY 111.

PSY 516. Drugs and Human Behavior (3). General education further study course. A survey of the actions and effects of use of legal and illegal psychoactive drugs and the use of prescription drugs in the treatment of psychological disorders. Details social-cultural, personal, and situational deterrents and consequences of drug use and abuse. Prerequisite: PSY 111.
PSY 522. Biological Psychology (3). General education further study course. A review of the biological foundations of behavior. Includes the evolutionary basis of behavior, behavior genetics, a critical analysis of brain behavior relationships, the role of hormones in behavior, and neurochemical correlates of behavior. Prerequisite: PSY 111.

PSY 524. Advanced Psychology of Personality (3). More intensive treatment of the topics of psychology of personality emphasizing contemporary theories, research, and application of the psychological study of personality. Prerequisite: PSY 324.

PSY 526. Psychological Testing and Measurement (3). A critical analysis of the psychological foundations of tests and the interpretation of test findings. Surveys several tests representing the areas of intelligence, personality, normal and abnormal psychology, interests, special abilities, and attitudes to illustrate general principles of testing. Prerequisite: PSY 401.

PSY 532. Psycholinguistics (3). General education further study course. Cross-listed as LING 545. Survey of psychological, linguistic, and information analysis of language. Includes the performance-competence distinction, child development of speech, animal communication systems, and the relation of language to thought. Prerequisite: PSY 111.

PSY 533. U.S. Foreign Policy (3). General education further study course. This course explores the dynamic decision making process in the development of U.S. foreign policy. It examines the variety of actors involved, including the military, the State Department, the President, and others. Bilateral as well as global policy issues are examined.

PSY 534. Psychology of Women (3). General education issues and perspectives course. Cross-listed as WOM 534. Psychological assumptions, research, and theories of the roles, behavior, and potential of women in contemporary society. Prerequisite: PSY 111.

PSY 536. Behavior Modification (3). A study of the basic assumptions, principles, and issues of behavioral approach to helping persons with psychological problems. Includes demonstration and individualized practice in general helping skills as well as individual projects in applying these skills. Prerequisites: PSY 111 and instructor's consent.


PSY 556. Introduction to Clinical Psychology (3). A survey of current ethical, conceptual, and research issues involved in the assessment and treatment of psychopathology. Reviews contemporary psychotherapies emphasizing the relative efficacy of each and the therapeutic mechanisms through which they initiate behavioral change. Prerequisite: PSY 224.

PSY 566. Perspectives on Self-Help Groups (3). Cross-listed as NURS 566 and SCWK 566. Provides an interactive format that constitutes a community resource for health and human service professionals and promotes an interdisciplinary understanding of the nature and diversity of self-help groups for persons with virtually any health problem or personal issue. Reviews contemporary theory and research, explaining the attractiveness and effectiveness of self-help groups. Panels of support group members share their experience with self-help groups on such topics as addiction, cancer, and other illnesses, eating disorders, bereavement, mental illness, and parenting.

PSY 568. Computer Applications to the Behavioral Sciences (3). Introduces computer applications to the behavioral sciences including 1) techniques of analyzing experimental data, 2) statistical applications, 3) interactive computing, 4) "canned" statistical programs, 5) word processing, and 6) other current computer applications. Prerequisites: 9 hours in the social sciences.

PSY 601. Systems and Theories in Psychology (3). Includes behaviorism, Gestalt psychology, and structuralism. Attempts to develop the logical relations of these theories to each other as well as common historical themes and current issues. Prerequisite: 15 hours of psychology including PSY 411 or instructor's consent.

PSY 608. Special Investigation (1-3). Upon consultation with instructor, advanced students with adequate preparation may undertake original research or directed readings in psychological problems. Repeatable for a maximum of 6 credits. Requires consultation with and approval by appropriate advisor prior to registration. Prerequisites: 9 hours in psychology and instructor's consent.

PSY 720. Aerospace Psychology (3). Exploration of the many roles of scientific psychology in aviation and aerospace science. Surveys the research and literature in areas such as psychophysiological aspects of flight, environmental effects on human performance in aviation, aircrew skill requirements and training, pilot workload, cockpit control and display systems, and aviation safety. Prerequisite: 15 hours of psychology or instructor's consent.

PSY 750. Psychology Workshop (1-3). Specialized instruction, using various formats in selected topics and areas of psychology. Graded S/U.

Courses for Graduate Students Only

PSY 810. Advanced Research Methods I (4). 3R; 3L. Part of a two-course sequence aimed at advanced treatment of statistical and research design issues. Statistical methods include analysis of variance, correlation, multiple regression, and multiple comparisons. Design issues include research planning, validity, quasi vs. experimental designs, prediction vs. explanation, and modeling. The associated lab provides basic computer skills for access to the mainframe and some basic training for EXCEL, and SPSS for Windows. Prerequisite: instructor's consent.

PSY 811. Advanced Research Methods II (4). 3R; 3L. Continuation of PSY 810. Statistical techniques emphasized are a continuation of multiple regression, structural analyses including ANOVA, factor analysis, canonical correlation, and discriminant analysis. Includes advanced design issues. The associated lab provides additional computer skills for EXCEL, and SPSS for Windows. Prerequisites: PSY 810 and instructor's consent.

PSY 812. Biological and Philosophical Foundations of Psychology (3). Develops the idea that psychology is a biosocial science. Accordingly, course examines the philosophical foundations of science itself before exploring the biological foundations and contextual nature of psychological science. Readings cover biological factors as they pertain to psychology: evolution, genetics, maturation, functional neuroanatomy, and physiology. Includes critical reviews of genetic determinism, neural localization, and hemispheric specialization. Prerequisite: instructor's consent.

PSY 813. Cognitive/Learning Foundations of Behavior (3). Focuses on how human beings learn, maintain, and modify behavior, and how cognitive knowledge is acquired, maintained, represented, and used. The course serves as an integrated resource of the main issues and the theoretical questions investigated in the psychology of learning and cognition. A basic understanding of classical and instrumental conditioning, and the cognitive processes of memory, language, speech, thought, decision making, and problem solving are provided. Prerequisite: instructor's consent.

PSY 814. Assessment of Personality and Individual Differences (3). Reviews psychometric principles underlying assessment of individual differences in cognition and personality. Major approaches to assessment of normal personality variables are examined. Students self administer several personality instruments and assess a client under supervision. Prerequisite: instructor's consent.

PSY 815. Social and Developmental Foundations of Behavior (3). Examines basic assumptions, theories and methods in social and developmental psychology. Describes and analyzes research concerning the functional significance of social relationships for development and the embeddedness of behavior in social, ecological and cultural contexts, focusing on a number of substantive issues such as person perception and social cognition, affiliation and attachment, socialization and interpersonal interaction, social support and social roles and contexts over the life span. Considers the applications of theories of attachment, attitude change, group functioning and attachment to current social problems. Prerequisite: instructor's consent.

PSY 816. Ethics and Psychology (3). Cross listed as PHIL 816. An in-depth analysis of moral issues that arise in the profession of psychology. Provides a detailed familiarization with current moral controversies and develops ethical reasoning skills that will enable one to address new issues as they arise. Representative topics include: informed and voluntary consent, rights of human research subjects, privacy and confidentiality, assessment, conflicting obligations, ownership of research results, multiple relationships in teaching,
research and practice, conflicts between therapeutic and forensic roles, objectivity in research, the nature and boundaries of teaching psychology, etc.

PSY 820. Seminar in Human Factors (3). Focuses on a sample of contemporary human factors problems through review of current literature and theory. Content changes as new problems attain prominence internationally, but a typical sample might be human factors in the aging population, human factors in airport security and baggage marking, and human factors in third-world industrialization. Prerequisites: completion of 9 hours of Foundations of Psychology doctoral core courses; for doctoral students from other disciplines, instructor’s consent after an interview.

PSY 830. Seminar in Community-Clinical Psychology (3). Introduces basic historical, conceptual, research, methodological, and ethical issues in community-clinical psychology. Examines the responsibilities and roles of psychologists in the promotion of human functioning. Reviews models and determinants of human behavior from individual, developmental, and ecological/contextual perspectives. Details the reciprocal relationship between research and practical applications of psychological knowledge and the application of that knowledge to human psychosocial problems. Prerequisite: instructor’s consent.

PSY 840. Seminar in Environmental Psychology (3). Explores historical, theoretical, and empirical bases of environmental psychology. Presents contemporary models of environmental psychology including the ecological, social, community, and human factors perspectives along with a historical review of the field. Could include behavior-environment congruence, person-environment fit, social impact assessment, social policy, and the prevention of psychosocial problems through environmental intervention. Prerequisite: PSY 815.

PSY 841. Seminar in Motivation and Emotion (3). Intensive study of theory and research in motivational and emotional processes. Prerequisite: instructor’s consent.

PSY 842. Seminar in Psychology of Learning (3). Intensive study of theory and research in learning processes. 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 are included. Prerequisites: PSY 302 and instructor’s consent.

PSY 843. Seminar in Psychotherapy (3). Provides an in-depth description and critical analysis of various theories and methods of psychotherapy, an examination of the efficacy of these therapeutic approaches, and a survey of common issues in psychotherapy, such as process and outcome, and client and therapist variables in the therapeutic process. Prerequisites: PSY 301 and instructor’s consent.

PSY 910. Doctoral Dissertation (1-3). Graded S/U only. Repeatable for credit. Prerequisite: admission to candidacy and instructor’s consent.

PSY 911. Graduate Research (1-3). Individual research. Graded S/U. Prerequisites: advisor’s consent and graduate standing.

PSY 920. Internship in Human Factors Psychology (1-3). Repeatable up to 6 hours. A planned placement experience in an off-campus setting, giving the doctoral human factors psychologist an opportunity to apply the principles of human factors psychology. Prerequisite: advisor’s consent.

PSY 921. Psychological Principles of Human Factors (3). Focuses on the interaction of people with machines and technology in a variety of environments. Provides depth to the topics surveyed in PSY 836 and serves as a means of integrating cognitive, biological, and perceptual psychology in applied settings. Prerequisites: completion of undergraduate course in cognitive psychology or PSY 813; and instructor’s consent after interview for doctoral students from other disciplines.

PSY 922. Seminar in Software Psychology (3). Intensive study of principles and methods of engineering psychology (human factors) applied to the design and evaluation of computer systems. Includes research methods, programming as human performance, programming style, software quality evaluation, organizing the programming team, interactive interface issues, and the design of interactive computer systems. Prerequisite: instructor’s consent.

PSY 930. Advanced Psychopathology (3). An overview of major categories of psychopathology consistent with the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders. Reviews descriptive features of each diagnostic category and information on the clinical course and etiology. Examines differing definitions of psychopathology and paradigmatic approaches to the study of psychopathology. Prerequisite: instructor’s consent.

PSY 931. Applied Research Methods in Community Settings (3). An examination of research methods which are used in community settings to develop and evaluate programs. Regarding program development, there is discussion of different data collection strategies used to assess community needs. Explores a variety of topics related to program evaluation including research design issues, developing criteria of merit, and the politicization of program evaluation. Prerequisite: instructor’s consent.

PSY 932. Internship in Clinical Psychology (1-3). Graded S/U only. A planned year supervised clinical internship at an on-campus site approved by APPIC for training in clinical psychology. Gives the clinical student an opportunity to further develop and employ clinical skills in an applied supervised training setting. Prerequisite: advisor’s consent.

PSY 933. Practicum in Clinical Psychology (1-3). Graded S/U only. An extended period of supervised participation in a clinical setting. Students are supervised in their clinical work with individuals and/or other appropriate settings. Graded S/U only. Prerequisite: advisor’s consent.

PSY 934. Practicum in Community Psychology (1-3). Provides supervised practice working in community-based organizations on such tasks as needs assessment, program development, and program evaluation. Organizational settings may be in the areas of mental health, health, and education. Services may be prevention-oriented, Repeatable for credit. Graded S/U only. Prerequisite: instructor’s consent.

