



# BULLETIN

2005-06

University of Missouri-St. Louis

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## Instructional Areas

Many departments offer courses in several subject areas.  
This list is provided for easy student reference.

Accounting  
Adult education  
Africana studies  
American studies  
Anthropology  
Applied mathematics  
Archaeology  
Art history  
Astrophysics  
Astronomy  
Athletic coaching  
Biochemistry  
Biology  
Biotechnology  
Black studies  
Business Administration  
Ceramics  
Chemistry  
Chinese  
Classical studies  
Clinical laboratory science  
Communication  
Communication theory and rhetoric  
Community Education  
Comparative politics  
Computer science  
Conservation biology  
Counselor education  
Creative writing  
Criminology and criminal justice  
Cytotechnology  
Dance  
Drawing  
Early childhood education  
East Asian studies  
Ecology  
Economics  
Educational administration  
Educational foundations  
Educational psychology  
Educational research and evaluation methods  
Educational technology  
Elementary education  
Employee training and development  
Engineering (Civil, Electrical, Mechanical)  
English  
English as a second language  
European studies  
Fine arts  
Finance  
French  
Forensic Economics  
German  
Gerontology  
Graphic design  
Greek  
Health Sciences  
Health Information Systems  
History  
Higher Education  
Human Resource Management  
Information systems  
Interdisciplinary studies  
International business  
International relations  
International studies  
Japanese  
Jazz studies  
Latin American studies  
Latin  
Legal studies  
Logistics and operations management  
Management  
Marketing  
Mass communication  
Mathematics  
Medical physics  
Middle school education  
Music  
Music education  
Museum studies  
Nonprofit organization management and leadership  
Nursing  
Optometry  
Painting  
Philosophy  
Photographic studies  
Physical education  
Physics  
Physiological optics  
Political Science  
Pre-architecture  
Pre-engineering  
Pre-journalism  
Pre-law  
Pre-medicine  
Pre-optometry  
Pre-pharmacy  
Printmaking  
Probability and statistics  
Psychology  
Public policy administration  
Public affairs journalism  
Public law  
Radio and television

Religious Studies  
Reserve Officer Training Corps  
Secondary education  
Social work  
Sociology  
Spanish  
Special education  
Sculpture  
Statistics  
Studio art  
Theatre  
Trauma studies  
Tropical ecology  
Urban politics  
Urban studies  
Women's and gender studies  
Writing

## Preface

This *Bulletin* includes a description of undergraduate and graduate programs at the University of Missouri-St. Louis. All statements in this publication concerning regulations, fees, curricula, or other matters are subject to change without notice. They are not to be regarded as offers to contract.

The University of Missouri-St. Louis is accredited by the Higher Learning Commission of the North Central Association. This accreditation applies to all baccalaureate, masters, and doctoral levels.

The policies of the University of Missouri-St. Louis comply with the provisions under those laws which forbid discrimination on the basis of race, color, sex, national origin, religion, sexual orientation, age, handicap, or veteran status in any program or activity of the university.

Demographic data are obtained by the University in order to determine the effect of efforts related to the provision of equal educational opportunity. Completion of this information is optional.

Information regarding the provision of auxiliary aids and services to qualified students with disabilities can be found in Admissions and Academic Policies of this *Bulletin*. Students considering such assistance should contact the Director of Disability Access Services at (314) 516-6554 voice or (314) 516-5212 TT for further details.

Address inquiries regarding admission to all divisions of the university to the Director of Admissions, University of Missouri-St. Louis, One University Boulevard, St. Louis, Missouri 63121-4400. For information concerning the University of Missouri-Columbia, the University of Missouri-Kansas City or the University of Missouri-Rolla, write directly to the Director of Admissions at the appropriate campus or visit our website at [www.umsl.edu](http://www.umsl.edu).

## **University Programs and Offices**

Area Code (314)

### **Academic Advising (Undeclared Majors)**

225 Millennium Student Center, 516-5300

### **Academic Affairs, Provost and Vice Chancellor**

426 Woods, 516-5371

### **Administrative Services, Vice Chancellor**

130 Normandie Hall 516-6100

### **Admissions**

351 Millennium Student Center, 516-5451

### **Alumni Center**

7956 Natural Bridge, 516-5722

### **Alumni and Constituent Relations**

101 Woods, 516-5833

### **Anthropology, Department of**

507 Clark, 516-6020

### **Art and Art History, Department of**

590 Lucas, 516-5975

#### **Fine Arts**

201 Fine Arts Bldg., 516-6967

#### **Gallery 210**

The Telecommunity Center, 516-5976

#### **Gallery FAB**

Fine Arts Bldg., 516-6967

#### **Gallery Visio**

109 Millennium Student Center, 516-7922

### **Arts and Sciences, College of**

303 Lucas, 516-5501

### **Athletics Office**

225 Mark Twain, 516-5661

### **Biology, Department of**

223 Research Bldg., 516-6200

### **Bookstore & Computer Shop**

209 Millennium Student Center, 516-5763

### **Business Administration, College of**

487 SSB, 516-5888 (UG Academic Advising)

### **Cable TV Studio (ITC Control Room)**

113 Lucas, 516-6171

### **Cafeteria**

Millennium Student Center

### **Career Services**

278 Millennium Student Center, 516-5111

### **Cashier's Office**

285 Millennium Student Center, 516-5151

### **Center for Academic Development (CAD)**

507 Tower, 516-5194

### **Center for Business and Industrial Studies**

220 CCB, 516-5857 or 6108

### **Center for Economic Education Entrepreneurship**

306 Tower, 516-5248

### **Center for Emerging Technologies**

4041 Forest Park Ave, 63108, 615-6900

### **Center for Human Origin & Cultural Diversity**

505 & 507 Clark, 516-6020

### **Center for the Humanities**

406 Lucas, 516-5699

### **Center for International Studies**

366 SSB Bldg., 516-5753

### **Center for Molecular Electronics**

302 CME, 516-5334

### **Center for Neurodynamics**

333 Benton, 516-6150

### **Center for Teaching and Learning**

421 Woods Hall, 516-4508

### **Center for Transportation Studies**

154 University Center, 515-7270

### **Center for Trauma Recovery**

Kathy J. Weinman, Lower Level, 516-6738

### **Chancellor's Office**

401 Woods, 516-5252

### **Chemistry and Biochemistry, Department of**

315 Benton, 516-5311

### **Child Development Center, University**

130 South Campus Classroom Bldg., 516-5658

### **Communication, Department of**

590 Lucas, 516-5485

### **Computing, (Information Technology Services)**

451 CCB, 516-6000

### **Continuing Education and Outreach**

201 J.C. Penney, Program Support, 516-5961

225 J.C. Penney, Marketing & Information

516-5668

### **Counseling Services**

126 Millennium Student Center, 516-5711

### **Criminology and Criminal Justice, Department of**

325 Lucas, 516-5031

### **Degree Audit Program (DARS)**

233 Millennium Student Center, 516-6814

### **Development Office**

308 Woods, 516-5664

### **Disability Access Services**

144 Millennium Student Center, 516-6554

### **Dispute Resolution Program**

362 SSB Bldg., 516-6040

### **E. Desmond Lee Technology & Learning Center**

100 Marillac Hall, 516-4800

### **Economics, Department of**

408 SSB, 516-5351

### **Education, College of**

201 Education Administration Bldg., 516-5109

#### **Graduate Education**

123 SCCB, 516-5483

#### **Undergraduate Education**

155 Marillac, 516-5937

#### **Counseling and Family Therapy, Division of**

469 Marillac Hall, 516-5782

#### **Educational Leadership and Policy Studies, Division of**

269 Marillac, 516-5944

#### **Educational Psychology, Research, and Evaluation, Division of**

402 Marillac Hall, 516-5783

#### **Teaching and Learning, Division of**

369 Marillac, 516-5791

**Engineering, UM-St. Louis/Washington University  
Joint Undergraduate Engineering Program**

228 Benton, 516-6800

**English, Department of**

484 Lucas, 516-5541

**Executive Leadership Institute**

427 SSB, 516-5276

**Environmental Health and Safety**

C400 Daughters of Charity, 516-6363

**Facilities Services**

127 GSB, 516-6320

**Financial Aid**

322 Millennium Student Center, 516-5526

**Fine Arts and Communication, College of**

210 General Services Building, 516-4570

**Foreign Languages and Literatures, Department of**

554 Clark, 516-6240

**Gerontology Programs**

406 Tower, 516-5280

**Graduate School**

421 Woods, 516-5900

**Graphics & Printing**

252 General Services, 516-5167

**History, Department of**

484 Lucas, 516-5681

**Horizons Peer Counseling**

427 SSB, 516-5730

**Human Resource Services**

211 GSB, 516-5804

**Information Technology Services**

451 CCB, 516-6000

**Interfaith Campus Ministries**

180 Millennium Student Center, 516-4545

**International Business Institute**

461 SSB, 516-6286

**International Center for Tropical Ecology**

216 Benton Hall, 516-4246

**International Student and Scholar Services**

261 Millennium Student Center, 516-5229

**KWMU 90.7 FM Radio**

104 Lucas, 516-5968

**Libraries**

Thomas Jefferson, 516-5057

St. Louis Mercantile, 516-7240

Ward E. Barnes South Campus

Complex, 516-5576

**Mathematics and Computer Science, Department of**

303 CCB, 516-5741

**Metropolitan Information and Data Analysis Services  
(MIDAS)**

362 SSB Bldg., 516-5273

**Missouri Research Park**

14 Research Pk. Dr., Suite 200

St. Charles, MO 63304

(636) 441-7701

**Multi-Cultural Relations**

190 Millennium Student Center, 516-6807

**Music, Department of**

211 Music Bldg., 516-5980

**National Scholarship Information, Office of  
Honors College, 516-5243**

**National Student Exchange, Office of  
Honors College, 516-6871**

**Nursing, College of**

130 Administration Building-South Campus, 516-6066

**Office of Equal Opportunity/Affirmative Action**

127 Woods, 516-5695

**Optometry, Clinics (University Center for Eye Care)**

153 Marillac, 516-5131

East St. Louis Eye Center

601 James Thompson Blvd.,

Building D, Suite 2030

East St. Louis, Ill. 62201

618-482-8355

On-campus 516-6908

Harvester Eye Center

11 Charlestowne Plaza, St. Charles, MO 63303

636-441-5585

Optometric Center

3840 Lindell Blvd,

535-5016

**Optometry, College of**

331 Marillac, 516-5606

**Student Services,**

317 Marillac, 516-6263

**Payroll**

211 General Services Bldg., 516-5237

**Performing Arts Center, 516-4100**

**Philosophy, Department of**

599 Lucas, 516-5631

**Physical Education Program**

234 Mark Twain, 516-5226

**Physics and Astronomy, Department of**

503J Benton, 516-5931

**Pierre Laclède Honors College**

Provincial House, 516-6870

**Police (Institutional Safety)**

44 Telecommunity Center, 516-5155

**Political Science, Department of**

347 SSB, 516-5521

**Printing Services**

261 General Services Bldg., 516-5233

**Psychology, Department of**

325 Stadler, 516-5391

**Public Policy Administration Master's Program**

406 Tower, 516-5145

**Public Policy Research Center**

362 SSB Bldg., 516-5273

**Records and Transcripts**

269 Millennium Student Center, 516-5676

**Regional Center for Education and Work**

872-8282

**Registration**

269 Millennium Student Center, 516-5545

**Research Administration, Office of**

341 Woods, 516-5897

**Residential Life**

123 South Campus Residence Hall, 516-6877

**ROTC, Army**

324 Woods Hall, 516-4872

**Social Work, School of**

590 Lucas, 516-6385

**Sociology, Department of**

707 Tower, 516-6366

**Sports Information**

225 Mark Twain, 516-5660

**Student Life, Office of**

366 Millennium Student Center, 516-5291

**Student Affairs, Vice Chancellor**

301 Woods, 516-5211

**Student Government Office**

375 Millennium Student Center, 516-5105

**Theatre, Dance and Media Studies, Department of**

201 General Services Bldg., 516-4572

**Transportation Studies, Center for**

154 University Center, 516-7270

**UM-Rolla Engineering Education Center**

34 Telecommunity Center, 516-5431

**University Communications & Marketing**

414 Woods, 516-5851

**University Health Services**

141 Millennium Student Center, 516-5671

**University Meadows**

2901 University Meadows Drive, 516-7500

**University Relations**

407 Woods, 516-5255

**Veteran Affairs, Office of**

269 Millennium Student Center, 516-5679

**Video Instructional Program**

303 Lucas, 516-5501

**Wellness Resource Center**

180 Millennium Student Center, 516-5414

**Women's and Gender Studies, Institute for**

211 Clark, 516-5581



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Director of Externship Programs  
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## **Introduction to UM-St. Louis**

The University of Missouri-St. Louis is one of four campuses that constitute the University of Missouri. Established in Columbia in 1839 on the ideals of Thomas Jefferson, the University of Missouri became a land-grant institution upon passage of the Morrill Act by Congress in 1862.