PSY 935. Seminar in Cognitive-Behavioral Assessment (4). Surveys issues of reliability and validity: provides description, critical analysis, and practical clinical use in practice of such psychological assessment methods as interviewing, observation, self-report, and standardized intelligence and personality tests. Focuses upon comprehensive clinical assessment, including integration and reporting of assessment data for treatment planning. Prerequisite: instructor’s consent.


PSY 937. Seminar in Community and Organizational Intervention (4). Graded S/U only. Prerequisite: instructor’s consent.

PSY 938. Seminar in Prevention (3). Reviews the historical, theoretical, and empirical bases of prevention psychology. Presents contemporary models of prevention psychology including the ecological, social, and community mental health perspectives. Could include primary prevention, empowerment, community-based prevention, self-help, social policy, and the prevention of psychosocial problems through environmental intervention. Prerequisite: instructor’s consent.

PSY 940. Development of Abnormal Behavior (3). Considers the descriptive characteristics of abnormal behavior; developmental perspective. Examines the ecological, social-environmental, personal, and genetic/biological contexts and causes of such behavior. Discusses implications for preventive and clinical interventions. Prerequisite: instructor’s consent.

PSY 941. Measurement of Human Performance (3). Develops the logic of fundamental measurement and applies it to human performance from decision to detection. Covers Signal Detection Theory (SDT) and compares it with threshold theory. Demonstrates procedures for assessing both detection and discrimination under both SDT and threshold theory. Develops information measurement and utility theory and
applies it to the transmission and coding of information and
to decision making respectively. Examines measures of work
ability and well-being. Prerequisite: instructor’s consent.

PSY 942. Seminar in Behavioral Development (3). A critical
analysis of the concept of development and of theories of
behavioral development. Prerequisite: instructor’s consent.

PSY 944. Seminar in Consultation (3). Examines theories
and techniques of psychological consultation as applied to
individuals, organizations, and systems. Prerequisite: instruc-
tor’s consent.

PSY 945. Seminar in Current Developments (3). Intensive
study of current issues, techniques, research, and application.
Repeatable for different topics for a maximum of 6 hours.
Prerequisite: instructor’s consent.

PSY 946. Seminar in Motor and Sensory Processes (3).
Focuses on the perceptual control of action. Reviews how the
sensory systems operate with emphasis on vision. Covers
anatomy and physiology of the motor system. Selected exam-
pl.es on how these concepts relate to human factors psycholo-
gy.

PSY 947. Seminar in Perception (3). Intensive study in
theory and research in perceptual processes. Prerequisites: PSY 332, or equivalent, and instructor’s consent.

Public Administration
See Urban and Public Affairs, Hugo Wall School of.

Religion (REL)
Graduate Faculty
Associate Professor: Stuart Jasine

Although there is no graduate program in religion, the
following courses may be taken for graduate credit.

Courses for Graduate/Undergraduate Credit

RELI 790. Independent Study (1-3). For the student who is
capable of doing graduate work in a specialized area of the
study of religion not formally offered by the department.
Repeatable for credit. Prerequisite: departmental consent.

Russian
See Modern and Classical Languages and Literatures.

Social Work (SC WK)
Graduate Faculty
Assistant Professors: Brien Bolin (graduate coordinator), Janice Garnier, Linnea Flynn GlenMaye, Cathleen A. Lewandowski (director)

Master of Social Work
The Master of Social Work (MSW) degree program
has an emphasis in advanced generalist practice and is
designed for people who are interested in entering the
social work profession at an advanced professional level.

MSW Program Mission
The mission of the MSW program at Wichita State
University is to prepare its graduates to be
autonomous advanced generalist social work practi-
tioners within complex, diverse, and ever-changing
metropolitan environments. Emphasis is placed on
developing knowledge and skills for ethical, culturally
competent and socially just and empowering interventions
on all practice levels.

Accreditation Status
WSU’s MSW program is in candidacy for accreditation
through the Council on Social Work Education. Interested
individuals are encouraged to contact the School of Social Work, (316) 978-7250, for current
information on accreditation status.

Licensure
In 1999, the School of Social Work submitted their
curriculum and accreditation materials to the Behav­
ioral Sciences Regulatory Board (BSRB) of Kansas for
review. Based on this review, graduates of the MSW
program are eligible to sit for Kansas’ licensure exam. Interested individuals are encouraged to con­
tact the School of Social Work or BSRB for further
information on social work licensure.

Admission Requirements
Admission to the MSW program requires that the
applicant:
1. Have a baccalaureate degree from an accredited four-year institution(s) acceptable to the Graduate
School.
2. Have evidence of a strong liberal arts back­ground from an accredited college or university prior to
enrollment. Applicants should be knowledgeable
about diverse cultures; social problems; social condi­
tions; and the social, psychological, and biological
determinants of human behavior. Previous course
work should include a solid background in the liberal
arts, as evidenced on the transcript by courses in the
humanities (2), behavioral and social sciences (3),
oral communication (1), written communication (2),
human biology (1), analytical skills (1), and human
diversity (1). Examples of courses in each area are
provided in the admissions materials.
3. Have a cumulative undergraduate grade point
average of 3.0 or better.
4. Have completed applications (to both the MSW
program and the Graduate School) postmarked no
later than January 15 for the following fall semester.

Non-academic Factors for Admission
Non-academic considerations include experiences in
providing social services, references, and personal
narratives. Measures of volunteer as well as paid
experience in social services contribute to candidate
rankings. References are primarily asked to provide
an indication of the applicant’s suitability for entrance
into the profession. Indicators of readiness for gradu­
ate studies and of suitability for the profession are
drawn from descriptions of life experience, motivat­
ion, career goals, and values as described in the appli­
cant’s personal statement and letters of reference.

Admission Procedure
To be reviewed for admission, applicants should do the
following:
1. Request an application packet from the School of Social Work.
2. Submit to the Graduate School the designated
Application for Admission and supporting tran­
scripts.
3. Submit to the School of Social Work by January
15 a completed MSW application, including a per­
sonal statement, three letters of reference, and docu­
mentation of academic work and professional training.

As described in the application materials, appli­
cants should submit their reference letters in sealed
envelopes along with their completed MSW applica­
tion to the School of Social Work. Applicants should
be aware that their records can only be reviewed
when all materials have been submitted and they
have met eligibility requirements. Applicants will be
notified of their admission status by the Graduate
School.

Advanced Standing
The School of Social Work offers an advanced stand­
ing program. Interested applicants must have an
undergraduate degree in social work from a social
work program that is accredited by the Council on
Social Work Education. Advanced standing students
will complete 32 credit hours—29 credits comprising
the advanced generalist concentration curriculum
and 3 credit hours for a bridge course to be taken
during the summer before beginning the core cur­
culum. Students enrolling in the bridge course
must be admitted to the Graduate School prior to
course enrollment. Undergraduate students complet­
ing their bachelor’s degree during the summer must
be enrolled in the course under the Graduate School
Senior Rule option.

Full- and Part-Time Enrollment Options
Applicants choose to apply for either the full-time or
the part-time track. Applicants admitted into the full­
time program enroll in four full-time semesters, con­
sisting of 12-16 hours a semester, not counting sum­
ter semester. Applicants admitted for Advanced
Standing enrollment in two full-time semesters plus one 3­
credit-hour summer bridge course. Applicants admit­
ted into the part-time program must enroll in 6-9
credit hours a semester, with the exception of summer
semester, and complete the degree within four years
or for Advanced Standing students, two years. Courses
are sequential and are generally offered once a
year. Applicants should contact the School of Social
Work for further information on the part-time cur­
culum plan.

Field Practicum Requirements
In addition to classroom work, students enroll in
field practicum. The foundation year practicum consists of 480 clock hours over the course of two semesters. The advanced generalist concentration practicum consists of 700 clock hours over the course of two semesters, for a total of 1,180 clock hours. The MSW program’s Field Practicum Director makes arrangements for field practicum placements.

Transfer of Academic Credit
Transfer of credits from another MSW program will be considered on a case-by-case basis. As a general rule, only courses taken in a Council on Social Work Education accredited Master of Social Work program will be eligible for transfer of credits. The applicants must have received a B or better in the course(s) being considered for transfer. In most instances, transfer of credits will only be granted for first-year foundation courses or electives, if applicable. To Wichita State University’s advanced generalist social work program. Students may transfer up to 6 elective hours from other graduate programs in related fields, if applicable to the advanced generalist specialization and/or content is comparable to WSU’s elective courses outside the Social Work Program. Transfer of elective credit hours must be approved by the assigned advisor and the director of the MSW program at the time of admission to the MSW program.

Life Experience
In accordance with Council on Social Work Education accreditation requirements, academic credit will not be given for life experience or work experience in course work or field practicum.

There will no credit towards the Social Work Degree for prior life or work experiences.

Nondegree Students
Students wishing to enroll in graduate social work courses for continuing education may do so on a space available basis. Nondegree students who then decide to pursue an MSW degree at Wichita State University must go through the normal admission procedures. A maximum of 12 credit hours taken prior to admission to the MSW program can be applied toward the MSW program. Nondegree seeking students who do not have a BSW degree from a CSWE accredited program may not enroll in social work practice classes. Only students admitted into the MSW program may enroll in field practicum courses.

Degree Requirements
The curriculum for the regular MSW program consists of 56 credit hours—42 credits of classroom work and 14 credits of supervised practicum. The curriculum for the advanced standing program consists of 32 credit hours—24 credits of classroom work and 8 credits of supervised practicum. Students must maintain a 3.0 grade point average; a grade of C is the minimum passing grade.

Courses for Graduate/Undergraduate Credit

SC WK 500. Social Welfare Development and Policy Analysis (3). Provides development of analytical frameworks for understanding the processes of policy formation, factors shaping policy decisions, the content of program designs, and the performances of social welfare and policy programs. Examines voluntary and proprietary systems in the development of knowledge and skills for the engagement of complex community resources, the promotion of service innovations, and the shaping of decisions in the arenas of public policy. Emphasizes diverse populations in metropolitan environments. Prerequisites: PUL S 121 or HIST 132, SC WK 300.

SC WK 502. Social Work Interviewing: Strategies and Techniques (4). Introduces the study and practice of interpersonal professional interaction skills within the framework of a social work helping process. Focuses on developing skills in professional observation, communication, interviewing, recording, and reporting. Course is didactic as well as interactive and includes an integrated laboratory component focusing experiential learning. Required for social work majors.

SC WK 512. Social Work Research 1 (3). This course provides an introduction to methods of social work research. Examines both qualitative and quantitative methodologies. Students apply these methods to social work practice. Both qualitative and quantitative methodologies are examined and (3) the foundation for advanced social work research.

SC WK 541. Women, Children, and Poverty (3). General education issues and perspectives course. Cross-listed as WOM S 541. Addresses the problem of poverty among women in the U.S. today, and examines existing and proposed public policies designed to alleviate the problem. Explores theoretical models of poverty policy analysis and the role of values in their formulation and implementation. Discusses issues of age, race, and family, and special attention is given to poverty among Kansas families. Prerequisite: 6 hours of social science.

SC WK 551. Independent Studies (1-3). Individual projects for social work students who are capable of doing independent work in areas of special interest. Repeatability for credit not to exceed 6 hours. Prerequisite: Instructor's consent.

SC WK 560. Person in Society I (3). Provides a beginning theoretical framework within which the integration of prior knowledge can be made regarding physical, mental, and social development of the human being, perspectives on American culture and subcultural variations and their effect on human adaptability in the social environment, and the relationship of these entities to beginning professional social work practice. Prerequisite: School approved human diversity course (3 cr).

SC WK 561. Person in Society II (3). Explores theories and perspectives which explain human behavior in groups, organizations, and communities. Includes application of systems theory to macro and mezzo systems, social interaction theories, group and family dynamics, majority/minority relations, organizational dynamics, community structures, and the effects of discriminatory structures and practices on minority groups and communities in our society. Prerequisite: SC WK 560.

SC WK 566. Perspectives on Self-Help Groups (3). Cross-listed as NURS 566 and PSY 566. Provides an interactive format that constitutes a community resource for health and human service professionals and promotes an interdisciplinary understanding of the nature and diversity of self-help groups for persons with virtually any health problem or personal issue. Issues contemporary theory and research, explaining the attractiveness and effectiveness of self-help groups. Panels of support group members share their experience with self-help groups on such topics as addiction, cancer and other illnesses, eating disorders, bereavement, mental illness, and parenting.


SC WK 602. Generalist Practice II (4). Placement in community social welfare agencies for supervised periods of observation and direct service assignments emphasizing performance of basic practice skills and understanding of the social welfare agency and its role in the community service network. To be taken concurrently with SC WK 601 except by program consent. Prerequisites: SC WK 502 and program consent.

SC WK 603. Generalist Practice III (3). Focuses on developing generalist social work practice knowledge and skills at the organization, administrative, and community levels. Presents macro practice rules and skills along with group and individual practice skills for beginning-level social work interventions with systems of all sizes. Must be taken concurrently with SC WK 605. Prerequisite: SC WK 601.

SC WK 604. Advanced Social Work Research (3). A critical look at practice, services, and professional issues, using social work research. Analyzes current social work practice as well as future directions. Prerequisite: SC WK 512 or an approved research methods course.

SC WK 605. Practicum II (5). Placement in community social welfare agencies for supervised direct service assignments emphasizing formulation of appropriate goals. Includes the selection of various social work roles and in-depth development of techniques and skills common to practice in the social welfare field. Prerequisite: SC WK 602.

SC WK 610. Topics in Social Work (1-3). Selected topics in practice, policy, research, and human behavior in the social environment within a selected field of social welfare.
SC WK 700. Foundations of Generalist Practice I (3). Provides foundation content in the knowledge and skills for empowerment-based generalist social work practice with individuals, families, groups, organizations, and communities. Includes professional role development, communication and interviewing theory, skill development in social work assessment, intervention, and evaluation methods. Corequisite: SC WK 720.

SC WK 702. Foundations of Generalist Practice II (3). Provides continued social work practice foundation content emphasizing generalist knowledge and skill at the group, organizational, community, and societal levels. Emphasizes material on group process and organizational and community leadership in the development of a problem-solving model for work with systems of all sizes. Prerequisite: SC WK 700 or instructor’s consent.

SC WK 710. Micro Human Behavior and the Social Environment (3). Provides theories and knowledge of human bio-psycho-social development and functioning of individuals and families, and of the transaction between individuals and their environment. Presents theoretical perspectives on development over the life span and family functioning. Explores areas of universality and differences across gender, race, ethnicity, class, physical and mental ability, and sexual orientation.

SC WK 712. Macro Human Behavior and the Social Environment (3). Provides theories and content on organizational and community structure, dynamics and change, social movements, large groups, and structural oppression, and provides a theory base for the contextualization of social work practice within diverse environments and macro systems. Emphasizes understanding the needs of minority communities and on understanding change and empowerment strategies which further social justice in communities and organizations. Prerequisite: SC WK 710 or instructor’s consent.

SC WK 716. Social Welfare Development (3). Critical examination of the history of American social welfare institutions, policies, and the social work profession as a context for understanding contemporary social policy issues. Provides the knowledge and skills needed to effectively enact policy in practice with clients, and develop social policy both within their agencies and in the larger political arena. Students develop an appreciation for the profession’s ethical commitment to promote social justice and the general welfare of society and to improve social institutions to meet basic human needs. Prerequisite: program approval.

SC WK 717. Social Welfare Policy and Analysis (3). Surveys social welfare institutions, emphasizing the strengths and weaknesses of programs within the context of the social problems they address. The comparison of these structures and provisions enables the development and use of frameworks for analyzing social policies and evaluating programs in light of the mission of the social work profession; the principles of social and economic justice; and the historical, economic, and political factors which impinge on policy. Content on the effects of policy and social work practice includes the uses of professional roles in shaping the processes of policy formulation in agency and governmental arenas. Prerequisite: SC WK 716.

SC WK 720. Field Practicum I (3). Placement in community social welfare agencies for supervised periods of observation and direct service assignments emphasizing development of basic practice knowledge and skills. Includes developing understanding of the social welfare agency and its role in the community service network. Corequisite: SC WK 700.

SC WK 721. Field Practicum II (3). Requires placement in various community social welfare agencies for supervised periods of observation and direct service assignments emphasizing development of basic practice knowledge and skills. Promotes an understanding of the social welfare agency and its role in the community service network. Corequisite: SC WK 700.

SC WK 730. Graduate Topics in Social Work (1-3). Specialized instruction using a variable format in a social welfare relevant subject.

SC WK 731. Social Work and the Law (3). Students will develop and integrate, advanced generalist framework for interdisciplinary, advanced generalist practice within a legal setting. Students will develop a basic knowledge of the law, the roles social workers play within the legal system and the issue of crime and social justice with respect to race and ethnicity. Students will develop an understanding of how the law shapes and regulates social work practice and the actions of social workers and their clients alike. As legal and social problems are often interdependent, students will develop skill in communicating with attorneys to enhance their effectiveness in resolving clients’ problems.

SC WK 750. Social Work Workshops (1-5). Selected topics: practice, policy, research, and human behavior in the social environment within a selected field of social welfare. Covers specific topics identified by the program in consultation with majors, groups of community practitioners, and area service institutions. Repeatable for up to a total of 6 hours of credit.

SC WK 751. Fundamentals of Social Work Research (3). Provides an introduction to the components of quantitative research design and how research is designed to conduct studies which seek to improve social work practice. Introduces the basic concepts of the social work research process as well as the methods that are employed. Students develop a framework for critically evaluating methods employed in current social work research and the potential benefits of applying these research findings to social work practice. Prerequisite: program approval.

SC WK 760. Advanced Standing Seminar (3). Builds upon the advanced standing student’s knowledge, experience, and skills by integrating social work theory, values, ethics, methodology, and literature. Based in the generalist perspective. Prepares students for the advanced generalist practice course work in the MSW program.

SC WK 799. Directed Study (1-3). Individual study with a focus developed in collaboration with a departmental faculty member. Allows students to pursue and area of special interest. Repeatable for up to 6 credit hours. Prerequisite: departmental consent.

Courses for Graduate Students Only

SC WK 810. Cultural Competency for Advanced Generalist Practice (3). Examines the impact of culture, race, and ethnicity on client/worker interactions. Presents practice theories and interventions for culturally competent advanced generalist practice with different populations. Emphasizes experiential learning of cultural competency skills to provide services cross-culturally. Prerequisite: program consent.

SC WK 816. Advanced Generalist Practice with Multiple Systems (3). Provides a critical examination of theories of practice relevant for advanced generalist practice across systems. Theories include addressing the biological, psychological, social, and spiritual dimensions of human behavior. Emphasizes theories applying to social work intervention with individuals, family systems, and small groups. Prerequisite: program consent.

SC WK 817. Community Empowerment and Social Administration (3). Provides students with advanced generalist knowledge and skills for organizing and empowering communities and managing community-based organizations. Examines the history of community organizing. Focuses on community intervention and administrative skills to meet organizational and community needs. Emphasizes understanding the particular needs of minority communities. Prerequisite: program consent.

SC WK 822. Field Practicum III (4). Placement in community social welfare agencies for supervised periods applying direct and indirect practice. Provides students the opportunity to integrate and apply advanced generalist practice theory within their field experience. Students are required to demonstrate increased knowledge and skills in practice, research, and evaluation across multi-level systems. Requires 350 hours of agency service. Prerequisite: program consent.

SC WK 823. Field Practicum IV (4). Continuation of SC WK 822. Requires 350 hours of agency service. Prerequisite: program consent.

SC WK 832. Social Work Practice in the Schools (3). Conveys an understanding of systematic intervention in schools using various intervention modalities. Focuses on the roles of social workers in schools, including provision of
one college algebra course and at least 15 hours in sociology including an introductory sociology course, one descriptive and inferential statistics course, two research methods courses, and one theory course (similar courses in other fields of study may be substituted at the discretion of the graduate coordinator); 2) three letters of reference from professors who are familiar with the student's undergraduate course work; and 3) a typed, double-spaced statement of purpose (approximately 500 words) articulating the student's area of research interests and academic/career goals.

Degree Requirements
Students pursuing the MA degree in sociology may follow either a thesis or a nonthesis program.

Thesis Program. Students in the thesis program must take a total of 32 hours, including SOC 860, Proseminar-Teaching Sociology; SOC 801, Application of Advanced Statistical Techniques; SOC 812, Advanced Research Methods; SOC 845, Seminar in Sociological Theory; and two 800-level graduate seminars as well as completion of their thesis hour. Sixty percent of the 32 hours must be 700 level or above.

Nonthesis Program. Students in the nonthesis program must take a total of 36 hours, including SOC 860, Proseminar-Teaching Sociology; SOC 801, Application of Advanced Statistical Techniques; SOC 812, Advanced Research Methods; SOC 845, Seminar in Sociological Theory; and two 800-level graduate seminars. SOC 851, Directed-Research, is needed to fulfill this requirement. A total of 60 percent of the 36 hours must be 700 level or above.

Examinations
Students electing the thesis program in sociology must pass an oral defense of the thesis.

Courses for Graduate/Undergraduate Credit


**SOC 501. Sociological Statistics (3).** Generally offered fall semester only. Application of descriptive and inferential statistics to sociological problems. Includes measures of central tendency, dispersion and association, simple linear regression, hypothesis testing, and analysis of variance. Prerequisites: SOC 111, SOC 312, MATH 111 or 331 or equivalent.

**SOC 512. Measurement and Analysis (4).** Generally offered spring semester only. An applied study of the conceptual tools and methodological skills needed to conduct quantitative sociological research. Prerequisites: SOC 111, 312, 501.

**SOC 513. Sociology of Aging (3).** General education further study course. Cross-listed as GERON 513. Analyzes the social dimensions of old age, including changing demographic structure and role changes and their impact on society. Prerequisite: SOC 111.

**SOC 515. Sociology of the Family (3).** General education further study course. Analyzes American family behavior, including the selection of marriage partners, the husband-wife and parent-child relationships, and the relation of these patterns of behavior to other aspects of American society. Prerequisite: SOC 111.

**SOC 516. Sociology of Gender Roles (3).** General education further study course. Cross-listed as WOM 516. Analyzes the institutional sources of male and female roles, the source of changes in these roles, the consequent ambiguities and conflicts. Prerequisite: SOC 111.

**SOC 517. Intimate Relations (3).** Examines the social dimensions of intimacy including an analysis of intimacy in different types of relationships, i.e. romantic, friendship, marriage. Reviews theory and research in the area with a special focus on the place of intimacy in social interaction. Prerequisite: SOC 111.

**SOC 520. Family and Aging (3).** Cross-listed as GERON 520. Analyzes the families and family systems of older people. Emphasis placed on demographic and historical changes, care giving, and intergenerational exchanges and relationships. Prerequisite: SOC 111 or GERON 100 or jr. standing.

**SOC 523. Sociology of Law (3).** Considers the impact of law on society, the role of law in effecting social change, various methods of dispute resolution, and recent research on judicial, legislative, and administrative processes, all with the aim of comparing and evaluating strengths and weaknesses of legal systems, with partial, but not exclusive, emphasis on those societies utilizing the common law. Prerequisite: SOC 111.

**SOC 534. Urban Sociology (3).** General education further study course. Studies the process of urbanization and its influence on the development of cultural and social structures throughout the world. Also discusses social problems associated with urbanization. Prerequisite: SOC 111.

**SOC 537. The Social Consequences of Disability (3).** Cross-listed as GERON 537. An eclectic survey of the social aspects of disability showing the impact of social values, institutions, and policies upon adults with disabilities. Appropriate for both students of sociology and the service professions. Prerequisite: SOC 111.

**SOC 538. Medical Sociology (3).** Analyzes social and cultural factors related to physical and mental illness. Also includes the dynamics of communication and role relationships among patients and medical personnel and sociological research and theory relevant to the health professions. Prerequisite: SOC 111.