The university remained a single-campus institution until 1870, when the Rolla campus was opened. In the 1960s a movement began across the country toward creation of public universities located within metropolitan centers. That movement marked the most significant change in higher education in the twentieth century, and the University of Missouri-St. Louis is a product of that educational development. Two campuses were added in 1963. The private University of Kansas City became the university's Kansas City campus, and an entirely new campus was started in St. Louis.

The notion of a major public institution serving the St. Louis area evolved from a dream to a solid reality, which today exceeds the expectations of those who created it. Since the doors of the old Administration Building opened nearly 40 years ago, UM-St. Louis has become the largest university serving St. Louisans and the third largest university in the state. The university faculty has grown from 30 in 1963 to more than 900 members, committed to the future of the St. Louis area through teaching, research, and service.

One of the keys to this university's development as an outstanding institution has been the careful selection of faculty over the years. UM-St. Louis has attracted some of the top authorities in many fields. More than 90 percent of the full-time regular faculty hold doctoral degrees, a figure that far exceeds the national average. These professionals develop new theories and new procedures, and in so doing attract millions of dollars each year in research funding.

Student enrollment has grown from 600 in 1963 to more than 15,000. The numbers have changed, but not the spirit. Faculty and students are still most concerned with the education of new talent, which is the basis for the future social, intellectual, and economic health of Missouri's largest metropolitan area. From its beginning on what was once the site of a country club with a single building, UM-St. Louis has grown to a large modern campus of almost 300 acres with 58 buildings used to support academic and other University activities.

The curriculum has grown to include 47 undergraduate programs, 33 master's programs, seven preprofessional programs, 2 education specialists, 14 doctoral programs, and one professional degree program. Programs address the particular needs of older students returning to school; of students pursuing pre-architecture, pre-law, pre-medicine, pre-pharmacy, pre-engineering, or pre-journalism courses, and of students interested in urban careers. Many opportunities exist for students to combine their academic course work with internships that often lead to job offers.

### **Mission Statement**

The University of Missouri-St. Louis is the land-grant research institution committed to meeting the diverse needs in the state's largest metropolitan community. It educates traditional and nontraditional students in undergraduate, graduate, and professional programs so that they may provide leadership in health professions, liberal and fine arts, science and technology, and metropolitan affairs such as business, education, and public policy. University research advances knowledge in all areas, and through outreach and public service, assists in solving, in particular, problems of the St. Louis region.

Academic programs are enriched through advanced technologies and partnerships that link UM-St. Louis to institutions and businesses locally, regionally, nationally, and internationally. Its special commitment to partnership provides UM-St. Louis with a leadership role among public educational and cultural institutions in improving the region's quality of life, while its relations with two- and four-year colleges and universities in the St. Louis region promote seamless educational opportunities.

### **Academic Structure**

UM-St. Louis consists of the College of Arts and Sciences, College of Business Administration, College of Education, College of Fine Arts and Communication, Graduate School, Pierre Laclede Honors College, College of Nursing, College of Optometry, UM-St. Louis/Washington University Joint Engineering Program, and Continuing Education and Outreach.

### **College of Arts and Sciences.**

The College of Arts and Sciences is the academic core of the University of Missouri-St. Louis. In its classes, students engage in creative and critical thinking, learn to appreciate pattern in complexity, reflex on important issues of the past and present, and

hone their ability to communicate effectively orally and in writing. Across the curriculum, the College emphasizes "Learning through Research," an approach in which students actively identify and analyze a variety of intellectual approaches and forms of information.

The campus oldest and largest college, Arts and Sciences takes special pride in its professional faculty of nearly 200, all of whom hold earned Ph.D. degrees or other appropriate terminal degrees. The College offers a wide range of accredited baccalaureate, master's and doctoral degrees and multi-disciplinary certificates through 15 departments, the School of Social Work and the Institute for Women's and Gender Studies.

Anthropology (B.A.)  
Biochemistry & Biotechnology (B.S., M.S.)  
Biology (B.A., B.S., M.S., Ph.D.)  
Chemistry and Biochemistry (B.A., B.S., M.S., Ph.D.)  
Criminology and Criminal Justice (B.S., M.A., Ph.D.)  
Economics (B.A., B.S., M.A.)  
English (B.A., M.A., M.F.A.)  
Foreign Languages and Literatures (B.A. in French and B.A. in Spanish)  
History (B.A., M.A.)  
Liberal Studies (B.L.S.)  
Mathematics and Computer Science (B.A., B.S., M.A., M.S., Ph.D.)  
Philosophy (B.A., M.A.)  
Physics and Astronomy (B.A., B.S., M.A., Ph.D.)  
Political Science (B.A., M.A., Ph.D.)  
Public Policy and Administration (M.P.P.A.)  
Psychology (B.A., M.A., Ph.D.)  
Social Work (B.S.W., M.S.W.)  
Sociology (B.A., B.S., M.A.)  
Women's and Gender Studies (Certificate)

Whether completing general education requirements or pursuing a specific degree, undergraduate students have the opportunity to learn from internationally renowned faculty such as E. Desmond Lee Professor Patricia Parker (Biology), Distinguished Teaching Professor J. Martin Rochester (Political Science), and Curators' Professor Scott Decker (Criminology and Criminal Justice).

Student participation in internships with the university's public and corporate partners paves the way for subsequent employment. Collaborative research by students and faculty similarly expands both intellectual horizons and prospects for graduate study and professional careers.

Alumni of the College of Arts and Sciences include physicians, lawyers, teachers, political leaders, scientists, corporate executives, college and university faculty, psychologists, social workers, and a host of other professionals.

#### **College of Business Administration**

Through its undergraduate and graduate degree programs, the College of Business Administration expands student capability in communication, analysis, and judgment, enabling its graduates to deal effectively with today's complex economic environment. The college maintains a balance between the specialization of professional courses and the diversity of liberal arts.

#### **College of Education**

Consistently one of the top two institutions in the state in preparation of educators, the College of Education provides undergraduate and graduate programs to support and sustain educational leaders. Its programs emphasize state-of-the-art technological applications to enhance teaching and learning as well as collaboration among university, school, agency, and corporate partners.

#### **College of Fine Arts and Communication**

The College includes the departments of Art and Art History, Communication, Music, and Theatre, Dance and Media Studies. The faculty and alumni of the College have distinguished themselves as scholars, visual artists, teachers and performers. The University's new \$55 million Performing Arts Center that opened in the fall of 2003, provides two world-class venues for performances. In addition, three galleries offer space for display of student and faculty artwork as well as visiting exhibitions.

#### **Graduate School**

Programs offered in the Graduate School fall into two categories: professional programs designed to develop a special competence in a particular field and academic programs designed to develop the student's command of a range of related subjects within a field. These graduate programs are structured to meet the needs of the metropolitan area and to give students the skills and professional competence to succeed.

#### **College of Optometry**

The College of Optometry is one of 17 such schools and colleges in the United States providing professional optometric education and clinical experience. Facilities are furnished with equipment and technology for the enhancement of both teaching and research. The college operates the University Eye Center on campus, the Optometric Center of St.

Louis in the city's Central West End, the Harvester Eye Care Center in St. Charles County, and the East St. Louis Eye Center, jointly owned and operated by the UM-St. Louis College of Optometry and Southern Illinois University at Edwardsville.

#### **Pierre Laclède Honors College**

The Pierre Laclède Honors College brings together intellectually curious and gifted students who are pursuing various career goals and earning degrees in disciplines offered by the university's other undergraduate schools and colleges. Honors Scholars follow a curriculum that combines Honors College classes with course work in their major areas

The college also coordinates participation in The National Student Exchange (NSE), an association of 174 colleges and universities that have joined to provide tuition reciprocal exchange opportunities for their students. Since 1968, over 70,000 students have been placed at campuses across the U.S., its territories, and recently Canada.

Students have gone to Florida to study marine biology, to the University of Alabama to study criminology and to the University of Montana for Wilderness Studies. UM-St. Louis students have attended a variety of schools in all regions of the country for academic, personal, and social reasons; NSE students from an equally diverse number of campuses have enriched our classes and residence halls and contributed vitally to on-campus life.

#### **College of Nursing**

The College of Nursing offers programs at the bachelor's, master's, and doctoral levels. The Bachelor of Science in Nursing is available for a student wishing to pursue a program of study leading to eligibility to complete state licensure examinations to become a registered nurse (R.N.). In addition, the accelerated track, an upper-level option designed for the associate degree or diploma-educated registered nurse or exceptional transfer student avoids repeating basic nursing course work. The Master of Science in Nursing, a cooperative program with UM-Kansas City School of Nursing, offers studies in adult, children's, and women's health. Practitioner options are also available (adult, family, pediatric, and women) as part of the MSN program. The Ph.D. in Nursing offers studies focused on health promotion and protection, health restoration and support, and health care systems.

#### **UM-St. Louis/Washington University Joint Undergraduate Engineering Program.**

The University of Missouri-St. Louis and Washington University have joined forces to offer ABET-accredited Bachelor of Science degrees in mechanical, electrical, and civil engineering. Students who enter the program take about half of their course work--mathematics, physics, chemistry, humanities and social sciences, and some elementary engineering subjects--on the campus of UM-St. Louis. The remaining half consists of upper-level engineering courses and laboratories taken on the campus of Washington University and taught by Washington University engineering faculty members. Students register for all courses at UM-St. Louis, pay tuition at UM-St. Louis rates (plus a small surcharge on engineering courses), and receive their degrees from the University of Missouri.

#### **Division of Continuing Education and Outreach**

Through the Division of Continuing Education & Outreach at UM-St. Louis, the research-based knowledge of our excellent faculty is brought to the citizens of the greater St. Louis metropolitan area at times and places, and in formats, that meet the lifelong learning needs of our adult students. Partnerships with a number of community cultural and educational institutions provide greater access to public higher education and to the resources of our fine campus.

Continuing Education & Outreach provides a wide variety of credit courses and noncredit professional development programs that can help adults keep abreast of new developments in their field, prepare them for a career in a new field of endeavor, or enrich their personal and family life. Courses leading to degree-completion programs are also offered at the St. Louis Community College South County Education and University Center and on the campuses of St. Charles Community College, Jefferson College and Mineral Area College.

#### **Office of International Student and Scholar Services of the Center for International Studies**

The Office of International Student and Scholar Services assists international students and scholars with undergraduate and graduate admission, credential and transfer credit evaluations, visa and immigration advising, taxation matters, pre-arrival and cultural adaptation assistance, new international student and scholar orientation, prospective student information requests, and personal advising. The office also coordinates activities for integration of students and scholars into the community by facilitating cultural events and activities, coordinating

the annual International Student Speaker's Bureau, and working closely with other campus and community organizations.

### **Student Life**

Although UM-St. Louis provides opportunities for all students through a demanding curriculum, the life of the university is not all work. There are a great many leisure-time activities, either free or at reduced cost to students. Numerous student organizations, from the Accounting Club to Zeta Tau Alpha sorority, seek members-and leaders. Interesting speakers, concerts, film series, plays, exhibits, recitals, and a host of informal gatherings crowd each week's schedule. The St. Louis area offers still more recreational, sports, and cultural events.