**SOC 539. Juvenile Delinquency (3).** General education further study course. The factors related to juvenile delinquency and the measures of treatment and prevention. Prerequisite: SOC 111.
SOC 540. Criminology (3). The extent and nature of criminal behavior and societal reactions to it. Prerequisite: SOC 111.*

SOC 541. Contemporary Corrections (3). Historical and contemporary programs for the treatment of offenders viewed as societal reactions to criminal behavior. Prerequisite: SOC 539 or 540.*

SOC 545. Sociological Theory (3). Generally offered fall semester only. A comprehensive survey of sociological theory, spanning both classical and contemporary theorists relevant to the development of sociology. Prerequisite: 9 hours of sociology.

SOC 598. Internship (1-6). Supervises persons involved in internships or placements in the community where credit can be given. Prerequisite: departmental consent.

SOC 600. Selected Topics in Sociology (3). Study in a specialized area of sociology emphasizing student research projects. Includes deviant behavior, political sociology, and the family. Repeatable for a maximum of 6 hours credit. Prerequisites: SOC 111, instructor's consent, and substantive area course.

SOC 651. Directed Research (3). Gives the student further research skills in an area of special interest. All students are under the direction of a member of the graduate faculty who guides them in developing research skills. Prerequisites: SOC 512 or equivalent and instructor's consent.

SOC 670. Independent Reading (1-3). For the advanced student capable of doing independent work in an area of special interest. Prerequisites: 15 hours of sociology and instructor's consent.

SOC 750. Sociology Workshop (1-3). Provides specialized instruction using a variable format in a sociologically relevant subject.

SOC 781. Cooperative Education in Sociology (1-4). Provides practical experience, under academic supervision, that complements the student's academic program. Consultation and approval by the appropriate faculty advisor are necessary. Graded CrNC only.

*Prerequisite may be waived with departmental consent.

Courses for Graduate Students Only

SOC 801. Application of Advanced Statistical Techniques (3). Usually offered fall semester only. Seminar demonstrates the application of statistical packages via mainframe and personal computers to analyze data and interpret the output. Examines statistical tests from univariate to multivariate. Prerequisite: SOC 501 or departmental consent.

SOC 815. Seminar on the Family (3). Review of recent research on the family and the theoretical implications thereof. Prerequisite: SOC 515 or departmental consent.

SOC 820. Seminar in Social Movements (3). Analyzes the elements in social movements as factors in social and cultural change. Prerequisite: departmental consent.

SOC 825. Seminar in Organizational Analysis (3). Explores selected problems in organizational theory based on major theoretical and empirical approaches, both classical and contemporary. Prerequisite: departmental consent.

SOC 830. Seminar in Stratification and Power Structure (3). Examines different theoretical and methodological approaches to understanding stratification and class analysis. Prerequisite: departmental consent.

SOC 834. Seminar in Urban Sociology (3). Through classical and contemporary readings, course examines issues and concerns of cities in the process of urbanization. Prerequisite: SOC 534 or departmental consent.

SOC 845. Seminar in Sociological Theory (3). Usually offered spring semester only. Examines classical and contemporary sociological theories and focuses on including the application of such theories in students' thesis and nonthesis projects. Prerequisite: SOC 545 or departmental consent.

SOC 847. Seminar in Recent Developments in Sociology (3). Major issues, new theories, new techniques of research, new areas of research, and new applications. Repeatable for credit but not to exceed 6 hours. Prerequisites: 15 hours of sociology and departmental consent.

SOC 851. Directed Project (1-3). A project conducted under the supervision of an academic advisor for the nonthesis option. Requires the completion of a written report and an oral presentation of the research to the faculty. Prerequisite: consent of academic advisor.

SOC 860. Proseminar—Teaching Sociology (1). Usually offered fall semester only. Examines the academic roles of sociologists. Prerequisite: departmental consent.

SOC 870. Independent Reading. (2-3). Advanced systematic reading in a topical area under the tutelage of a member of the graduate faculty. Repeatable for credit not to exceed 6 hours. Prerequisite: departmental consent.

SOC 875-876. Thesis. (3-6).

Spanish
See Modern and Classical Languages and Literatures.

Urban and Public Affairs, Hugo Wall School of

The Hugo Wall School of Urban and Public Affairs is committed to enhancing the quality of public life through high-quality graduate instruction, excellence in applied research, and responsive community service. This focus results not only in an excellent graduate education for students, but also allows a special connection with the community’s needs through research and service. By integrating teaching, research, and service, the school makes a distinctive contribution to Wichita State University's long-standing commitment to Wichita, the surrounding communities, and the region.

The school serves as the academic home for the Master of Public Administration degree, the Center for Urban Studies, and the Kansas Public Finance Center. Through these units, faculty, staff, and students blend teaching, research, and service in the interdisciplinary field of urban and public affairs. The Hugo Wall School offers special opportunities for students interested in urban and public affairs. Students completing the Master of Public Administration degree gain experience through hands-on research and network with practitioners in the field of public administration.

Financial Assistance

The school has two forms of financial aid available to provide students with financial assistance, as well as an opportunity to be directly involved with research and service projects. Financial aid in the form of graduate assistantships and fellowships is awarded competitively on the recommendation of the faculty in the Hugo Wall School of Urban and Public Affairs. Graduate assistantship aid in the Hugo Wall School in instruction, as well as work directly with faculty and professional staff on research and community service projects through the Center for Urban Studies and the Kansas Public Finance Center. Graduate assistants work 20 hours per week with faculty and staff in the school's teaching, research, and public service activities.

The Hugo Wall School has four endowed fellowships available for financial assistance to qualifying graduate students enrolled in the Master of Public Administration degree. These fellowships—the Hugo Wall, George Pyle, Mike Hill, and George Van Riper—are awarded on a competitive basis to students with exemplary records and specific career interests in the field of public administration.
Public Administration (P ADM)

Graduate Faculty
Regents Distinguished Professor of Public Finance: W. Bartley Hildreth
Professors: H. Edward Flontje (director), Hugo Wall School and Center for Urban Studies), Mark A. Glaser, Joseph P. Pisciotte, Samuel J. Yeager (graduate coordinator)
Associate Professors: Nancy McCarthy Snyder, John D. Wang

Master of Public Administration

The Master of Public Administration (MPA) degree program, with instruction in public management, public finance, and public policy, prepares students for positions of leadership in public and nonprofit organizations. The degree is structured to respond to the unique student body of an urban university. The Master of Public Administration program is accredited by the National Association of Schools of Public Affairs and Administration (NASPA).

The Master of Public Administration (MPA) degree program draws upon the methods and perspectives of the social and behavioral sciences, economics, and the humanities. The link between these disciplines and the challenges of public management are emphasized through the use of practitioners in the classroom, policy-relevant research assignments, public affairs seminars, and internships. Teaching faculty, with significant professional experience in state and local government, are engaged in cutting-edge research relevant to public and nonprofit organizations in Kansas. This experience allows faculty to bring relevant perspectives on public management into the classroom.

Graduates of the MPA degree program now hold positions of responsibility in state and local government and in nonprofit agencies throughout the United States and in other countries. Graduates serve as city managers and department heads, program managers, finance directors, budget analysts, management analysts, and agency planners. Although the majority are employed in public service, some graduates of the program have taken positions in the private sector, while still others have pursued additional study in law, doctoral education, or other specializations.

Admission Requirements

Applicants for the degree program must meet the requirements for admission to the Graduate School, including a bachelor's degree from a regionally accredited institution, a grade point average of at least 2.750 based upon the last 60 hours of course work (or nearest semester or term break to this) including any post-bachelor's graduate work. In addition, students should be familiar with basic microcomputer applications such as word processing and spreadsheets.

International students must attain a minimum score of 600 on the Test of English as a Foreign Language (TOEFL).

Degree Requirements

The Master of Public Administration degree consists of 39 graduate hours, taken over at least three semesters of study.

Core Curriculum. All degree candidates are required to complete the eight core courses:
P ADM 702, Research Methods in Public Administration
P ADM 710, Public Sector Organizational Theory and Behavior
P ADM 725, Public Management of Human Resources
P ADM 745, The Environment of Public Administration
P ADM 765, Public Sector Economics
P ADM 802, Quantitative Methods for Public Sector Professionals
P ADM 865, State and Local Government Finance
P ADM 895, Public Decision Making

Areas of Emphasis. In addition to the core, students develop an area of emphasis approved by an advisor. Students may select areas that fit their career interests. Common areas include state and local government management, financial management, and policy analysis.

Internships

Internships are an important part of the MPA program. Pre-service students are encouraged to take an internship which must last at least nine months. Internship (P ADM 890) carries 3 hours of credit and includes attendance at periodic seminars. Intern positions are remunerative and are awarded on a competitive basis. Although placement cannot be guaranteed, the public administration program has an excellent placement record.

Graduate Certificate in Economic Development

This graduate certificate program offers advanced study in economic development by state and local governments. The program enhances students' career opportunities and provides state and local practitioners in economic development an avenue to improve their skills. The four-course sequence includes: P ADM 650, Planning Process; RE 619, Urban Land Development; P ADM 688 or ECON 688, Urban Economics; and P ADM 760, State and Local Economic Development.

Graduate Certificate in Public Finance

This graduate certificate program offers advanced study in public finance. The program enhances students' career opportunities and provides public finance practitioners an avenue to improve their skills. The four-course sequence includes: P ADM 765: Public Sector Economics; P ADM 865: State and Local Government Finance; P ADM 866: Public Financial Management; and P ADM 867: State and Local Government Budgeting.

Successful completion of these certificate requirements is noted on the student's University transcript, and a Graduate Certificate is awarded by Wichita State University. Application for the certificate program requires completion of a bachelor's degree, core prerequisites, and admission to the Graduate School.

Courses for Graduate/Undergraduate Credit

P ADM 501. Integrity in Public Service (3). Cross-listed as CJ 501, GERON 502, and ETHS 501. The course examines the ethical principles of professional and public integrity and how these principles apply to daily life as a member of the community and as an employee of a government or social service agency. Emphasis is on the development of competencies in the areas of professional and personal integrity.

P ADM 550. Workshop (3). Specialized instruction using variable format in relevant urban and public affairs subjects. Repeatable for credit up to 6 hours.

P ADM 560. The Planning Process (3). Cross-listed as POLS 560. The course examines the planning process of urban and public affairs issues. The course is designed to introduce students to the planning process of urban and public affairs issues. The course is designed to introduce students to the planning process of urban and public affairs issues.

P ADM 564. Comparative Public Administration (3). Cross-listed as POLS 564. Studies the administrative system of selected developed and developing countries emphasizing the relationship between administrative institutions and their environmental settings.

P ADM 585. Management in the Nonprofit Sector (3). Examines the management and governance of nonprofit organizations. Includes strategic planning, marketing, and fund-raising, management of financial and human resources (including volunteers), governing structures, and the role of boards.


P ADM 621. Environmental Law (3). Cross-listed as CJ 621 and ETH S 621. An in-depth analysis of emerging federal, state, and local legislation; judicial decisions; and administrative policies in environmental protection. Explores the roles of a variety of governmental agencies and nongovernmental organizations as related to prevention and enforcement processes of environmental protection. Includes issues in the development and implementation of environmental policy. Prerequisite: an approved methods class.

P ADM 625. Computer Applications for Public Policy (3). Cross-listed as CJ 625, ETH S 625, and GERON 625. Familiarizes students with major types of software applications for microcomputers and their use in public policy analysis.

P ADM 651. Dispute Resolution (3). Cross-listed as CJ 651, ETH S 651, and GERON 651. Examines a range of topics including causation, typologies, communications, mediation, arbitration, and dispute resolution techniques. Includes criminal and civil mediation and both intergroup and interorganization relations and dispute resolution techniques. Analyzes case studies.

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

P ADM 700. Urban Affairs (3). A study of the policy issues faced by local government in an urban setting from a multidisciplinary point of view.

P ADM 702. Research Methods (3). Cross-listed as CJ 702, ETH S 702, GERON 702. Acquaints students with applied public policy research methods. Emphasizes locating, collecting, appraising, and utilizing both primary and secondary sources of data of the type used in policy planning, and administrative research. Students must complete several short research projects.