The university offers a wide range of varsity and intramural sports for students, whether as players or spectators. On the varsity level, Rivermen and Riverwomen compete in most major sports. UM-St. Louis men's soccer teams have participated in numerous NCAA Division II tournaments; the team won the national title in 1973. The men's basketball, baseball, and golf teams frequently play in national tournaments. The expanding women's program includes varsity competition in basketball, soccer, softball, volleyball, and tennis. The women's soccer team ranks annually in the top 20 teams nationwide.

The Mark Twain athletic facility offers a state-of-the-art fitness center, weight room, swimming pool, and basketball, volleyball, handball, and racquetball courts. Outdoor facilities include tennis and handball courts, a fitness trail, and baseball, soccer, and softball fields.

Students will find fitness activities, both organized and individual, to suit their interests and needs. Intramural sports are available to all students, with schedules designed for maximum participation.

### **Graduates**

The graduates of UM-St. Louis reflect the diversity found in a metropolitan community. The university has more than 70,000 graduates living in all 50 states and several foreign countries. Of these alumni, more than 80 percent continue to live and work in the St. Louis metropolitan area.

The university is a major force in providing the region with a highly educated and diverse work force. Alumni can be found in companies and organizations throughout the region and nation. UM-St. Louis has graduated more than 4,611 accountants, 4,761 nurses, and 797 doctors of optometry. With the granting of 18,450 education degrees, the College of Education is the largest educator of teachers in the St. Louis metropolitan area.

## Undergraduate Study

This section includes admission and academic policies for students seeking undergraduate degrees from the University of Missouri-St. Louis.

### Admission and Application Procedures

#### Admission for First-Time Freshmen

The University of Missouri has a uniform policy for admission of freshman students to its four campuses. The procedure for regular admission from high school is based on high school class rank, performance on a standardized college aptitude test, and required high school units. Veterans who have been out of high school for five or more years should refer to the Veterans and Mature Adults section.

**Admission Procedure.** Students applying as first-time freshmen (i.e., students without previous college work) need to submit to the Director of Admissions four items:

- **Undergraduate Application for Admission.** Applications may be requested by calling the Office of Admissions at (314) 516-5451. Applications are also available via the Internet. Applicants may apply on-line at <http://www.umsl.edu/applying.html>
- **Application Fee.** The \$35.00 application fee (\$40.00 for international students) may be paid by:
  - A check or money order made payable to UM-St. Louis
  - A credit card by using the on-line application
  - A credit card by calling 516-6930
  - Cash by appearing in person at the office of the Registrar in 269 Millennium Student Center.
- **High School Transcript and Class Rank.** A transcript must be sent directly from the high school to the UM-St. Louis Office of Admissions. The transcript should indicate class rank and all coursework. Required college aptitude test scores may also be submitted via this transcript or directly from the testing agency.
- **College Aptitude Test.** Freshman admission requires that a test score be submitted for each applicant, from one of the following:
  - **American College Testing Program (ACT)** These tests are administered at UM-St. Louis and at many other locations across the country. To request a test packet, call the Office of Admissions at (314) 516-5451 or your high school counselor.
  - **Scholastic Aptitude Test** These tests are administered at many locations across the country.

**When to Apply.** Qualified applicants are admitted and notified by letter of their admission in the order that completed applications are received. Applications are accepted after October 1 for the next fall semester on the basis of six or more high school semesters.

**Admission Requirements.** Any 1997 or later high school graduate is admissible with evidence indicating he or she meets both the following requirements:

- **At least 17 units of credit** (1 unit=1 year in class) as follows:
- **English:** 4 units. Two units emphasizing composition or writing skills. One of the remaining 2 units may be in speech or debate.
- **Mathematics:** 4 units (Algebra 1 and higher).
- **Science:** 3 units not including general science, one of the 3 units must be a laboratory course.
- **Social Studies:** 3 units.
- **Fine Arts:** 1 unit.
- **Foreign Language:** 2 units. Must be 2 units of a single foreign language.
- Math and foreign language units may be accepted from middle/junior high school.
- **In addition to the 17-unit requirement,** each student will be evaluated on high school rank and test score (ACT or SAT). Students with a composite ACT score of 24 or SAT of 1100 will be admitted without regard to class rank. Class rank will be used to determine eligibility for admission when the student's ACT score is from 17 to 23 (SAT is 800 to 1090).

If the ACT Composite score is 17 to 23 or the total of SAT Verbal and Math scores is 800 to 1090, the applicant must meet the following high school class rank requirement to be admitted automatically.

ACT	SAT Total Verbal, Math	High School Class Percentile Rank
23	1050-1080	48
22	1010-1040	54
21	970-1000	62
20	930-960	69
19	890-920	78
18	840-880	86
17	800-830	94

**Applicants who do not meet these criteria may still be admitted, depending on other evidence of likely success and campus enrollment objectives.**

These applicants can apply to the Director of Admissions. Additional factors considered for admission may include:



- Extracurricular activity
- Outstanding talent and/or abilities.
- College preparatory courses taken.
- Evidence of marked improvement over time in high school academic record.
- Significant work experience and/or family responsibilities.
- A personal statement to one or more of the above in student's own hand (in essay form).
- Recommendations by teachers, counselors, or principals.

For additional information regarding admission requirements, contact the Office of Admissions at (314) 516-5451 or by E-mail at [admissions@umsl.edu](mailto:admissions@umsl.edu).

**Acceptance.** Upon graduation, students must submit a final high school transcript indicating their class rank and graduation date. First-time freshmen may be required to take a placement examination in mathematics.

**Advanced Standing for Entering Freshmen.** UM-St. Louis grants credit hours to entering freshmen who, through their performance on College Entrance Examination Board Advanced Placement Tests and faculty-administered tests, demonstrate proficiency in certain college-level courses such as biology, chemistry, English, foreign languages, history, mathematics, political science, and physics. For further information and applications, write to College Board Placement Examinations, Box 592, Princeton, New Jersey 08540. The score-reporting institution code number for the University of Missouri-St. Louis is 6889. Test scores should be sent to the Director of Admissions. A brochure with detailed information is available in the Office of Admissions.

**Dual Credit.** Accredited programs such as the Advanced Credit Program at the University of Missouri-St. Louis enable qualified high school juniors and seniors the opportunity to earn college credits while completing high school. General education courses are offered through the University in the College of Arts and Sciences and through the College of Fine Arts and Communication. Information about the transferability of credits from dual credit courses is available from the Office of Admissions, and further information about the Advanced Credit Program may be obtained by calling (314) 516-7005.

**Dual High School/University Enrollment.** Superior high school students may be admitted in a special student category to take one or more University courses during their junior or senior years of high school or during the summers. Students must submit a dual enrollment application and a high school counselor's or principal's recommendation. Students are admitted on the evidence of academic excellence. Admission is limited and governed by available space, and students must meet the prerequisites for the course or courses. Students should

contact the College of Arts and Sciences at (314) 516-5501 for more information.

**College Level Examination Program.** Applicants may earn advanced credit through the College Level Examination Program (CLEP). A maximum of 28 semester hours of credit may be earned. CLEP offers subject examinations for credit in specific areas. These examinations can be taken any time, provided the student has not taken a college credit course in the test area. The student must earn a score at or above the 50th percentile to receive credit. Consultation with an adviser is recommended. CLEP tests are given by appointment in the University Assessment Center in room 412, Social Science and Business Building (SSB). Call (314) 516-6396 for complete information.

**Credit for Military Service.** Credit may be allowed for service training programs conducted by the various Armed Forces branches. The American Council of Education's recommendations in *A Guide to the Evaluation of Educational Experiences in the Armed Services* generally serve as a basis for granting such credit. To count toward a degree, the credit granted must be appropriate to the student's curriculum.

**Trial Admission.** Applicants who do not meet the regular admission standards may be admitted on a trial basis. Each student's academic record will be reviewed by the Director of Admissions and decisions will be made on a case-by-case basis.

**High School Equivalency Applicants.** Individuals may seek admission on the basis of passing the General Education Development (GED) test with a minimum score of 2500 (for tests taken after January 1, 2002; minimum score of 250 required for tests taken prior to January 1, 2002

In addition, the following must be presented:

- A completed undergraduate application (available on-line at [www.umsl.edu/applying](http://www.umsl.edu/applying))
- A \$35 non-refundable application fee (\$40 for international students)
- ACT composite score of at least 24 or SAT composite of 1100
- A high school transcript if ACT/SAT scores are present.

**Home-Schooled Students.** UM-St. Louis welcomes home-schooled students. To be admitted for undergraduate admission, the home-schooled student must present the following:

- A completed Undergraduate Application (available online at <http://www.umsl.edu/applying.html>).
- \$35 Application Fee (\$40 for international students)
- ACT Composite score of 24 or SAT of 1090

- A transcript of coursework

### Veterans and Mature Adults

Applicants may be admitted as degree or non-degree-seeking students if they are veterans of the military service or over age 21 and have not previously earned college credit, have not been in school for several years, have not earned a high school diploma or passed the GED; or if they have a diploma but do not meet regular admission requirements from high school. Non-degree-seeking students can become degree candidates on the basis of their performance in University course work.

### Admission for Transfer Students

UM-St. Louis welcomes transfer students; students should be aware that actual requirements for degrees vary from institution to institution.

Students transferring from other colleges and universities must submit the following information to the Director of Admissions:

- Undergraduate Application for Admission
- A \$35 application fee (\$40 for international students)
- High school transcript (or GED) if the applicant has less than 24 hours of college-level course work.
- Official transcripts from all colleges/universities attended. Hand-carried credentials are not accepted.

All credentials submitted for admission become the property of the University.

A transferring student who has completed fewer than 24 earned semester hours of college-level work must apply under the procedures for admission to the freshman class and must have at least a 2.0 overall grade point average (4.0 system) in all college-level courses attempted at previous institutions.

**Suspended and Dismissed Transfer Students.** Students under suspension or dismissal from another institution or whose previous record is of unsatisfactory quality may need to appeal to the Faculty Senate Committee on Admissions and Financial Aid.

**Missouri State Transfer Agreement CBHE Statement.** Students transferring into UM-St. Louis and out of UM-St. Louis may use the Coordinating Board of Higher Education (CBHE) Articulation Agreement. The agreement outlines statewide undergraduate general education requirements which satisfy the general requirements for students transferring into UM-St. Louis and students transferring out of UM-St. Louis to other public higher education universities in the state. UM-St. Louis requires mathematics proficiency beyond the general requirements in the CBHE Statement. Please

refer to the General Education section of this bulletin goal number six for details.

**Transfer Credit.** According to the articulation agreement among public institutions within the state of Missouri, the following guidelines will govern transfer of credit to UM-St.

Louis from colleges and universities within the state of Missouri. These guidelines also apply to students transferring to UM-St. Louis from schools located outside Missouri. Advanced standing in the form of credit hours may be allowed for work satisfactorily completed in another college or university of recognized standing, public or private, located in the state of Missouri, as long as the work satisfies the requirements of the University division in which the student registers.

The academic record at a given institution will include all courses attempted. Grades of D or better earned in college-level work at an accredited or approved institution of higher education should receive full credit when transferred to UM-St. Louis. The University, however, will treat all grades on courses attempted on the same basis as that of a UM-St. Louis student. For example, if a UM-St. Louis student is required to repeat a specified course having earned a D grade, a transfer student will also be required to repeat the same course if it carried a D grade.

**Advanced Standing.** Advanced standing includes credit by examination, such as Advanced Placement (AP), the College-Level Examination Program (CLEP), and Defense Activity for Non-Traditional Education Support (DANTES). It also includes credit by portfolio review (Bachelor of Fine Arts only). These lower-division credits may **not** apply at the senior level. For examination credit, students should submit appropriate transcripts to the Office of Admissions before their first semester at UM-St. Louis. Likewise, the Fine Arts department should be consulted for portfolio reviews. Early attention to these matters is essential to avoid unnecessary course work or repeats that can lead to loss of credit. If examinations are completed at a later date, transcripts should be submitted as soon as they are available.