P ADM 710. Public Sector Organizational Theory and Behavior (3). Cross-listed as POL S 710. Reviews the scope of the field of public administration, including a survey of key concepts and schools of thought underlying the field, and examines issues shaping the future development of the field.

P ADM 725. Public Management of Human Resources (3). Cross-listed as POL S 725. Surveys the major areas of management of human resources in the public sector. Includes hiring, training, evaluation, and pay promotion policies. Emphasizes the legal principles governing public personnel management and on the unique merit, equal employment opportunity, productivity, unionization, and collective bargaining problems found in the public sector.

P ADM 745. The Environment of Public Administration (3). Surveys the political and governmental institutions that underlie the practice of public administration. Includes political systems, constitutional authority, legislative process, intergovernmental relations, and government regulation.

P ADM 750. Public Administration Workshops (1-3). Specialized instruction using variable format in a public administration or urban affairs relevant subject. Repeatable for credit.

P ADM 755. Special Topics in Urban and Public Affairs (3). Provides students with an opportunity to engage in advanced study in topics that are of immediate concern and arise only occasionally. Content varies with issues that arise, student needs, and faculty expertise. Directed to Master of Public Administration students. May be repeated if topics are different. Prerequisite: instructor's consent.

P ADM 760. State and Local Economic Development (3). Explores the role of states and local governments and officials in economic development through the use of case studies. Examines financing in economic development from the perspectives of public purpose and community objectives.

P ADM 765. Public Sector Economics (3). Cross-listed as ECON 765. An analysis of fiscal institutions and decision making in the public sector of the American economy, budget planning and execution, taxation, debt, and fiscal policy. Prerequisites: ECON 201 and 202 or instructor's consent.

P ADM 776. State and Local Government Law (3). Explores the legal principles which undergird the foundation of governmental operation and administration.

P ADM 785. Public Works Administration (3). Introduces public works administration and management. Includes discussion of public works professionals; public works organizations and institutions; infrastructure planning, policy, and project analysis; procurement, purchasing, and contract administration; geographic information systems; and transportation, water, waste water, and surface water system construction, maintenance, and replacement.

P ADM 798. Independent Study (1-3). For graduate students to pursue research in areas not normally covered in course work. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

Courses for Graduate Students Only

P ADM 802. Quantitative Methods for Public Sector Professionals (3). Cross-listed as CJ 802 and GERON 802. Uses standard microcomputer statistical software and analysis to introduce statistics and quantification analysis for organizational and policy decision making. Emphasizes the application of statistics and writing with quantitative evidence to real public sector policy questions. Assumes little or no background in statistics and software applications. Prerequisite: either CJ 702, GERON 702, or P ADM 702.

P ADM 825. State and Local Government Administration (3). Examines administrative leadership in state and local government through case study and field experience. Draws on the experience of professional public managers. Designed for students nearing completion of the Master of Public Administration degree and planning careers in public management. Prerequisite: instructor's consent.

P ADM 842. Administration in Local Government (3). Cross-listed as POL S 842. Examines administrative processes and problems in local government, including the role of the professional chief executive. Examines problems from the following: labor-management relations, program evaluation, county government reform, governmental decentralization, citizen participation, grant-in-aid programs, interlocal cooperation, affirmative action requirements, and service contracting. Prerequisite: POL S 317.

P ADM 845. Public Policy Analysis and Program Evaluation (3). Cross-listed as CJ 797. An overview of approaches to public policy analysis and program evaluation. Examines the roles of participants in public policy development, implementation, and evaluation. Explores policy and program functions and their intended and unintended impacts. Focuses on methodologies for collection of data and their use in the assessment of programs and program impacts. Prerequisites: an approved statistics class and an approved methods class.

P ADM 865. State and Local Government Finance (3). Cross-listed as ECON 865, HIST 865, and POL S 865. Analyzes state and local government expenditure and revenue systems; introduces state and local financial administration. Prerequisites: P ADM 765 or instructor's consent.

P ADM 866. Public Financial Management (3). Deals with selected aspects of state and local government financial management. Introduces fund accounting, costing of government services, capital budgeting, debt management, and asset management. Prerequisite: P ADM 865 or instructor's consent.

P ADM 867. State and Local Government Budgeting (3). Cross-listed as POL S 867. Analyzes the development and utilization of the budgetary process in government administration emphasizing the budget in relation to its role in policy formulation and management. Prerequisite: P ADM 865 or instructor's consent.
Courses for Graduate/Undergraduate Credit

WOM S 512. Women and Reform in America, 1830-Present (3). General education further study course. Examines the history of women in the U.S., 1830-present. Focuses especially on their involvement in various social reform activities, efforts which eventually led to work toward equal rights and improved conditions for women.

WOM S 516. Sociology of Gender Roles (3). Cross-listed as SOC 516. Analyzes the institutional sources of male and female roles, the source of change in those roles, the consequent ambiguities and conflicts. Prerequisite: SOC 111.

WOM S 521. Women's Traditional Arts (3). Surveys various art forms which are usually identified as the creative work of women. Using such examples as quilts or other textile arts, students focus not only on the aesthetics of these traditional forms, but also on their historical and social value to the culture.

WOM S 522. Contemporary Women's Art (3). Examines art by women in the contemporary world. Emphasizes the impact of the women's movement on the creative energies and on the career directions and opportunities of these women in the arts.

WOM S 523. Feminist Film Criticism (3). Applies critical methods of analysis from the field of feminist film studies (such as psychoanalysis, ideological critique, close textual analysis, narrative, and genre criticism) to the representation of women in film. Emphasizes historical development of feminist film theory and criticism as it relates to classical Hollywood narrative, film genres, and avant-garde film. Prerequisite: 3 hours of upper-level humanities or 3 hours of upper-level women's studies.

WOM S 532. Women in Ethnic America (3). Cross-listed as ETH S 532 and HST 532. An in-depth, thematic understanding of the historical experiences of women of color across space and time in U.S. history. Employing a female-centered framework of analysis, course explores the intersections of race, class, gender, and sexuality in women's lives.

WOM S 533. Women and the Law (3). Introduces the legal aspects of women's rights, including the equal rights amendment to the U.S. Constitution; right to choose a name; sex discrimination in employment, education, and credit; welfare; and criminal justice. Also considers women in the field of law, such as lawyers and legislators.

WOM S 534. Psychology of Women (3). Cross-listed as PSY 534.

WOM S 535. Literary Images of Women: Diverse Voices (3). Cross-listed as ENGL 535. Explores literature written in English by women of diverse ethnic, racial, class, and other backgrounds as well as of varying sexual orientations, ages, and degrees of physical ability. Analyzes materials as literary works and as expressions of women's differences from one another. Works are selected based on their specific attention to the question of gender as it intersects with other elements of culture. Prerequisites: ENGL 101, 102, and one course in literature.

WOM S 536. Writing by Women (3). Cross-listed as ENGL 536. Explores various genres in critical approaches to literature composed by women writers, especially those whose works have been underrepresented in the literary canon. Genres and time periods covered, critical theories explored, and specific authors studied vary in different semesters.

WOM S 541. Women, Children, and Poverty (3). General education issues and perspectives course. Cross-listed as SOC Wk 541. Addresses the problem of poverty among women in the U.S. today, and examines existing and proposed public policies designed to alleviate the problem. Explores theoretical models of poverty policy analysis and the role of values in their formulation and implementation. Discusses issues of age, race, and family; special attention is given to poverty among Kansas families. Prerequisites: 6 hours of social science.

WOM S 543. Women and Health (3). Cross-listed as Nurs 543. Examines the health of women's movement, focuses on current issues relevant to women and health care, and explores the roles of women in the health care system and as consumers of health care. Examines self-care practices of women and studies ways to promote positive health practices. Open to non-nursing majors.

WOM S 570. Directed Readings (1-3). For students who wish to pursue special reading or research projects not covered in course work. Prerequisite: instructor's consent.

WOM S 580. Special Topics (1-3). Focuses on advanced topics of interest to women's studies.

>WOM S 586. Gender, Race, and Knowledge (3). General education issues and perspectives course. Examines the impact of gender and race on knowledge (understanding of objects, people, events, and activities). Assumes that gender, race, and knowledge are socially constructed categories, concerned with science as a practice of representation. Focuses on the "white masculinist" ideas or beliefs that motivate and affect the practice of academic disciplines. Considers: What is the relationship between the making of masculinity and femininity and science? How are gender and race woven into science and social science and what results? Does the presence of white women and people of color into the sciences and humanities change how they are practiced? Do they produce significantly different understanding about the world? Central premise is that all knowledge emerges from some type of passion or love. What types of passion provide knowledge, knowing, and the known?
WOM S 587. Theories of Feminism (3). Because feminism is not a single ideological stance or perspective, course examines a variety of ideas underlying feminist cultural critiques and visions for social change. Discusses the contribution of women's studies to various academic disciplines. Prerequisites: WOM S 287 and 387, or 6 hours of women's studies courses, or instructor's consent.

WOM S 635. Leadership Techniques for Women (3). Cross-listed as COMM 635. Provides the female student experience in decision making and improves skills in leadership through role playing and exercise in group dynamics.

Courses for Graduate Students Only

WOM S 870. Directed Readings. (2-3). For graduate students to pursue research in areas not normally covered in course work. Repeatable for credit with departmental consent. Prerequisite: instructor's consent.

WOM S 880. Seminar in Women's Studies (3). Intensive study of selected women's studies topics. Seminar discussion, reports, and research project. Previous topics include Advanced Theories of Feminism and Contemporary Women's Fiction. Repeatable for credit with departmental consent. Prerequisite: instructor's consent.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R/2L means 4 hours of lecture and 2 hours of lab.

Women's Studies
Graduate Faculty 2003-2004

Full Membership

Date or dates following title refer to time of initial and successive appointments. Faculty listed have academic rank.


Ahmed, Ikramuddin, Assistant Professor, Mechanical Engineering (2000). BSME, Bangladesh University of Engineering and Technology, 1986; MSME, University of Texas-Austin, 1993; PhD, 1997.

Alagic, Mara, Assistant Professor, Curriculum and Instruction (1999). BA/MA, University of Belgrade, Yugoslavia, 1975; PhD, 1985.

Alexander, David R., Professor, Physics, and Executive Director, Lake Afton Public Observatory (1971). BS, Kansas State University, 1967; AM, Indiana University, 1968, PhD, 1971.


Anderson, Peggy J., Assistant Professor, Curriculum and Instruction (1993). BS, Emporia State University, 1967; MA, University of Kansas, 1979; PhD, Wichita State University, 1993.

Apel, Kenn, Professor and Chairperson, Communicative Disorders and Sciences (2001). BA, San Diego State University, 1981; MA, 1983; PhD, University of Memphis, 1986.

Armstrong, Richard N., Associate Professor, Elliott School of Communication, and Director, Basic Oral Communication Program (1987). BA, Southern Utah University, 1972; MA, Brigham Young University, 1974; PhD, Bowling Green State University, 1978.

Badgett, Barry T., Associate Professor, School of Art and Design (1993). BFA, Virginia Commonwealth University-Richmond, 1985; MFA, Syracuse University, 1990.

Bagai, Rajiv, Associate Professor, Computer Science (1990). MS, Birsa Institute of Technology and Science, 1983; MS, University of Victoria, 1987; PhD, 1990.


Bakken, Linda, Professor, Administration, Counseling, Educational, and School Psychology (1985). BA, Northern Michigan University, 1960; MS, Utah State University, 1979; EdD, Boston University, 1983.


Bannister, Anda, Associate Professor, School of Community Affairs, Criminal Justice Program (1995). BS, University of Illinois, Champaign-Urbana, 1989; MA, Indiana University, Bloomington, 1990; PhD, Michigan State University, 1995.


Becker, John M., Professor, School of Accountancy (2003), and Dean, W. Frank Barton School of Business (2000). BS, Pennsylvania State University, 1977; MBA, Indiana University, 1982; PhD, 1988.

Bechler, Pamela, Interim Chairperson and Associate Professor, Kinesiology and Sport Studies (2000). BS, Pennsylvania State University, 1977, MEd, East Stroudsburg University, 1980; PhD, Indiana University, 1986.