Shortly after all official transcripts are on file, a student's previous academic record will be evaluated to determine which courses are applicable. Should there be any question concerning applicability of any courses, students should contact the Dean's office of their academic unit. Degree checks, determining whether courses meet a specific degree requirement and whether courses are accepted as a part of the student's academic major, are made in the office of the Dean concerned.

**Associate Degree Transfers from Community Colleges.** A student admitted to the University and holding an associate degree applicable toward the baccalaureate degree will be accepted in junior standing. Students fulfilling the general education requirements outlined by

the Missouri Coordinating Board of Higher Education and certified by the sending institution will have met the lower division general education requirements at UM-St. Louis. Students with MO AA degrees that include a CBHE approved general education core may transfer more than 64 credit hours for lower division courses. Any additional lower division course credits above 64 credit hours must be applicable to the baccalaureate degree or must be a prerequisite for an upper division course in the major. However, this does not exempt the student from meeting specialized lower-division degree requirements of specific departments. Courses completed in the associate degree program are evaluated for application to specific degree requirements by the same criteria used for transfer students from other colleges and universities.

#### **Transfers without an Associate Degree**

Transfer applicants who do not have an associate degree will have their transcripts evaluated on a course-by-course basis. Students who have fulfilled the general education requirements outlined by CBHE and certified by the sending institution will meet the University's general education requirements.

#### **Transfers Within the University of Missouri System.**

A student not in good standing at another campus of the University of Missouri (suspended or dismissed) must submit an appeal to the Senate Committee on Admissions and Student Financial Aid in order to be admitted to UM-St. Louis.

Any course that leads to an undergraduate degree on any campus of the University of Missouri shall be accepted in transfer toward the same degree on any campus of the University offering that degree. Grades, including D and F grades, and honor points earned in such courses will also transfer and will be included in the cumulative grade point averages. Unresolved problems related to transferability of credit may be appealed to the Dean of the College or their representative.

Students within the last 30 hours of graduation may take a limited number of courses at another campus in the UM system, provided the last 15 hours are taken at UM-St. Louis and the work is approved by their respective Deans and departments.

**Midwest Student Exchange.** The Midwest Student Exchange Program is an initiative designed by the Midwestern Higher Education Commission to increase interstate educational opportunities for students in its member states. The program enables residents of Kansas, Michigan, Minnesota, Missouri, and Nebraska to enroll in the institutions and specified programs located outside their home state at reduced tuition levels.

**Students from Other Countries** Prospective students living outside the United States and its possessions should write to the Office of International Student and Scholar

Services at the address below at least one year before the date of desired admission for information about application to the University. Students will be expected to supply official original secondary and college/ university transcripts from all schools attended as well as other official original documents. International students must also pay a \$40 application fee. All students should make arrangements to take the Test of English as a Foreign Language (TOEFL) well in advance of their admission date.

Since 1998, all students in F-1 and J-1 status have been required to purchase an inexpensive insurance policy with coverage for illness and accidents, billed directly to the student's accounts. For details contact:

Office of International Student and Scholar Services  
261 Student Millennium Center  
One University Boulevard  
St. Louis, MO 63121-1400

**Returning Students.** Effective WS2005, returning undergraduate students who are admitted and/or enrolled who did/did not attend will be automatically eligible to register without having to reapply for the period of one academic year.

Students who do not attend for two semesters will be required to complete a returning student application and provide official transcripts from other colleges and universities attended since last enrolled as an UMSL student.

The returning student application is on line at <http://www.ums.edu/admission> or by calling the Office of Admissions at (314)-516-5451.

**Visiting Students.** Students who are attending another college or university who do not wish to earn a degree from the University of Missouri-St. Louis may register as visiting college students. Visiting student forms can be obtained from the Office of Admissions, the Office of the Registrar, or on-line at [www.ums.edu/admission](http://www.ums.edu/admission), or by calling (314) 516-5545. At the end of the session, students must request that their grades be reported by transcript to their respective schools. Financial aid is not available for such students.

**Non-Degree-Seeking Students.** An individual wishing to enroll in a course but is not seeking a degree may apply to the University as a non-degree-seeking student. No transcripts are required; however, the admission applies only for that particular semester. To attend for another semester, the student must reapply. The non-degree application is available on-line at [www.ums.edu/admission](http://www.ums.edu/admission), by calling (314) 516-5451, in the office of the Registrar, or in the office of Admissions. Financial aid is not available for such students.

**UM-St. Louis Express** UM-St. Louis Express provides Missouri's Senior Citizens (65 and older) easy access to undergraduate courses without limit on an audit (not for credit) space-available basis. Graduate courses are not available through this program. Students are subject to: non-refundable \$25 registration fee, parking fee, and course related fees. Former UMSL Express students who reapply for the Program must again pay the registration fee. Students interested in attending as an UMSL Express student may obtain a registration form from the Office of Admissions. Students should complete and return the form with proof of age to the Office of Admissions on the day before classes are scheduled to begin or after.

### Registration

#### New Students

Upon admission to the University, students are notified that instructions will be sent by the Registrar's office before registration.

After the close of the preregistration-by-appointment period, all newly admitted or readmitted students are eligible to register. Students wishing to register for more than a normal course load must obtain approval from their Dean.

#### Former Students

Former students not currently enrolled must submit a reenrollment application see "Returning Students" above.

#### Currently Enrolled Students

Currently enrolled students are given the opportunity to preregister, by appointment, before all other students. Students wishing to preregister for the next semester in a different division or school must complete a Change of Division form available on line at [www.umsl.edu/admission](http://www.umsl.edu/admission), by calling (314) 516-5451, in the office of the Registrar or in the office of Admissions.

#### Auditor

Students may enroll as auditors in any course with the prior consent of the instructor and Dean of the school or college in which the auditors desire to be registered. They may be dropped from the course when, in the judgment of the instructor and Dean, their record justifies such action. Auditors are charged full fees and receive no academic credit.

#### Registration Cancellation

Students who have enrolled and paid their fees but do not wish to attend the university may cancel their registration any time before the first day of the semester. Cancellation forms may be obtained at the Office of the Registrar. For the refund schedule for cancellation of registration after class work begins, see the *Schedule of Courses*.

### Enrollment and Academic Advising

Undergraduate students are admitted to the college, school, or professional school which offers the degree program which was declared on the student's application. Undeclared students, visiting students, and non-degree-seeking students are admitted to the College of Arts and Sciences.

The Advising Center, 225 Millennium Student Center (314) 516-5300, provides advising for all undergraduate students, regardless of major. Undeclared students are encouraged to declare a major as soon as possible since it is important to determine what specific requirements must be satisfied to complete the baccalaureate program. Advisers in the Advising Center offer the following services to all undergraduate students: setting and planning academic goals, planning or changing a course schedule, withdrawing from school, placing a course on S/U status, petitioning for grade modification, applying for graduation, and making referrals as needed.

### College of Arts and Sciences

All incoming undergraduate students are required to be advised. Advising services are available in the University Advising Center in the Millennium Student Center, the College Advising Office located in 303 Lucas or in their major department. Students who have declared majors are encouraged to contact their major departments as soon as possible.

The departments in the College of Arts and Sciences as well as the School of Social Welfare offer majors, minors, and certificates in the humanities, social sciences, mathematics and computer science, and the biological and physical sciences. Interdisciplinary programs are available in Liberal Studies, women's and gender studies, gerontology, labor studies, conservation biology, trauma studies, and more. The college also serves students with interests in the health sciences, pre-law, and pre-journalism. Information on these areas may be obtained in the Office of Undergraduate Student Affairs of the College of Arts and Sciences, 303 Lucas Hall.

Since there are specific requirements that each major must satisfy to complete a baccalaureate program, students are urged to declare their majors as soon as possible. This may be done at the time of application, later in the Advising Center or the office of undergraduate student affairs. Once a student declares a major, the department offering the degree will assign a faculty adviser and contact the student. The adviser, usually a faculty member in the student's area of interest, will assist in selecting suitable courses and advise the student in matters relating to degree requirements.

Students with specific concerns related to the specialized degree requirements of the college should consult with the academic departments responsible for their majors. Questions regarding transfer credit as they relate to a

specific degree may be directed to the appropriate department. Students may contact the Office of Undergraduate Student Affairs of the College of Arts and Sciences by phone at (314) 516-5501 for clarification on any academic issues related to the division or by e-mail [artscience@umsl.edu](mailto:artscience@umsl.edu).

### **College of Business Administration**

The College of Business Administration's office of undergraduate academic advising has a staff of professional academic advisors who provide assistance to students in planning their academic careers, and in dealing with: appropriate course selection; College of Business Administration requirements; general education requirements; evaluation of transfer credit; course prerequisites; school policies and regulations; and graduation requirements. Other matters related to a student's academic matriculation should also be directed to this office.

Transfer students who have been admitted to the College of Business Administration should contact the advising office and plan to meet with an advisor early in the semester for an evaluation of transfer credit and the planning of their degree programs.

All students are urged to make advising appointments early during each semester, prior to registration dates, to obtain approval of schedules for upcoming semesters. Advising is a continuous and ongoing process. For additional information, call (314) 516-5888.

### **College of Education**

Students wishing to prepare for teaching careers should consider the following:

Students who intend to teach in elementary, early childhood, middle school, special education, secondary education, or physical education settings must apply for admission to the College of Education.

Students who intend to teach in secondary school classrooms may choose to pursue the bachelor's degree in the College of Arts and Sciences plus certification, or the B.S. in education degree, which includes Missouri certification.

With either option, pre- and post-degree students must meet university and departmental requirements, as well as those for teacher education in Missouri. Regardless of which option a student chooses, he or she must complete the formal application to the teacher education program. Careful planning of individual schedules is necessary to ensure selection of appropriate courses and to avoid extending programs. Students should therefore seek advisory help from the APEC at the earliest opportunity. Regular consultation with advisers is essential. The office provides assistance to all students interested in professional education programs and certification requirements. Questions about admission to the teacher education program, sequencing of courses, prerequisites,

graduation requirements, and related matters should be directed to (314) 516-5937.

### **College of Fine Arts and Communication**

The College of Fine Arts and Communication includes the Department of Art and Art History, Communication, Music, and Theatre, Dance and Media Studies. These four departments offer eight degrees, both graduate and undergraduate. The College also serves students with interests in pre-architecture. The College of Fine Arts and Communication is further distinguished by its collaboration with the community. Endowed professorships link the University to the Saint Louis Symphony, The St. Louis Art Museum, Opera Theatre of St. Louis, the Laumeier Sculpture Park and a variety of other St. Louis cultural institutions.

Students interested in these degrees or in need of preliminary advising may contact the office of undergraduate student affairs at 516-5501 for an appointment or referral to the department in which you are interested.

Students and prospective students are encouraged to contact the department advising coordinators for the program of individual study. Students who maintain a relationship with their department have greater opportunities to meet other students with similar interests as well as optimize their student experience.

### **College of Nursing**

The College of Nursing offers the bachelor of science in nursing degree (B.S.N.) for non-RNs through a four-year or accelerated program of study. RNs who are graduates of diploma or associate degree nursing programs complete a junior-senior B.S.N. track (RN to B.S.N.), which avoids repeating previous nursing education. With both options, students must meet university and College of Nursing requirements. The Master of Science in Nursing Degree Program is designed for the nurse who wishes to pursue advanced nursing practice. The College of Nursing's MSN program offers four functional roles: Nurse educator, nurse leader, nurse practitioner and clinical specialist. The MSN with the Nurse Practitioner option and the post MSN program allow students to apply for certifying exams for adult, family, pediatric, or women's health. The Ph.D. program offers post-baccalaureate and post MSN tracks for students who wish to conduct research to improve the health status of high-risk populations, provide leadership to develop policies that promote health, and serve as collaborators and principal investigators on interdisciplinary research teams. Careful planning is necessary to assure appropriate course sequencing. Students are strongly encouraged to develop a plan of study in conjunction with a nursing academic adviser to avoid extending the program of study.

Faculty maintain the right to make appropriate curriculum changes to comply with standards for accreditation and

approval as stipulated by the Commission on Collegiate Nursing Education and the Missouri State Board of Nursing's minimum standards.