Behrman, Elizabeth, Professor, Physics, and Associate Director, Enzyme Linkage Analysis Program (1990). ScB, Brown University, 1979; MS, University of Illinois, 1981; PhD, 1985.


Bereman, Nancy, Associate Professor, Management (1980). BA, Wichita State University, 1969; MBA, 1974; PhD, University of Minnesota, 1983.

Berna, Donald J., Professor, Anthropology (1968). BA, University of Wisconsin, 1955; PhD, University of Southern California, 1972; MS, University of California-Los Angeles, 1983; PhD, University of California-Los Angeles, 1983.

Bischoff, William, Professor, Geology, and Dean, Fairmount College of Liberal Arts and Sciences (1984). BA, DePauw University, 1979; MS, Northwestern University, 1982; PhD, 1985.

Blake, Donald J., Professor, Anthropology (1976). BA, University of Nebraska, 1969; MA, 1971; PhD, University of Wisconsin-Milwaukee, 1975.

Blok, Larry R., Professor and Associate Chairperson, School of Music (1995). BME, Morehead State University, 1973; MME, 1978; PhD, Communicative Disorders and Sciences, Wichita State University, 1993.

Billing, Dorothy K., Associate Professor, Anthropology (1968). BA, University of Wisconsin, 1955; PhD, University of Southern California, 1972; MS, University of California-Los Angeles, 1983; PhD, University of California-Los Angeles, 1983.


Bravo-Eliozondo, Pedro, Professor, Modern and Classical Languages and Literatures (1975). Universidad Tecnica del Estado, Chile, 1957; MA, Education, Catholic University, Valparaiso, Chile, 1964, MA, University of Iowa, 1971; PhD, 1974.

Brooks, Christopher K., Associate Professor, English (1989). BA, Indiana University, 1977; MA, Indiana University, 1979; PhD, Purdue University, 1987.

Brown, Karen Lee, Associate Professor, Biological Sciences (1982). BA, Miami University-Oxford, Ohio, 1974; MS, 1976; PhD, University of Georgia, 1981.

Bryan, Jeffrey J., Associate Professor, School of Accountancy, and Barton Fellow (1999). BBA, Wichita State University, 1971; JD, Washburn University School of Law, 1980; PhD, Texas Tech University, 1994.


Carroll, Jeri A., Professor and Chairperson, Counseling, Educational, and School Psychology (1980). BA, North Central College, 1968; MS, Trinity University, 1972; PhD, University of Texas Medical School-San Antonio, 1975.
Chaparro, Alex, Associate Professor, Psychology (1996). BS, Florida Institute of Technology, Melbourne, 1984; PhD, Texas Tech University, 1990.

Chaudhuri, Jarna, Professor and Chairperson, Mechanical Engineering (1984). BS, Lady Brabourne College, Calcutta University, 1967; MS, State University of New York, 1975; PhD, Rutgers University, 1982.

Cheng, Jen-Chi, Associate Professor and Chairperson, Economics (1989). BA, National Chengchi University, 1978; MA, National Taiwan University, 1982; PhD, Vanderbilt University, 1989.

Cheraghli, Seyed H., Associate Professor and Bombardier-Leaour Fellow, Industrial and Manufacturing Engineering (1993). BA, Tehran University, Iran, 1978; MS, University of Arizona, 1987; PhD, Pennsylvania State University, 1992.


Chopra, Dharam V., Professor, Mathematics and Statistics (1967). BA, Punjabi University, India, 1950; MA, 1953; MA, University of Michigan, 1961; AM, 1963; PhD, University of Nebraska, 1968.

Chou, Chang-Shing, Professor, Computer Science (1991). BS, Shanghai Teacher's College (China), 1965; MS, University of Texas at Austin, 1984; PhD, 1985.

Chris, Ronald, Professor, School of Art and Design (1976). BFA, Kansas City Art Institute, 1972; MFA, Indiana University, 1974.

Clark, Frances L., Associate Professor, Curriculum and Instruction (1992). BA, Southwestern College, 1966; MSED, University of Kansas, 1971; PhD, 1981.

Claycomb, Vincentia (Cindy) A., Associate Professor, Marketing and Entrepreneurship (1994). BBA, Wichita State University, 1979; MBA, 1991; PhD, Oklahoma State University, 1995.


Cohen, Peter A., Professor, Psychology and Dean, College of Health Professions (1999). AB, University of California-Berkeley, 1973; MA, San Diego State University, 1976; PhD, University of Michigan, 1980.


Consiglio, Catherine A., Associate Professor, School of Music (1990). BA, Wichita State University, 1979; MA, New England Conservatory, 1983.


Craig-Moreland, Delores E., Associate Professor, School of Criminal Affairs, and Graduate Coordinator, Criminal Justice Program (1992). BA, California State University-Northridge, 1970; MA, 1973; PhD, University of Washington, 1988.

Cromwell, Paul, Professor and Director, School of Criminal Affairs, Criminal Justice Program (1996). BA, Sam Houston State University, 1966; MA, 1967; MPA, Texas Christian University, 1979; PhD, Florida State University, 1977.

Cum, Dorothy E., Professor, School of Music (1975). BA, Bunting College, 1966; MM, Western Kentucky University, 1969; DMA, University of Colorado, 1977.

D'Souza, Francis, Associate Professor, Chemistry (1994). BS, University of Mysore, India, 1982; MS, Indian Institute of Science, India, 1991.

Dadashzadeh, Mohammad, Professor, Finance, Real Estate, and Decision Sciences, and Barton Fellow (1989). MS, Massachusetts Institute of Technology, 1978; MBA, American International College, 1979; PhD, University of Massachusetts, Amherst, 1985.

Dattoli, Darice, Assistant Professor, Psychology (2000). BS, St. Ambrose University, 1995; MS, Texas Christian University, 1996; PhD, 2002.


Dawson, Margaret, Associate Professor and Chairperson, English (1993). BA, University of Virginia, 1975; MS, Northwestern University, Evanston, 1980; MFA, City University of New York, Brooklyn College, 1989.


Dooley, Patricia, Associate Professor and Graduate Coordinator, Elliott School of Communication (1997). BA, University of Minnesota, 1975; MA, 1993; PhD, 1994.


Dreifort, John E., Professor and Graduate Coordinator, History (1970). BS, Bowling Green State University, 1965; MA, 1966; PhD, Kent State University, 1970.


Eichhorn, David, Associate Professor, Chemistry (1996). Harvard University, Cambridge, 1986; PhD, University of California, Berkeley, 1992.


Erickson, David F., Associate Professor, Political Science (1992). BA, Wayne State University, 1972; MA, University of Michigan, 1976; PhD, University of Chicago, 1987.

Farmer, Steven M., Associate Professor and Chairperson, Management (1999). BS, Tulane University, 1978; MA, Southern Methodist University, 1980; MS, George Institute of Technology, 1991; PhD, 1993.


Flenje, H. Edward, Professor and Director, Hugo Wall School of Urban and Public Affairs (1979). BS, Emporia State University, 1964; MA, George Washington University, 1965; PhD, University of Kansas, 1970.

Foley, Mark, Associate Professor, School of Music (1989). BM, University of Minnesota, 1984; MM, Eastman School of Music, University of Rochester, 1989.

Foster, Mary Sue, Professor, School of Art and Design (1966). BSE, University of Kansas, 1961; MFA, 1963; MFA, 1971.


Gibson, Ian, Associate Professor, Administration, Counseling, Educational, and School Psychology (1988). BA, University of Nebraska-Lincoln, 1977; MEd, Wichita State University, 1980; PhD, University of Kansas, 1986.

Gibson, Kay, Assistant Professor, Curriculum and Instruction (1998). BA, Wichita State University, 1970; MS, 1984; PhD, University of New England, 1996.

Glaser, Mark A., Professor, Hugo Wall School of Public and Urban Affairs (1994). BBA, Wichita State University, 1970; MUA, 1974; PhD, University of Texas-Arlington, 1981.


Goldbarth, Albert, Adele M. Davis Distinguished Professor, Humanities (1987). BA, University of Illi...

**Kindrick, Robert L.**, Professor, English, and Vice President for Academic Affairs and Research (2000). BA, Park College, 1964; MA, University of Missouri-Kansas City, 1967; PhD, University of Texas-Austin, 1971.


**Koert, David N.**, Associate Professor, Mechanical Engineering (1993). BSME, Villanova University, 1980; MSME, Drexel University, 1984; PhD, 1990.


**Lacy, Thomas E., Jr.**, Assistant Professor, Aerospace Engineering (1998). BS, University of New Mexico, 1983; MS, Georgia Institute of Technology, 1992; PhD, 1998. Licensed Professional Engineer—Georgia.

**Lancaster, Kirk E.**, Professor, Mathematics and Statistics (1980). AB, Humboldt State University, 1975; PhD, Oregon State University, 1981.


**Lescoe-Long, Mary A.**, Associate Professor and Chairperson, Physical Education (1994). BS, Western Michigan University, 1975; MA, University of Michigan, 1980; PhD, University of South Carolina, 1992.

**Lewis, D. Kathleen**, Associate Professor, Physical Therapy (1999). BS, University of Minnesota; BS, Kansas State University; MA, University of Southern California-Los Angeles, JD, Washburn Law School.

**Lewis, Rhonda**, Associate Professor, Psychology (1996). BA, Wichita State University, 1991; MA, University of Kansas, 1993; MPH, 1996; PhD, 1996.


**Loftus, Ariel**, Assistant Professor, History (1997). BA, University of Michigan, 1979; PhD, Stanford University, 1981; MA, University of Michigan, 1982; PhD, 1992.


**Loper, Gerald D., Jr.**, Associate Vice President for Research, Director of the Office for Research Administration, and Associate Professor, Physics (1964). BA, Wichita State University, 1959; MS, Oklahoma State University, 1962; PhD, 1964.


**Ma, Chunsheng**, Assistant Professor, Mathematics and Statistics (1999). BS, Wuhan Teachers College at Xiaogang, China, 1981; MS, Wuhan University, China, 1988; PhD, University of Sydney, Australia, 1997.

**Ma, Daowei**, Associate Professor, Mathematics and Statistics (1993). MS, Wuhan University, China, 1982; PhD, Washington University-St. Louis, 1990.

**Madhvan, Viswanathan**, Associate Professor, Industrial and Manufacturing Engineering (1996). IIT, Indian Institute of Technology, Madras, India, 1991; MS, Purdue University, 1993; PhD, 1996.


**Mandl, A.J. (Jay)**, Associate Professor, Philosophy, and Director, Emily Lindquist Honors Program (1976). BA, Trinity College, 1972; MA, Vanderbilt University, 1974; PhD, 1978.


**Masud, Abu S.M.**, Professor, Chairperson and Graduate Coordinator, Industrial and Manufacturing Engineering (1980). BS, Bangladesh University of Engineering and Technology, 1969; Diploma Institute of Business Administration, 1973; MSIE, Kansas State University, 1975; PhD, 1978.


**May, Jeffrey**, Associate Professor, Biology (2003). BS, University of Maine, 1970; PhD, University of Rhode Island, 1978.


** McCormick, B. Jack**, Professor, Chemistry (1979). BS, West Texas State University, 1959; PhD, Oklahoma State University, 1962.

**McDonald, J. David**, Professor and Chairperson, Biological Sciences (1992). BS, Kansas State University, 1983; PhD, 1988.


**Meissen, Gregory J.**, Professor, Psychology (1980). BA, Wichita State University, 1977; PhD, University of Tennessee, 1980.

**Miles, William**, Assistant Professor, Economics (1999). BS, Bentley College, 1993; PhD, University of Illinois at Urbana-Champaign, 1999.


**Miller, Lori K.**, Professor, Kinesiology and Sport Studies and Associate Dean, College of Education (1996). BS, Emporia State University, 1984; MEd, Texas A&M University, 1986; EdD, East Texas State University, 1989; MBA, University of Louisville, 1993.