### **Pierre Laclède Honors College**

Honors Scholars receive both academic advising and personal counseling from the college's administrative and teaching staff throughout their undergraduate careers. During the first two years, particular attention is given to the ways in which students fulfill their Honors College and university general education requirements and prepare themselves for their majors by taking the necessary prerequisites. After a major is declared, Honors College advisement with regard to work done for honors credit continues and is supplemented by major-related advising provided by the appropriate academic unit. The college identifies candidates for major graduate fellowships and assists them in preparing their dossiers. Similar assistance is given to scholars planning to go on to graduate and professional schools or seeking career opportunities immediately upon graduation.

### **Other Considerations**

#### **Assessment**

The University of Missouri has been directed by the Board of Curators to implement a variety of studies designed to assess the outcomes of university education. To this end two types of assessment are required of all students:

- A test of general educational development given to incoming freshmen and graduating seniors.
- A test or project, specified by the major department, given to graduating seniors. Students who do not comply will not be allowed to graduate. As alumni, graduates are encouraged to participate in assessment by completing questionnaires sent to them by the university.

#### **Academic Residence**

Students must be in residence for at least 24 of the last 30 hours of graded credit (exclusive of courses graded on a satisfactory/unsatisfactory basis), except under unusual circumstances, to be decided by the dean.

#### **Graduation**

Students should file a degree application form with their respective dean's office at least one year before the expected graduation date. (Students in the College of Arts and Sciences or Fine Arts and Communication should file their degree applications in the University Advising Center.) The dean's office makes a final check to determine that all graduation requirements have been met. Students should check with the dean's office or an adviser to be sure their program fulfills the requirements of the department and college or school, as well as the university general requirements. To assure graduating at the end of a specific semester, all work for that semester and any delayed grades from previous semesters must be completed with the grades sent to the Office of Admissions

no later than the official date for submission of final semester grades.

### **Course Schedules**

Three times during the year, a *Schedule of Courses* is produced, listing the specific courses offered that semester and their meeting times and locations. This *Schedule* is posted on the UM-St. Louis web site: <http://www.umsl.edu>, and available as follows:

**Fall semester schedule:** preceding March.  
**Winter semester schedule:** preceding October.  
**Summer session schedule:** preceding March.

The university reserves the right to cancel without notice any course listed in the *Bulletin* or the *Schedule of Courses* for any semester or to withdraw any course which does not have adequate enrollment

### General Education Requirements:

Students must successfully complete the general requirements of the university, the school or college in which they are enrolled, and the specific requirements of their area of specialization. Described below are the general education requirements for all degrees.

The University of Missouri-St. Louis General Education Program was approved by the Faculty Senate April 23, 2002. This program affords both native and transfer students attending our university the opportunity to develop and use intellectual tools and to acquire a breadth of knowledge necessary in our challenging, technological, and diverse world. This program challenges students to investigate various disciplines as potential majors and to develop environments, and it prepares them for success in major fields of study. The program complies fully with the Missouri Coordinating Board of Higher Education Guidelines on Transfer and Articulation (June 2000).

### General Education Requirements (Effective Fall, 2002)

#### Application of Policy to Freshmen

Freshmen who enrolled at UM-St. Louis or at any other accredited post-secondary institution in fall 2002, and all future freshmen, must complete the requirements of the General Education Plan in order to earn a baccalaureate degree from the University of Missouri-St. Louis. For purposes of this policy, a freshman is defined as any student who has completed less than 24 semester hours of credit\* prior to the start of the fall 2002 semester.

*\*Only credit that is transferable to UM-St. Louis is applicable. For purposes of implementing the general education plan at UM-St. Louis, the phrase "credit that is transferable" shall be interpreted to mean all credit associated with coursework completed with a grade of D- or better at a regionally accredited post-secondary institution (or an approved foreign college or university). Credit associated with military science and developmental/remedial coursework shall be excluded from this understanding of "credit that is transferable".*

#### Application of Policy to Others

Students who have earned 24 or more semester hours of credit\* at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St. Louis 2001-2002 Bulletin. However, such students may elect to complete the new General Education Plan described below that became effective in the fall semester of 2002.

*\*Only credit that is transferable to UM-St. Louis is applicable*

### SKILL GOALS:

Communicating Skills (minimum 2 three-hour courses or 6 hrs) [C]

Managing Information Skills (min. 1 course or 3 hrs) [MI]

Valuing Skills (min. 1 course or 3 hrs) [V]

### KNOWLEDGE GOALS:

Social and Behavioral Sciences Knowledge Goal (min. 3 three-hour courses or 9 hours minimum) [SS]

Humanities and Fine Arts Knowledge Goal (min. 3 three-hour courses or 9 hours minimum) [H]

Mathematics and Life/Natural Sciences (min. 4 three-hour courses or 12 hours minimum) [MS]

Students may take only those courses listed below for the 42-hour General Education block. **Many courses satisfy more than one goal, are designated as such, and may be counted for all of the goals listed for each specific course.** Select courses that concentrate fully on a skill goal(s) but no knowledge goals have been marked with an asterisk, and it should be noted that those courses concentrate on the designated skill comprehensively.

**Once students have met the required number of courses or hours under each goal, they may take any of the certified General Education courses listed under any of the goals to achieve the 42-hour program.** This offers them the opportunity to use the General Education program to meet their individual needs and interests. **Students may not take any upper-level courses or any lower-level courses that do not appear on the list of certified General Education courses to complete the 42-hour block.**

Transfer students entering UM-St. Louis may transfer a CBHE approved 42-hour block of General Education courses, in accordance with the CBHE Transfer and Articulation agreement. However, those students transferring with fewer than 42 hours or from a non-participating institution will have their transcripts evaluated on a course-by-course basis.

The new General Education Program of the University of Missouri-St. Louis offers students an exciting and challenging program that develops the skills and knowledge necessary to succeed in today's changing world. The following information outlines each of the six goals and the courses that meet the competencies students must achieve to accomplish the designated skills and knowledge goals. The program also allows for individual choices in disciplines and skills to assist the students in their undergraduate endeavors at UM-St. Louis.

### GENERAL EDUCATION GOALS AND COURSES

#### PLEASE NOTE:

\* Course addresses skill goal(s) and **no** knowledge goals. The course covers the skill goal comprehensively and is suggested for those students who seek an in-depth coverage of that skill.

\*\*Course will count for Cultural Diversity Graduation Requirement.

\*\*\*Course will count for State Government/History Requirement (Honors students should check with Honors College each semester for list of Gen. Ed. Courses that meets this requirement).

**ALL COURSES ARE THREE-HOUR COURSES UNLESS OTHERWISE NOTED.**

**GOALS:**

**SKILL GOALS:**

- COMMUNICATING (min. 2 courses or 6 hrs)
- MANAGING INFORMATION (min. 1 course or 3 hrs)
- VALUING (min. 1 course or 3 hrs)

**KNOWLEDGE GOALS:**

- SOCIAL AND BEHAVIORAL SCIENCES (min. 3 three-hour courses or 9 hr)
- HUMANITIES AND FINE ARTS (min. 3 three-hour courses or 9 hrs)
- MATHEMATICS AND LIFE/NATURAL SCIENCES (min. 4 three-hour courses or 12 hrs)

**GOAL # 1 COMMUNICATING SKILLS**

The Communicating Skills Goal develops students' effective use of the English language and quantitative and other symbolic systems essential to their success in school and in the world. Students should be able to read and listen critically and to write and speak with thoughtfulness, clarity, coherence, and persuasiveness (CBHE General Education, June 2000).

Students must complete a minimum of two courses or six hours in the Communicating Skills area including a freshman composition course (English 1100, 1110 or Honors 1200) and one other course taken from the following list:

- \*comprehensive coverage of skill goal
- \*\* satisfies cultural diversity requirement
- \*\*\*satisfies state government requirement

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goal(s) of the Course</u>
English 1100 or English 1110 or Honors 1200	Freshman Composition* Freshman Composition for International Students* Freshman Composition for Honors Students	

Select a minimum of one course:

Communication 1030	Interpersonal Communication*
Communication 1040	Introduction to Public Speaking*
Communication 1050	Introduction to Mass
Biology 1102	Human Biology
Chemistry 2223	Quantitative Analysis
Chemistry 2633 (2 hrs)	Organic Chemistry Laboratory
English 1120	Literary Types
English 1130	Topics in Literature
English 1170	American Literary Masterpieces
English 1200	Myth
English 1700	African-American Literature
English 1710	Native American Literature
English 2030	Poetry Writing
English 2040	Short Story Writing
English 2050	Play Writing
English 2120	Topics in Writing
English 2200	Classical Literature in Translation*
English 2230	Jewish Literature
English 2240	Literature of the New Testament 5
English 2250	Literature of the Old Testament
English 2310	English Literature I
English 2320	English Literature II
English 2330	Introduction to Poetry
English 2350	Introduction to Fiction
English 2710	American Literature I
English 2720	American Literature II
English 2810	Traditional Grammar**



French 2102	Intermediate French Language and Culture II
French 2180	Readings in French
German 2170	German Composition and Conversation
German 2180	Readings in German
History 1001	American Civilization to 1865***
History 1002	American Civilization 1865 to Present***
History 1004	The History of Women in the United States***
History 1030	The Ancient World
History 1031	Topics in European Civilization to 1715
History 1032	Topics in European Civilization since 1715
History 1051	Latin American Civilization**
History 1052	Mexican Civilization**
History 1061	African Civilization To 1800**
History 1062	African Civilization Since 1800**
History 1063	African Diaspora To 1800**
History 1064	African Diaspora Since 1800**
Honors 1110	Honors Western Traditions: Humanities
Honors 1130	Honors Western Traditions: Social & Behavioral Sciences
Honors 1210	Honors American Traditions-Humanities
Honors 1300	Honors Critical Analysis
Honors 1330	Honors Non-Western Traditions
Honors 2010	Honors Inquiries in the Humanities
Honors 2020	Honors Inquiries in the Fine Arts
Honors 2030	Honors Inquiries in the Social and Behavioral Science.
Honors 2050	Honors Inquiries in Natural Sciences
Media Studies 2218	Public Policy in Telecommunication
Spanish 2171	Spanish Conversation and Pronunciation
Spanish 2172	Spanish Composition
Spanish 2180	Readings in Spanish**
Theatre & Dance 1100	Introduction to Dance
Theatre & Dance 1210	Fundamentals of Acting
Theatre & Dance 1800	Introduction to Theatre
Theatre & Dance 1850	Introduction to Non-Western
Theatre & Dance 2105	Script Analysis
Theatre & Dance 2211	Acting Styles
Theatre & Dance 2230	Aesthetics of Theatrical Styles
Theatre & Dance 2810	History of World Theatre and Drama Through the Restoration

### GOAL # 2 MANAGING INFORMATION SKILLS

The Managing Information Skills Goal develops students' abilities to locate, organize, store, retrieve, evaluate, synthesize and annotate information from print, electronic, and other sources in preparation for solving problems and making informed decisions (CBHE General Education, June 2000).

Students must complete a minimum of one course or three hours in the Managing Information Skills area taken from the following list:

- \*comprehensive coverage of the skill goal
- \*\*satisfies cultural diversity requirement
- \*\*\*satisfies state government requirement

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goal(s) of the Course</u>
Computer Science 1010	Introduction to Computers	(credit not granted for both CS 1010 and BA 1800)*
Bus. Ad. 1800	Computers and Information Systems	(credit not granted for both BA 1800 and CS 1010)*
Anthropology 1006	Introduction to Non-Human Primates	
Anthropology 1019	Introduction to Archaeology**	
Anthropology 1033	World Archaeology**	
Astronomy 1001	Cosmic Evolution/Introductory	
Astronomy 1001	Atmospheric Sci. Elementary Meteorology	
Biology 1811	Introduction to Biology I: From Molecules to Organisms	
Biology 1821	Introduction to Biology II: Organisms and the Environment*	

Biology 1202	Environmental Biology
Chemistry 1082	General Chemistry I
Chemistry 1011	Chemistry in the Environment and Everyday Living
Chemistry 1121	Introductory Chemistry II
Chemistry 2223	Quantitative Analysis
Chemistry 2412	Basic Inorganic Chemistry
Chemistry 2622	Organic Chemistry II
Chemistry 2633	Organic Chemistry Laboratory
Chemistry 1052	Chemistry for the Health Professions
Chemistry 1062	Organic and Biochemistry for Health Professions
Chemistry 1091	General Chemistry II
Crim & C J 1200	Foundations of Law (Pol.Sci. 1200)
Economics 2410	The Economics of Women, Men and Work
Economics 2800	History of American Economic Development
English 1100	Freshman Composition
English 1110	Freshman Composition for International Students
Geography 1001	Introduction to Geography
Geology 1001	General Geology
Geology 1002	Historical Geology
Honors 1200	Freshman Symposium**
Honors 1310	Non-Western Traditions
Physics 1011	Basic Physics I
Physics 1012	Basic Physics II
Physics 2111	Physics: Mechanics and Heat
Physics 2112	Physics: Electricity, Magnetism and Optics
Political Science 1500	Introduction to Comparative Politics
Political Science 1200	Foundations of Law (CCJ 1200)
Political Science 1450	Introduction to Labor Studies 4
Political Science 1500	Introduction to Comp. Politics
Political Science 1550	Women and Politics in the Developing World
Political Science 1820	Global Issues
Political Science 1990	The City, (Soc. 1999)
Sociology 1999	The City, (Pol Sci.1990)
Theatre & Dance 2820	The History of World Theatre & Drama from 18 <sup>th</sup> Century to Contemporary Times
Theatre & Dance 2840	History of Dance to the 19 <sup>th</sup> Century
Theatre & Dance 2841	History of Dance from 19 <sup>th</sup> Century to Contemporary Times

### GOAL # 3 VALUING SKILL

The Valuing Skills Goal develops students' abilities to understand the moral and ethical values of a diverse society and to understand that many courses of action are guided by value judgments about the way things ought to be. Students should be able to make informed decisions through identifying personal values and the values of others and through understanding how such values develop (CBHE General Education, June 2000).

Students must complete a minimum of one course or three hours in the Valuing Skills area taken from the following list:

\*\*satisfies cultural diversity requirement

\*\*\*satisfies state government requirement

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goal(s) of the Course</u>
Anthropology 1011	Introduction to Cultural Anthropology**	
Anthropology 1025	World Cultures	
Anthropology 2117	Greek History & Culture**	
Biology 1081	Global Ecology (Pol. Sci. 1850)	
Biology 1202	Environmental Biology	
Crim & C J 1200	Foundations of Law (Pol. Sci. 1200)	
Economics 1000	Introduction to the American Economy	
Economics 1001	Principles of Microeconomics	
Economics 2610	The Economics of Professional Sports	
Economics 2010	The Business Firm: History, Theory and Policy	
English 1120	Literary Types	
English 2200	Classical Literature in Translation	

English 2280	The Contemporary World in Literature**
English 2340	Introduction to Drama
English 1200	Myth
History 1003	African-American History***
Honors 1230	American Traditions***
Honors 1330	Non-Western Traditions—Social Sciences
Music History 1001	Introduction to Music
Music History 1080	Introduction to Irish Traditional Music
Music History 1090	Non-Western Music I
Music History 1100	Non-Western Music II
Music History 1110	Introduction to Irish Traditional Music in North America
Music Th & Comp 1190	Fundamentals of Music
Music Th & Comp 1301	Theory of Music I
Music Th & Comp 1311	Theory of Music II
Music Th & Comp 2301	Theory of Music III
Music Th & Comp 2311	Theory of Music IV**
Philosophy 1090	Telecourse: Philosophy and Other Disciplines
Philosophy 1091	Telecourse: Significant Figures in Philosophy
Philosophy 1110	Western Philosophy I
Philosophy 1111	Western Philosophy II
Philosophy 1120	Asian Philosophy**
Philosophy 1125	Islamic Philosophy**
Philosophy 1130	Approaches to Ethics
Philosophy 1150	Major Questions in Philosophy
Philosophy 1160	Logic and Language
Philosophy 1185	Philosophy of Religion
Philosophy 2252	Philosophical Foundations of Criminal Justice (CCJ 2252)
Philosophy 2253	Philosophy and Feminism
Philosophy 2254	Business Ethics
Philosophy 2256	Bioethics
Philosophy 2258	Medicine, Values and Society
Philosophy 2280	Minds, Brains and Machines
Political Science 1100	Introduction to American Politics***
Political Science 1200	Foundations of Law (CCJ 1200)
Political Science 1500	Introduction to Comparative Politics
Political Science 1550	Women and Politics in the Developing World
Political Science 1850	Global Ecology (Bio. 1081)
Political Science 1990	The City, Soc.1999
Sociology 1010	Introduction to Sociology
Sociology 1040	Social Problems
Sociology 1999	The City (Pol. Sci.1990)

#### **GOAL # 4 SOCIAL AND BEHAVIORAL SCIENCES KNOWLEDGE**

The Social and Behavioral Sciences Knowledge Goal develops students' understanding of themselves and the world around them through the study of content and the processes used by historians and social and behavioral scientists to discover, describe, explain, and predict human behavior and social systems. Students must understand the diversities and complexities of the cultural and social world, past and present, and come to an informed sense of self and others (CBHE General Education, June 2000).

Students must complete a minimum of three courses or nine hours in the Social and Behavioral Sciences Knowledge area taken from the following list:

\*\*satisfies cultural diversity requirement

\*\*\*satisfies government requirement

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goals of the Course</u>
Anthropology 1006	Introduction to Non-Human Primates	
Anthropology 1011	Introduction to Cultural Anthropology**	
Anthropology 1019	Introduction to Archaeology **	
Anthropology 1025	World Cultures**	
Anthropology 1033	World Archaeology**	
Anthropology 2117	Greek History and Culture (same as History 2117)	
Biology 1081	Global Ecology	
Communication 1050	Introduction to Mass Media	
Criminology 1150	Violence in America	
Crim & C J 1200	Foundations of Law (Pol. Sci. 1200)	
Economics 1000	Introduction to the American Economy	
Economics 1001	Principles of Microeconomics	
Economics 1002	Principles of Macroeconomics	
Economics 1500	Entertainment Economics: The Movie Industry	
Economics 1510	Entertainment Economics: The Popular Music Industry	
Economics 2010	The Business Firm: History, Theory and Policy	
Economics 2410	The Economics of Women, Men and Work	
Economics 2610	The Economics of Professional Sports	
Economics 2800	History of American Economic Development	
Geography 1001	Introduction to Geography	
History 1001	American Civilization to 1865***	
History 1002	American Civilization 1865-Present ***	
History 1003	African-American History***	
History 1004	The History of Women in the United States***	
History 1030	The Ancient World	
History 1031	Topics in European Civilization to 1715	
History 1032	Topics in European Civilization since 1715	
History 1041	East Asian Civilization to 1800**	
History 1042	East Asian Civilization from 1800**	
History 1051	Latin American Civilization**	
History 1052	Mexican Civilization**	
History 1061	African Civilization To 1800**	
History 1062	African Civilization Since 1800**	
History 1063	African Diaspora To 1800**	
History 1064	African Diaspora Since 1800**	
Honors 1200	Freshman Symposium	
Honors 1130	Western Traditions--Social Science	
Honors 1230	American Traditions***	
Honors 2030	Honors Inquiries in Social and Behavioral Sciences	
Honors 1330	Non-Western Traditions--Social Science	
Political Science 1100	Introduction to American Politics***	
Political Science 1200	Foundations of Law (CCJ 1200)	
Political Science 1450	Introduction to Labor Studies	
Political Science 1500	Introduction to Comparative Politics	
Political Science 1820	Global Issues	
Political Science 1850	Global Ecology (Bio. 1081)	
Political Science 1990	The City, Soc. 1999	
Political Science 1550	Women and Politics in the Developing World	
Psychology 1003	General Psychology	
Psychology 1268	Human Growth and Behavior	
Sociology 1010	Introduction to Sociology	
Sociology 1040	Social Problems	
Sociology 1999	The City, Pol. Sci.1990	

**GOAL # 5 HUMANITIES AND FINE ARTS KNOWLEDGE**

The Humanities and Fine Arts Knowledge Goal develops the students' understanding of the ways in which humans have addressed their condition through imaginative work in the humanities and fine arts; to deepen their understanding of how that

imaginative process is informed and limited by social, cultural, linguistic, and historical circumstances; and to appreciate the world of the creative imagination as a form of knowledge (CBHE General Education, June 2000).

Students must complete a minimum of three courses or nine hours from the Humanities and Fine Arts Knowledge area taken from the following list:

\*\*satisfies cultural diversity requirement

<u>Department, Course #</u>	<u>Course Title</u>	<u>Additional Goals of the Course</u>
Art History 1100	Introduction to Western Art	
Art History 1105	Introduction to the Arts of Africa	
Art History 1108	Introduction to Arts of Asia	
Art History 2211	Art and Archeology of the Ancient World	
Art History 2235	European Art and Architecture 1300-1800	
Art History 2255	Modern Art**	
English 1120	Literary Types	
English 1130	Topics in Literature	
English 1170	American Literary Masterpieces	
English 1200	Myth	
English 1700	African-American Literature	
English 1710	Native American Literature	
English 2030	Poetry Writing	
English 2040	Short Story Writing	
English 2050	Play Writing	
English 2120	Topics in Writing	
English 2200	Classical Literature in Translation	
English 2230	Jewish Literature	
English 2240	Literature of the New Testament	
English 2250	Literature of the Old Testament	
English 2280	The Contemporary World in Literature	
English 2310	English Literature I	
English 2320	English Literature II	
English 2330	Introduction to Poetry	
English 2340	Introduction to Drama	
English 2350	Introduction to Fiction	
English 2710	American Literature I	
English 2720	American Literature II	
French 2102	Intermediate French Language and Culture II	
French 2180	Readings in French	
German 2170	German Conversation and Composition	
German 2180	Readings in German	
Honors 1310	Non-Western Traditions in Humanities**	
Honors 1300	Critical Analysis	
Honors 1110	Western Traditions	
Honors 1210	American Traditions in Humanities	
Honors 2010	Inquiries in the Humanities	
Honors 2020	Inquiries in the Fine and Performing Arts	
Music History 1001	Introduction to Music	
Music History 1060	Introduction to African-American Music	
Music History 1070	Introduction to Jazz	
Music History 1080	Introduction to Irish Traditional Music	
Music History 1090	Non-Western Music I	
Music History 1100	Non-Western Music II	
Music History 1110	Introduction to Irish Traditional Music in North America	
Music Th & Comp 1190	Fundamentals of Music	
Music Th & Comp 1301	Theory of Music I	
Music Th & Comp 1311	Theory of Music II	
Music Th & Comp 2301	Theory of Music III	
Music Th & Comp 2311	Theory of Music IV**	
Philosophy 1090	Telecourse: Philosophy and Other Disciplines	

Philosophy 1091	Telecourse: Significant Figures in Philosophy
Philosophy 1110	Western Philosophy I
Philosophy 1111	Western Philosophy II
Philosophy 1120	Asian Philosophy
Philosophy 1125	Islamic Philosophy
Philosophy 1130	Approaches to Ethics
Philosophy 1150	Major Questions in Philosophy
Philosophy 1160	Logic and Language
Philosophy 1185	Philosophy of Religion
Philosophy 2252	Philosophical Foundations in Criminal Justice (CCJ 2252)
Philosophy 2253	Philosophy and Feminism
Philosophy 2254	Business Ethics
Philosophy 2256	Bioethics
Philosophy 2258	Medicine, Values and Society
Philosophy 2280	Minds, Brains and Machines
Spanish 2171	Spanish Conversation and Pronunciation
Spanish 2172	Spanish Composition
Spanish 2180	Readings in Spanish
Theatre &Dance 1100	Introduction to Dance
Theatre &Dance 1210	Fundamentals of Acting
Theatre &Dance 1800	Introduction to Theatre 1
Theatre &Dance 1850	Introduction to Non-Western Theatre
Theatre &Dance 2105	Script Analysis
Theatre &Dance 2211	Acting Styles
Theatre &Dance 2230	Aesthetics of Theatrical Styles
Theatre &Dance 2810	History of World Theatre and Drama Through the Restoration
Theatre &Dance 2820	The History of World Theatre & Drama from 18 <sup>th</sup> Century to Contemporary Times
Theatre &Dance 2840	History of Dance to the 19 <sup>th</sup> Century
Theatre &Dance 2841	Hstory of Dance from 19 <sup>th</sup> Century to Contemporary Times

**GOAL # 6 MATHEMATICS AND LIFE/NATURAL SCIENCES KNOWLEDGE**

The Mathematics and Life/Natural Sciences Knowledge Goal develops students' abilities in the areas of mathematics and sciences. In mathematics, the goal develops the students' understanding of fundamental mathematical concepts and their applications. Students should develop a level of quantitative literacy that would enable them to make decisions and solve problems and which could serve as a basis for continued learning. To meet this goal, students must have one mathematics course that has the same prerequisite(s) and level of rigor as college algebra. In the life and natural sciences, this goal develops the students' understanding of the principles and laboratory procedures of life and physical sciences and to cultivate their abilities to apply the empirical methods of scientific inquiry. Students should understand how scientific discovery changes theoretical views of the world, informs our imaginations, and shapes human history. Students should also understand that science is shaped by historical and social contexts (CBHE General Education, June 2000). Students must complete a minimum of four courses or twelve hours in the Mathematics and Life/Natural Sciences Knowledge area.