Moore-Jansen, Peer, Associate Professor and Chairperson, Anthropology, and Associate Professor, Criminal Justice (1989). BA, Texas Tech University, 1977; MA, University of Arkansas, Fayetteville, 1982; PhD, University of Tennessee, Knoxville, 1989.


Murdock, Katherine, Professor, School of Music (1985), BA, Humboldt State University, 1971; BA, MA, San Francisco State University, 1980; PhD, Eastman School of Music, University of Rochester, 1977.


Myose, Roy Y., Associate Professor, Aerospace Engineering (1992), BSAE, University of Southern California, 1983; MS, California Institute of Technology, 1984; PhD, University of Southern California, 1991.

Nagati, M. Gawad, Associate Professor, Aerospace Engineering (1984), BS, Cairo University, Egypt, 1966; MS, Wichita State University, 1975; PhD, Iowa State University, 1984.

Nance, Donald W., Associate Professor and Director, Counseling Service (1968). BA, University of Redlands, 1964; MA, University of Iowa, 1967; PhD, 1968.

Namduri, Kameswara, Assistant Professor, Electrical and Computer Engineering (2002). BS, Osmania University, 1984; MS, Central University, 1986; PhD, University of South Florida, 1992.

Okafor, Chinyere, Associate Professor, Women's Studies (2003). BA, University of Nigeria, 1975; MA, University of Sussex, 1979; PhD, University of Nigeria, 1989.


Palmiotto, Michael, Professor, School of Community Affairs, Criminal Justice Program (1994). BS, Mercy College, 1971; MS, City University of New York, 1974; PhD, University of Pittsburgh, 1980.


Parcell, William C., Assistant Professor, Geology (2001). BS, University of the South, 1994; MS, University of Delaware, 1997; PhD, University of Alabama, 2000.


Perdue, Vinodra, Associate Professor, Electrical and Computer Engineering and Director, Center for Teaching and Research Excellence (1994). BSEE, Osmania University, India, 1982; MSE, Wichita State University, 1985; PhD, 1994.


Pittet, Kenneth H., Professor. Physical Therapy (1987). BS, University of San Francisco, 1968; MS, City College of San Francisco, 1980; PhD, University of Texas Health Science Center-Dallas, 1986.

Popp, Harold A., Professor, School of Music (1993). BME, Ottawa University, 1959; MME, Indiana University, 1960; MFA, University of Iowa, 1967; PhD, 1969; MHL (Honorary Degree), Ottawa University, 1979.

Quantic, Diane D., Associate Professor, and Graduate Coordinator, English and Director, Writing Program (1973). BA, Kansas State University, 1962; MA, 1966; PhD, 1971.

Quin, Jeffrey J., Assistant Professor, School of Accountancy (2000). BS, Pittsburg State University, 1994; MBA, 1995; PhD, University of Nebraska-Lincoln, 1998.


Reed, Paul E., Associate Professor, School of Music (1966). BM, Drake University, 1956; MM, 1957.


Rimington, Glyn M., Boeing Professor of Global Learning (2001). BS, University of Queensland, 1980; PhD, 1986.

Riordan, James, Professor, School of Nursing (1993). Diploma in Nursing, Evangelical Deaconess Hospital, 1955; BS, Kansas Newman College, 1976; MN, Wichita State University, 1979; EdD, Oklahoma State University, 1987.

Robarchek, Clayton A., Professor, Anthropology (1985). BA, University of Nebraska, 1970; PhD, University of California, 1977.

Rogers, Christopher M., Assistant Professor, Biological Sciences (2000). BS, University of Wisconsin-Milwaukee, 1978; MS, Michigan State University, 1982; PhD, Indiana University-Bloomington, 1988.

Rogers, Michael E., Associate Professor, Kinesiology and Sport Studies (1998). BS, Mount Union College, 1991; PhD, University of Missouri-Rolla, 1996; MS, 1986; PhD, 1988.

Rokhsaz, Kamran, Professor and Associate Chair, Polymer and Renewable Energy, University of Missouri-Rolla, 1994; BS, University of Missouri-Rolla, 1977; MA, Trinity Evangelical Divinity School, 1979; PhD, Purdue University, 1982.

Roush, Dean, Associate Professor, School of Music (1988). BFA, Ohio University, 1973; MM, Bowling Green State University, 1985.


Salmann, Dieter, Professor and Chairperson, Modern and Classical Languages and Literatures (1971). BA, Northwestern University, 1963; MA, Johns Hopkins University, 1965; PhD, Washington University, 1967.


Schneegurt, Mark A., Assistant Professor, Biological Sciences (2000). BS, Rensselaer Polytechnic Institute, 1994; MS, 1995; PhD, Brown University, 1999.

Schneider, Robert, Professor of English (2000). BS, University of Nebraska, 1973; PhD, University of California, 1980.

Schneider, Philip B., Professor and Director of Writing Program (1988). BS, City College of New York, 1980; MA, 1989; PhD, Brown University, 1993.

Schneider, Philip B., Professor and Director of Writing Program (1988). BSE, City College of New York, 1980; MA, 1989; PhD, Brown University, 1993.

Schneider, Philip B., Professor and Director of Writing Program (1988). BSE, City College of New York, 1980; MA, 1989; PhD, Brown University, 1993.

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Schneider, Philip B., Professor and Director of Writing Program (1988). BSE, City College of New York, 1980; MA, 1989; PhD, Brown University, 1993.

Schneider, Philip B., Professor and Director of Writing Program (1988). BSE, City College of New York, 1980; MA, 1989; PhD, Brown University, 1993.


Singhal, Ram P., Professor, Chemistry (1974). BS, University of Lucknow, India, 1958; MS, 1960; DEA, Université de Lille France, 1964; PhD, 1967.


Smith, Bert L., Professor, Aerospace Engineering (1966). BSME, University of Missouri at Rolla, 1953; MSME, 1960; PhD, Kansas State University, 1966.

Smith, Martha, Associate Professor, School of Community Affairs (2002). AB, Brown University, 1978; JD, New York University, 1981; MA, Rutgers University, 1995; PhD, 1996.

Smith, Nicholas E., Professor, School of Music (1975). BM, Pittsburgh State University, 1970; MM, Eastman School of Music, 1972; DMA, 1980.

Smith-Campbell, Betty, Assistant Professor, School of Nursing (1998). Nursing Diploma, Hurley Medical Center School of Nursing, 1975; BSN, University of Michigan, 1983; MN, University of Kansas, 1987; PhD, University of Colorado, 1996.


Solos, David E., Professor and Chairperson, Philosophy (1974, 1982). BA, University of Pittsburgh, 1969; PhD, Johns Hopkins University, 1977.


Steck, James E., Associate Professor, Aerospace Engineering (1990). BS, University of Missouri at Rolla, 1980; MS, 1984; PhD, 1989.

Steinke, Elaine, Professor, School of Nursing (1900). BSN, Wichita State University, 1979; MN, 1982; PhD, Kansas State University, 1987.


Swan, James H., Professor, Public Health Sciences (1992). BA, Wichita State University, 1969; MA, 1972; PhD, Northwestern University, 1981.


Thomas, Phillip D., Professor, History (1965, 1984). BA, Baylor University, 1960; MA, University of New Mexico, 1964; PhD, 1965.


Tong, Benson, Assistant Professor, History (1998). BA, Science University, Malaysia, 1988; MA, University of Toledo, 1991; PhD, 1996.

Toops, Gary H., Professor, Modern and Classical Languages and Literatures (1989). BA, McGill University, 1975; MA, University of British Columbia, 1979; MA, Yale University, 1980; MPhil, 1982; PhD, 1985.


Turk, Randall L., Associate Professor, Administration, Counseling, Educational, and School Psychology (1994). BS, Butler University, 1965; MEd, Seattle University, 1988; PhD, Texas A&M University, 1994.


Van Stipdonk, Michael J., Assistant Professor, Chemistry (2000). BA, University of Detroit, 1989; PhD, Texas A&M University, 1994.

Whitman, Lawrence E., Assistant Professor, Industrial and Manufacturing Engineering (1999). BS, Clarkson University, 1994; MSEE, 1996; PhD, University of Texas-Arlington, 1995.

Williamson, Keith L., Associate Professor, Elliott School of Communication (1977). BA, Wichita State University, 1965; MTH, Southern Methodist University, 1968; PhD, Temple University, 1975.


Wine, Thomas R., Associate Professor, School of Music (1995). BAME, Alderson-Broaddus College, 1980; MME, Duquesne University, 1982; PhD, Florida State University, 1994.

Withrow, Brian, Assistant Professor, School of Community Affairs, Criminal Justice Program, and Director, Midwest Criminal Justice Institute (1999). BA, Stephen F. Austin State University, 1981; MPA, Southwest Texas State University, 1993; PhD, Sam Houston State University, 1999.


Wolff, James A., Associate Professor, Management; Associate Dean, W. Frank Barton School of Business; and Director, Graduate Studies in Business (1994). BS, University of Idaho, 1972; MBA, Washington State University, 1990.

Wong, John D., Associate Professor, Hugo Wall School of Urban and Public Affairs (1990). BBA, Wichita State University, 1982; MA, 1984; JD, Washburn University, 1986; PhD, Northeastern University, 1990.


Wright, David W., Associate Professor, Sociology (1993). BA, Indiana University-Purdue University at Indianapolis, 1987; MA, Purdue University, 1989; PhD, 1992.

Yynn, Tor, Assistant Professor; Sociology (2000). BA, Oakland University, 1993; MA, University of Iowa, 1996; PhD, 2001.

Yang, C. Charles, Associate Professor, Mechanical Engineering (1997). BS, National Taiwan University, 1983; MS, 1987; PhD, Louisiana State University, 1993. Licensed Professional Engineer—Louisiana.

Yang, Wan, Assistant Professor and Graduate Coordinator, Geology (1999). BS, Northwestern University, China 1984; MS, California State University at Fresno, 1990; PhD, University of Texas at Austin, 1995.


Yeotis, Catherine, Associate Professor, Curriculum and Instruction (2003). BS, Michigan State University, 1963; MS, Purdue University, 1973; PhD, 1978.

Zandler, Melvin E., Professor, Chemistry (1966). BA, Friends University, 1960; MS, Wichita State University, 1963; PhD, Arizona State University, 1965.

Zettle, Robert, Associate Professor and Graduate Coordinator, Psychology (1984). BA, Wilkes College,


Hays, William C., Associate Professor, School of Community Affairs, Gerontology Program (1973). BS, Ball State University, 1967; MA, 1968; PhD, University of Missouri, 1973.

Hellman, James, Associate Professor, School of Art and Design (1990). BA, Wichita State University, 1972; MA, 1975.


Hiltner, David, Assistant Professor, School of Art and Design (1990). BFA, Wichita State University, 1993; MFA, Syracuse University, 1997.

Hind, Emily, Assistant Professor, Modern and Classical Languages and Literature (2001). BA, University of Kansas, 1995; MA, Pennsylvania State University, 1997; PhD, University of Virginia, 2001.

Ho, Lop-Hing, Associate Professor, Mathematics and Statistics (1989). BA, Chinese University of Hong Kong, 1979; MA, Princeton University, 1982; PhD, 1984.

Hogan, Linda, Assistant Professor, Medical Technology (1972). BA, Emporia State University, 1965; MT (ASC), 1969; BB (ASC), 1972; MEd, Wichita State University, 1977.

Hrycak, Tomasz, Assistant Professor, Mathematics and Statistics (2002). MS, Warsaw University in Poland, 1988; MS, 1988; PhD, Yale University, 1995.


Huntley, Diane E., Associate Professor, Dental Hygiene (1976). BA, University of Bridgeport, 1968; MA, State University of New York at Buffalo, 1971; PhD, University of Bridgeport, 1977.

Iacovetti, Ronald G., Associate Professor, School of Community Affairs, Criminal Justice Program (1973). BS, Colorado State University, 1965; MS, 1967; PhD, University of Connecticut, 1972.


Koebel, Charles S., Assistant Professor, Sociology (1999). BA, University of Wyoming, 1991; MA, 1993; PhD, Binghamton University, 1999.

Koppchen, John H., Associate Professor, Modern and Classical Languages and Literatures (1966, 1972). BA, Wichita State University, 1964; MA, University of Iowa, 1966; PhD, 1974.

Lan, Robert, Instructor, Curriculum and Instruction, and Director, Transition to Teaching (1996). BA, Friends University, 1962; MA, Wichita State University, 1966; EdD, University of Kansas, 1976.


Lewandowski, Cathleen A., Assistant Professor and Director, School of Social Work (1995). BA, Blackburn College, 1975; MSW, St. Louis University, 1981; PhD, University of Kansas, 1987.

Lezotte, Annette, Assistant Professor, School of Art and Design (2000). BA, University of Illinois-Champaign-Urbana, 1992; MA, Florida State University, 1995.


Maslyn, John, Assistant Professor, Management (2002). BA, Hobart College, 1978; MS, Rensselaer Polytechnic Institute, 1980; PhD, Georgia Institute of Technology, 1996.


May, Phillip M., Professor, School of Accountancy (1974). BA, Lawrence University, 1957; MA, University of Wisconsin, 1959; PhD, University of Wisconsin, 1967.

Mennke, Robert J., Associate Professor, Communications Disorders and Sciences (2000). MBS, Dow Medical College, Pakistan, 1988; MA, University of Kansas, 1990; PhD, Wichita State University, 2000.

Messer, Jodi, Assistant Professor, Economics (2002). BA, Colgate University, 1995; MS, University of Kentucky, 1999; PhD, 2000.


Muthucharon, Achina, Assistant Professor, Finance, Real Estate, and Decision Science (2002). BA, Thammasat University, 1994; MBA, University of Memphis, 1997; PhD, 2002.


Perez, Kathleen O., Associate Professor, Sociology (1983). BA, Clarke College, 1979; MA, University of Wisconsin, 1980; PhD, 1984.


Pfannenstiel, Maurice, Associate Professor, Economics (1966). BA, Fort Hays State University, 1960; MS, Oklahoma State University, 1966; PhD, 1967.

Porter, Stephen S., Assistant Professor, Marketing and Entrepreneurship (1995). BS, Friends University, 1979; MBA, Wichita State University, 1982; PhD, Oklahoma State University, 1994.


Price, Jay M., Assistant Professor, History (1999). BA, University of Mexico, 1991; MA, College of William and Mary, 1992; PhD, Arizona State University, 1997.

Rogers, Ben F., Associate Professor, Philosophy (1966). BA, University of Tennessee, 1958; MA, Vanderbilt University, 1961; MA, Indiana University, 1966; PhD, 1970.


Sanders, Kathleen J., Assistant Professor, Curriculum and Instruction (2000). BA, Stephens College, 1972; MS, Kansas State University, 1978; PhD, 1991.


Shaw, Martha M., Assistant Professor, Nursing, and Associate Vice President, Academic Affairs and Research. (1975). BSN, Eastern Mennonite College, 1965; MS in Nursing, University of Iowa, 1974; PhD, University of Kansas, 1985.


Starke, Linda, Assistant Professor, School of Music (1993). BME, University of Miami, 1968; MM, Fort Hays State University, 1972; MA, Wichita State University, 1990.

Taber, Syed M., Associate Professor and Graduate Coordinator, Physics (1976). BS, Dacca University, 1964; MS, 1966; MA, California State University, Long Beach, 1970; PhD, Washington State University, 1974.

Tate, Juanita S., Associate Professor and Chairperson, School of Nursing, and Associate Dean, College of Health Professions (1999). BS, University of
Teshome, Asrat, Associate Professor, Electrical and Computer Engineering (2003). BS, Addis Ababa University, 1965; MS, Cornell University, 1976; PhD, 1980.

Thompson, Johnnie, Associate Professor, Curriculum and Instruction (1993). BS, University of Kansas, 1968; MS, Central Missouri State University, 1975; EdD, Kansas State University, 1992.

Thomson, J. William, Professor and Chairperson, School of Music (1976). BM, Wichita State University, 1965; MM, 1965; DMA, University of Missouri at Kansas City, 1968.

Torbenson, Craig L, Associate Professor, History (1989). BS, Brigham Young University, 1982; MA, 1985; PhD, University of Oklahoma, 1992.

Town, Robert L, Associate Professor, School of Music (1965). BM, Eastman School of Music, 1960; MM, Syracuse University, 1962.

Tran, Anh, Assistant Professor, Curriculum and Instruction (2003). BA, Saigon University, 1973; MA, Wichita State University, 1993; PhD, Kansas State University, 2002.

Weheba, Gamal S., Assistant Professor, Industrial and Manufacturing Engineering (2000). BS, Menoufa University, 1981; MS, 1987; PhD, University of Central Florida, 1996.

Widener, Russell D., Associate Professor, School of Music, and Coordinator, General Education Program (1981). BM, Baylor University, 1968; MM, Catholic University, 1972.


Wilson, Camilla, Associate Professor and Chair, Physical Therapy (2003). BS, University of Kansas, 1970; MS, 1979; PhD, 1992.

Winke, Donald R., Associate Professor, English (1971). BA, University of Washington, 1960; MA, Pennsylvania State University, 1962; PhD, Indiana University, 1971.

Wood, Michael A., Assistant Professor, Elliott School of Communication, and Executive Director, Media Resources Center (1985). BS, Kansas State University, 1969; MS, 1973; MFA, University of Southern California, 1979.


Yildirim, Mehmet, Assistant Professor, Industrial and Manufacturing Engineering (2002). BS, Bogazici University, 1994; MS, Bilkent University, 1996; PhD, University of Florida, 2001.

Youngman, Arthur L, Assistant Professor, Biological Sciences (1965). BA, Montana State University, 1959; MS, Case Western Reserve University, 1961; PhD, University of Texas, 1965.
Wichita State has an ongoing program to provide people with disabilities full access to all buildings; however, some barriers still exist. For information regarding any campus building's accessibility to the disabled, call the Office of Disability Services, (316) 978-3309.

Visitors to the Wichita State campus should obtain temporary parking permits from the Police Department, open 24 hours a day.
# Key to Course Descriptions

## Symbols

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

The number of hours of credit for each course is indicated in parentheses following the course title. The number of class meetings per week is normally the same as the number of credit hours. Two hours of laboratory work usually are required for 1 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, practical/clinical, with the hours of practical/clinical per week given in front of the letter (6-8P means six to eight hours of practical/clinical per week).

## Abbreviations

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

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT</td>
<td>Accounting</td>
</tr>
<tr>
<td>AE</td>
<td>Aerospace engineering</td>
</tr>
<tr>
<td>ANTHR</td>
<td>Anthropology</td>
</tr>
<tr>
<td>ART E</td>
<td>Art education</td>
</tr>
<tr>
<td>ART F</td>
<td>Art and design foundation</td>
</tr>
<tr>
<td>ART G</td>
<td>Graphic design</td>
</tr>
<tr>
<td>ART H</td>
<td>Art history</td>
</tr>
<tr>
<td>ART S</td>
<td>Studio arts</td>
</tr>
<tr>
<td>BA</td>
<td>Business administration</td>
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<tr>
<td>B LAW</td>
<td>Business law</td>
</tr>
<tr>
<td>BIOL</td>
<td>Biological sciences</td>
</tr>
<tr>
<td>CDS</td>
<td>Communicative disorders and sciences</td>
</tr>
<tr>
<td>CESP</td>
<td>Counseling, educational, and school psychology</td>
</tr>
<tr>
<td>CHEM</td>
<td>Chemistry</td>
</tr>
<tr>
<td>CI</td>
<td>Curriculum and instruction</td>
</tr>
<tr>
<td>CJ</td>
<td>Criminal justice</td>
</tr>
<tr>
<td>COMM</td>
<td>Communication</td>
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<tr>
<td>CS</td>
<td>Computer science</td>
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<tr>
<td>DANCE</td>
<td>Dance</td>
</tr>
<tr>
<td>DH</td>
<td>Dental hygiene</td>
</tr>
<tr>
<td>DS</td>
<td>Decision sciences</td>
</tr>
<tr>
<td>EAS</td>
<td>Educational administration and supervision</td>
</tr>
<tr>
<td>ECON</td>
<td>Economics</td>
</tr>
<tr>
<td>ECE</td>
<td>Electrical and computer engineering</td>
</tr>
<tr>
<td>ENGL</td>
<td>English language and literature</td>
</tr>
<tr>
<td>ENGR</td>
<td>General engineering</td>
</tr>
<tr>
<td>ENTRE</td>
<td>Entrepreneurship</td>
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<tr>
<td>ETH S</td>
<td>Ethnic studies</td>
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<tr>
<td>FA</td>
<td>Fine arts—general</td>
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<tr>
<td>FIN</td>
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<td>French</td>
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<td>Geography</td>
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<td>GERON</td>
<td>Gerontology</td>
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<td>HIST</td>
<td>History</td>
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<tr>
<td>HNRS</td>
<td>Honors Program</td>
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<tr>
<td>HP</td>
<td>Health professions—general</td>
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<tr>
<td>HRM</td>
<td>Human resource management</td>
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<tr>
<td>HS</td>
<td>Health sciences</td>
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<tr>
<td>IE</td>
<td>Industrial engineering</td>
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<tr>
<td>KSS</td>
<td>Kinesiology and sport studies</td>
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<tr>
<td>LAS-I</td>
<td>Liberal arts interdisciplinary</td>
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<td>LATIN</td>
<td>Latin</td>
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<tr>
<td>LEGAL</td>
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<td>LING</td>
<td>Linguistics</td>
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<td>Mathematics</td>
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<td>MED T</td>
<td>Medical technology</td>
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<tr>
<td>MFG E</td>
<td>Manufacturing engineering</td>
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<tr>
<td>MGMT</td>
<td>Management</td>
</tr>
<tr>
<td>MICT</td>
<td>Mobile intensive care technician</td>
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<tr>
<td>MIS</td>
<td>Management information systems</td>
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<td>MKT</td>
<td>Marketing</td>
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<tr>
<td>MUS A</td>
<td>Applied music</td>
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<tr>
<td>MUS C</td>
<td>Musicology-composition</td>
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<tr>
<td>MUS E</td>
<td>Music education</td>
</tr>
<tr>
<td>MUS P</td>
<td>Music performance</td>
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<td>NURS</td>
<td>Nursing</td>
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<tr>
<td>PA</td>
<td>Physician assistant</td>
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<td>Public health sciences</td>
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<td>PT</td>
<td>Physical therapy</td>
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<td>Real estate and land use economics</td>
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<td>Russian</td>
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<td>Social work</td>
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<td>Spanish</td>
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<td>Statistics</td>
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<td>Theatre</td>
</tr>
<tr>
<td>WOM S</td>
<td>Women's studies</td>
</tr>
</tbody>
</table>
Academic Programs at Wichita State University
Are Accredited by or Hold Membership
in the Following Associations

North Central Association of Colleges and Schools*
AACSB—International Association for Management Education
AACSB—International Association for Management—Accounting Accreditation Committee
Accreditation Board of Engineering and Technology
Accreditation Review Commission on Physician Assistant Education
American Chemical Society
American Dental Educators’ Association
American Speech-Language and Hearing Association
Association of Schools of Allied Health Professionals
Commission on Collegiate Nursing Education
Commission on Accreditation of Allied Health Education Programs
Commission on Accreditation in Physical Therapy Education
  of the American Physical Therapy Association
Commission on Dental Accreditation of the
  American Dental Association
Council on Education for Public Health
Council on Social Work Education
Human Factors and Ergonomics Society
Kansas Board of Emergency Medical Services
Kansas State Board of Nursing
Kansas State Department of Education
National Accrediting Agency for Clinical Laboratory Sciences
National Association of School Psychologists
National Association of Schools of Dance
National Association of Schools of Music
National Association of Schools of Public Affairs Administration
National Council for Accreditation of Teacher Education

*North Central Association of Colleges and Schools of Higher Learning Commission
30 North LaSalle Street, Suite 2400; Chicago, Illinois 60602-2504; (800) 621-7440.