**Note: All students are required to earn a C- or better in a college-credit mathematics course (Math 1020 or higher meets this requirement at UM-St. Louis), or achieve a score of 26 or higher on the Missouri Math Placement Test. Students should check the current schedule of courses for more details regarding math proficiency and placement.**

Department, Course #	Course Title	Additional Goal(s) of the Course
Mathematics 1020	Contemporary Mathematics	
Mathematics 1030	College Algebra	
Mathematics 1035 (2 hrs)	Trigonometry	
Mathematics 1100	Basic Calculus	
Mathematics 1102	Finite Mathematics	
Mathematics 1105	Basic Probability and Statistics	
Mathematics 1150	Structure of Mathematical Systems I	
Mathematics 1800 (5 hrs)	Analytic Geometry and Calculus I	
Honors 2040	Inquiries in Math and Computer Science	
Mathematics 2510	Structure of Mathematical Systems II	
Astronomy 1001 (4 hrs)	Cosmic Evolution/ Introductory Astronomy	

Astronomy 1011	Planets and Life in the Universe
Astronomy 1012	The Violent Universe and the New Astronomy
Astronomy 1022 (2 hrs)	Practical Astronomy
Astronomy 1050	Introduction to Astronomy I
Astronomy 1051	Introduction to Astronomy II
Astronomy 1121	The Search for Extraterrestrial Life
Atmospheric Sci.1001 (4 hrs)	Elementary Meteorology
Biology 1012	General Biology
Biology 1013 (2 hrs)	General Biology Laboratory
Biology 1081	Global Ecology (Pol. Sci. 1850)
Biology 1102	Human Biology
Biology 1131 (4 hrs)	Human Anatomy and Physiology I
Biology 1141 (4 hrs)	Human Anatomy and Physiology II
Biology 1162	General Microbiology
Biology 1202	Environmental Biology
Biology 1811 (5 hrs)	Introductory Biology I: From Molecules to Organisms
Biology 1821 (5 hrs)	Introductory Biology II: Organisms and the Environment
Chemistry 1011	Chemistry in the Environment and Everyday Living
Chemistry 1052 (4 hrs)	Chemistry for Health Professions
Chemistry 1062 (2 hrs)	Organic and Biochemistry for Health Professions
Chemistry 1082	General Chemistry I
Chemistry 1091	General Chemistry II
Chemistry 1111 (5 hrs)	Introductory Chemistry I
Chemistry 1121 (5 hrs)	Introductory Chemistry II
Chemistry 2223	Quantitative Analysis
Chemistry 2412	Basic Inorganic Chemistry
Chemistry 2621	Organic Chemistry
Chemistry 2622	Organic Chemistry II
Chemistry 2633 (2 hrs)	Organic Chemistry Laboratory
Geology 1001 (4 hrs)	General Geology
Geology 1002 (4 hrs)	Historical Geology
Honors 2050	Inquiries in the Natural Sciences
Physics 1001	How Things Work
Physics 1011 (4 hrs)	Basic Physics I
Physics 1012 (4 hrs)	Basic Physics II
Physics 2111 (5 hrs)	Physics: Mechanics and Heat
Physics 2112 (5 hrs)	Physics: Electricity, Magnetism and Optics

### Credit Hours

All candidates for baccalaureate degrees must complete a minimum of 120 semester hours. At least 45 of these hours must be courses numbered 2000 or above (or comparable courses transferred). Students must maintain a minimum 2.0 grade point average overall, as well as in their area of specialization. Students seeking two degrees must meet all degree and residency requirements of each degree.

### Other Requirements

#### Mathematical Skills:

Proficiency in the basic mathematical skills area should be satisfied before the student completes 24 hours of course work. Proficiency can be obtained in either of the following ways.

Completing, with a grade of C- or better, a college credit mathematics course. Scoring 26 or higher on the Missouri Math Placement Test (MMPT). The MMPT covers mathematics through the college algebra level.

\*The first two college credit mathematics courses that the university offers which satisfy mathematics proficiency are Math 1020: Contemporary Mathematics and Math 1030: College Algebra. Math 1020 is designed as a terminal mathematics course for students who do not plan to take calculus. Math 1030 is required for all students who want to go on to calculus. The prerequisite for enrolling in Math 1020 or Math 1030 is a satisfactory score on the math placement test. (effective January, 2005) **This test must be taken not earlier than 6 months before enrolling in the course.**

Study guides for the UM-St. Louis Math Placement Test and the MMPT (as well as the UM-St. Louis Trigonometry Test, which is not needed for minimum math proficiency) are available on the University's home page, under math placement information/math practice test, as well as at the circulation desk of the Thomas Jefferson Library (file number 991). Students will need to make their own copies. Math placement test dates are published in the *Schedule of Courses*.

#### Advanced Expository Writing

Effective fall semester 1985, students must also complete English 3100, Advanced Expository Writing, or its equivalent, with a grade of C- or above.

**American History and Government:** Students must satisfactorily complete a course or courses in American history or government taken at UM-St. Louis or at other colleges or universities in Missouri. Transfer students should check with the dean's office of their division to find out if they have fulfilled this requirement.

The requirement may be satisfied by one of the following courses:

CCJ 1100, Introduction to Criminology and Criminal Justice (Criminology majors may not use this course to satisfy the state requirement.)  
CCJ 2226, Law and the Individual  
Hist 1001, American Civilization I  
Hist 1002, American Civilization II  
Hist 1003, African-American History  
Hist 1004, The History of Women in the United States  
Hist 2007, The History of Missouri  
Hist 3002, United States History: Revolution and the New Nation, 1763 to 1815  
Hist 3041, Topics in American Constitutional History  
PolSci 1100, Introduction to American Politics  
PolSci 2260, Law and the Individual  
PolSci 2280, Judicial Politics, Process and Policy  
PolSci 2290, Women and the Law  
PolSci 2300, State Politics  
PolSci 2320, African-Americans and the Political System  
PolSci 2350, Introduction to Urban Politics  
PolSci 2380, Women in U. S. Politics  
PolSci 2400, Public Administration  
PolSci 2420, Introduction to Public Policy  
PolSci 3200, Constitutional Law  
PolSci 3210, Civil Liberties  
PolSci 3260, Judicial Decision Making  
PolSci 3300, The American Presidency  
PolSci 3330, Introduction to Political Behavior  
PolSci 3331, Congressional Politics  
PolSci 3350, Political Parties and Elections  
PolSci 3370, Mock Constitutional Convention  
PolSci 3400, Bureaucratic Politics  
PolSci 3450, Urban Administration  
PolSci 4470, Urban Planning and Politics

#### Cultural Diversity Requirement.

To expand cultural awareness, students in some academic units may be required to complete a course that emphasizes Asian, African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or a comparable culture. Courses that satisfy this requirement involve



substantial material independent of the cultures' interactions with European cultures. If a course focuses on one facet of a culture, it must treat the topic within the context of the culture as a whole. These courses are also coded with the initials [CD] for Cultural Diversity. This requirement may be met by one of the following courses:

Anth 1011, Introduction to Cultural Anthropology  
Anth 1019, Introduction to Archaeology  
Anth 1021, The Body in Culture  
Anth 1025, World Cultures  
Anth 1033, World Archaeology  
Anth 1041, Sex and Gender Across Cultures  
Anth 1051, Anthropology of Sport  
Anth 1091, Introductory Topics in Anthropology  
Anth 2110, Cultures of Asia  
Anth 2111, Cultures of East Asia  
Anth 2113, Cultures of South Asia  
Anth 2114, Cultures of the Near and Middle East  
Anth 2120, Native Peoples of North America  
Anth 2123, Cultures of Oceania  
Anth 2124, Cultures of Africa  
Anth 2131, Archaeology of Missouri  
Anth 2132, Archaeology of North America  
Anth 2134, Archaeology of the Inca, Aztec, and Maya  
Anth 2135, Old World Archeology  
Anth 2136, Archaeology of East Asia  
Anth 2137, Archaeology of Africa  
Anth 2138, African-American Archaeology  
Anth 2173, Archaeology and Cultures of the Biblical World  
Anth 2191, Special Topics in Non-Western Cultures  
Anth 3235, Women in Sub-Saharan Africa: A Contemporary Perspective  
Anth 3238, Culture and Business in East Asia  
Art 1103, Pre-Columbian Art of Mexico and Central America  
Art 1104, Indigenous Arts of North America  
Art 1105, Introduction to the Arts of Africa  
Art 1108, Introduction to Asian Art  
Art 1109, The Arts of China  
Art 1110, The Arts of Japan  
Art 4405, Topics in African Art

Art 4408, Topics in Asian Art  
English 1710, Native American Literature  
English 2280, The Contemporary World in Literature  
History 1041, East Asian Civilization  
History 1042, East Asian Civilization  
History 1051, Latin American Civilization  
History 1052, Mexican Civilization  
History 1061, African Civilization To 1800  
History 1062, African Civilization Since 1800  
History 1063, The African Diaspora to 1800  
History 1064, The African Diaspora since 1800  
History 3032, History of Women in Comparative Cultures  
History 3101, Modern Japan: 1850 to the present  
History 3102, Modern China: 1800 to the Present  
History 3103, Modern History of the Pacific Rim  
History 3201, History of Latin America: To 1808  
History 3202, History of Latin America since 1808  
History 3301, West Africa to 1800  
History 3302, West Africa Since 1800  
History 3303, African Diaspora to 1800  
History 3304, African Diaspora Since 1800  
Music 1090, Non-Western Music I  
Music 1100, Non-Western Music II  
Phil 1120, Asian Philosophy  
Phil 1125, Islamic Philosophy  
PolSci 1500, Introduction to Comparative Politics  
PolSci 1550, Women and Politics in the Developing World  
PolSci 2520, Middle Eastern Politics  
PolSci 2530, Political Systems of South America  
PolSci 2540, Political Systems of Mexico, Central America, and the Caribbean  
PolSci 2550, East Asian Politics  
PolSci 2580, African Politics  
Soc work 2330 Asians in Migration  
Soc 3245, Sociology of South Africa  
Th& Dance 1850, Introduction to Non-Western Theatre

#### **Reserve Officers Training Courses**

Courses in ROTC do not receive Arts and Sciences credit, nor are they counted in the student's grade point average.

## Graduate Study

**The Graduate Faculty sets Graduate School policies in the Bulletin. Students should be aware that their programs might create rules and policies that are above these minimum university-wide requirements.**

### Admissions

The University of Missouri-St. Louis admits qualified individuals to study for graduate degrees and certificates. Students with a bachelor's degree or the equivalent from an accredited college or university may apply for admission to the Graduate School. Applicants may be denied admission if (a) they do not meet admission standards, (b) there are no available openings, or (c) applications are incomplete at the time of the decision.

To receive graduate credit at the University of Missouri-St. Louis students must have been admitted to the Graduate School as Degree-seeking, Graduate Certificate or Non-Degree seeking student.

### Degree-Seeking or Graduate Certificate Students

Applicants for a degree or graduate certificate program at the University of Missouri-St. Louis submit an application, official transcript documenting the baccalaureate degree, scores from examinations required by the program, and other evidence of academic and professional preparation required by the program. Such evidence may include standardized test results, letters of recommendation, transcripts of all academic work attempted, and writing samples.

When there are openings for new students, applicants are normally admitted given official evidence of (a) a baccalaureate or advanced degree from an accredited institution of higher education, (b) an undergraduate grade point average (G.P.A.) and major field G.P.A. of 2.75 or above, (c) an acceptable score on each requisite examination, and (d) satisfactory additional materials required by the particular program. The dean of the Graduate School may approve applications, given a positive recommendation from the unit.

Students who are unable to provide all materials required for admission may be admitted provisionally. An approved provisional student may enroll for one semester or summer term only. The courses taken provisionally will apply in the regular way to a degree or certificate program. When all admission materials have been received, the unit may recommend regular or restricted admission or denial to the dean of the Graduate School.

Because admission to doctoral studies is limited to those of demonstrably superior academic ability, doctoral students normally are not admitted as restricted.

### Non-Degree-Seeking Student

Students may apply for status as Non-Degree-seeking graduate students if they are visiting students, they do not intend to pursue a degree, or they want to participate in graduate workshops or institutes. Applicants must provide an official transcript showing completion of a baccalaureate or higher degree, with a G.P.A. of 2.5 or greater.

The dean of the Graduate School admits Non-Degree-seeking students only upon recommendation of the unit.

A Non-Degree student must maintain a G.P.A. of at least 3.00. A Non-Degree student wishing to take more than nine hours may be allowed to do so contingent upon departmental recommendation.

Students wishing to change from Non-Degree to Degree-seeking must submit a new graduate application for review and approval by the unit and the dean of the Graduate School.

Course work completed by Non-Degree students is not regarded as work toward a degree program. Therefore, Non-Degree students are not eligible for federal financial aid. The maximum hours of Non-Degree status work that can be applied to a degree program is nine semester hours. No credits taken as Non-Degree status may count as part of the residence requirement for a degree.

Since Education Certification students take courses for state Department of Education certification, they do not need departmental approval to take more than nine hours. However, all other conditions regarding admission and registration that apply to Non-Degree students apply to Education Certification students.

### Traveling Scholars and Inter-University Graduate Exchange Students

There are two avenues for students to take graduate courses at UM-St. Louis without apply for admission (1) Traveling Scholars are graduate students at one of the other University of Missouri (UM) campuses. (2) Inter-University Graduate Exchange students are Washington University and St. Louis University students who enroll on the home campus for UM-St. Louis courses not offered on their own campus.

Degree-seeking graduate students at the UM-St. Louis campus may also participate in these programs, if their requests are approved by their advisors and the Graduate School.

### Unclassified Students

Students who are not qualified for admission to the Graduate School may be considered for undergraduate admission to UM-St. Louis as Unclassified Students.

Unclassified Students are considered Post-baccalaureate, are not admitted to the Graduate School, may not take graduate-level courses, and do not receive graduate credit. Credits earned by an Unclassified Student may not later be considered as graduate credits should the student subsequently be admitted to the Graduate School.

#### **Enrollment in Off-Campus and Continuing Education Courses**

Students who have been admitted to the Graduate School may enroll in off-campus graduate courses without further application.

Students with a baccalaureate degree who have not been admitted to the Graduate School must be approved for admission as a Non-Degree graduate student to take Continuing Education courses for graduate credit.

#### **Admission of International Students**

International students must meet the requirements for admission to the Graduate School. In addition, international students whose native language is not English and who have spent less than two of the last three years in an English-speaking country are required to submit scores from an internationally accepted standardized examination before a decision is made on admission.

Teaching assistantships will be awarded only to students with demonstrated oral English proficiency.

When it is not possible for a student to take the required examination for reasons beyond personal convenience, the unit to which the student has applied may develop alternate ways for that particular student to demonstrate English language competence prior to admission. The Graduate Dean must approve such alternative metrics.

Applicants from other countries shall provide a summary of their educational experience as a basis of comparison of their backgrounds with those of U.S. applicants. They shall also provide a statement of their financial situation and of the anticipated form of support for the period of graduate study.

#### **Enrollment**

Students who have been admitted to the Graduate School may enroll in classes in any term within one calendar year after admission.

To remain in good standing, students shall enroll for at least one term each calendar year. Students not meeting this enrollment requirement will become inactive and be required to reapply. If students reapply and are readmitted, they will be subject to all regulations in effect at the time of readmission.

After they achieve candidacy, Doctoral students must enroll each fall and spring semester until the degree is completed.

International students on student visas must enroll fulltime for each fall and spring semester.

#### **Fulltime Study**

The minimal fulltime course load is nine credit hours for a regular semester and/or five credit hours during the eight-week summer session.

#### **Graduate Equivalent Hours**

In calculating credit hours for full-time enrollment, students may seek approval for the following semester hour equivalents:

- 1.) Three equivalency hours for holding a 0.5 FTE Graduate Teaching Assistantship or Graduate Research Assistantship; up to two equivalency hours for appointments between 0.25 and 0.49 FTE.
- 2.) Three equivalency hours in the semester the student is preparing for comprehensive examinations. This semester hour equivalency is allowed for a maximum of two semesters.
- 3.) Eight equivalency hours after achieving candidacy. This semester hour equivalency is allowed for a maximum of eight semesters.
- 4.) Participation in approved required out-of-class experiences in specific programs. Please see your advisor for the approved list.

#### **Overloads**

During the regular semester, students may not enroll in more than 12 hours. Normally no more than three credit hours may be taken in any four-week period.

Heavier than normal loads may be permitted by the Graduate Dean, upon recommendation by the unit, for a) students whose cumulative UM-St. Louis G.P.A. is substantially above the program average; and b) students in good academic standing for whom an overload of one course will permit them to graduate during the term in which the overload is taken.

#### **Degree Program Plans**

It is expected that graduate students will consult regularly with their advisors to plan a course of study that ensures timely completion of the requirements.

At least half of the credits for both master's and doctoral degree plans must be from 5000-level courses and above.

Within the major department, students normally may not take a 3000-level course for graduate credit. However, outside the department, a 3000-level course may be taken for graduate credit with the approval of the students' advisors. Advisors must seek approval from the instructor, who may assign additional work commensurate with each student's graduate status.

Courses numbered from 0 to 2999 may not be taken for graduate credit.

No course applied to an undergraduate degree may be allowed in that student's graduate degree.

#### **Credit for Courses Taken Prior to Enrolling in a Graduate Program at UM-St. Louis**

Transfer credit shall be granted only for approved graduate courses for which a grade of at least B-, or equivalent, was achieved from an accredited institution.

Degree credit may be allowed for up to three credit hours for institutes, workshops, clinics, and Continuing Education courses only if offered by an appropriately accredited institution of higher education. Only such courses that award a letter grade may be applied to a graduate degree.

Students may transfer up to 18 hours of work on a Graduate Certificate Program Plan to a Master's or Doctoral Program Plan, if the unit granting the degree approves the transfer.

#### **Credit for Courses Taken at Other Universities After Enrolling in a Graduate Program at UM-St. Louis**

Graduate students admitted to UM-St. Louis must petition in advance to take courses at another institution and apply the credit toward a graduate degree at UM-St. Louis.

With prior approval, regularly admitted graduate students are permitted to take a course not offered by UM-St. Louis at Washington University, St. Louis University, or Southern Illinois University-Edwardsville.

#### **Time Limitation**

The maximum time allowed for completion of a master's degree is six years after the first course enrollment. The maximum time allowed for completion of a doctoral degree is eight years after the first course enrollment. Graduate work completed outside these time periods may not be included in the degree program except under extraordinary circumstances and then only after petition to and approval by the dean of the Graduate School. An exception to the time limitation may be approved in advance with an authorized leave of absence.

#### **Leave of Absence**

Graduate students who are forced to interrupt their studies for a period of one or more years should request a leave of absence from the university. In consultation with their advisors, students shall define the program modifications that the leave of absence requires. Requests shall indicate the reason for leaving and the expected date of return to the university. Approval of the dean of the Graduate School is required.

The leave of absence is designed to suspend the requirement for continuous enrollment. It does not affect the maximum time limitation set for a degree program unless a specific exception is approved.

#### **Undergraduate Enrollment in 5000-Level Courses**

Under special circumstances Undergraduate students in good standing at UM-St. Louis may enroll in 5000-level courses for undergraduate credit. Approvals from the advisor, department chairperson, academic dean, and dean of the Graduate School are required. In rare cases, students subsequently admitted to the Graduate School may petition for graduate credit for 5000-level courses that they took as undergraduates, as long as those courses were not applied to their undergraduate degrees.

#### **Class Attendance**

Only students who have previously paid fees may attend a class. Instructors are not authorized to allow students to attend classes if fees have not been paid. Students may not register and pay fees after the prescribed dates.

#### **Preregistration**

Enrolled students may preregister for the next term during regular preregistration periods. Registration is not complete until all university fees are paid.

#### **Petitioning Into or Out of a Course**

Students must receive the approval of their adviser and the course instructor to enroll in or withdraw from a course after registration.

#### **Entering a Course in Progress**

Students wishing to enter a course in progress must have the approval of the instructor and their adviser. Only under exceptional circumstances may students enter courses after the first week of the semester.

#### **Dropping a Course**

Students may drop courses before the end of the fourth week of a regular semester or the second week of the summer session without receiving grades. At the end of this period and until the end of 12 weeks (or from the third through the sixth week of the summer session), students may withdraw from courses with "Excused" grades providing they are passing the course and have the approval of the instructor and their adviser. Otherwise, a grade of F is given. Students who stop attending classes without officially dropping courses also receive grades of F.

#### **Transcripts**

The registrar will furnish transcripts of credits to a student upon written request. Transcripts are furnished to students' parents or guardians or other parties or institutions only if students have filed written consent with the registrar. There is a charge per transcript. Students transferring to another University of Missouri campus may ask the UM-St. Louis Director of Admissions to furnish a transcript to the Office of Graduate Admissions at the other UM campus.

Requests for transcripts by organizations either financially supporting a student or with fee compensation programs

are not honored unless the student has filed a consent form with the registrar, authorizing the release of such records.

Transcripts are not issued to or for students who have financial obligations to the university until those obligations are paid in full.

### Academic Policy

#### Grades

Faculty teaching graduate courses have complete discretion in assigning grades.

Point assignments for grades are as follows;

A = 4.0

A- = 3.7

B+ = 3.3

B = 3.0

B- = 2.7

C+ = 2.3

C = 2.0

C- = 1.7

F = 0

EX = Excused

DL = Delayed

IP = In Progress

The Graduate School does not recognize a D grade for a course carrying graduate credit. Therefore, grades lower than C- are recorded as F. The satisfactory/unsatisfactory (S/U) option, which is an option for undergraduate students, is not available in any courses for graduate credit.

Students who stop attending classes without officially dropping courses receive grades of F.

Students may enter courses as auditors but may not change from audit to credit or credit to audit after the first week of class. Auditors are charged full fees and receive no academic credit.

#### Delayed Grades

Delayed grades may be given when a student's work is of passing quality but is incomplete because of circumstances beyond the student's control. Although delayed grades do not affect a graduate student's grade point average, they are an important factor in evaluating academic progress. Delayed grades must be removed within two regular semesters after the time recorded or they automatically become F grades. In such cases, course instructors may subsequently change F grades to other grades on their progress in a sequential course and indicate that a grade will be assigned at the end of the sequence.

#### In-Progress Grades

When a course extends for more than one term and the student's performance is deferred until the end of the final term, provisional grades of In-Progress may be assigned in the intervening terms. The In-Progress grade represents progress in a sequential course and indicates that a grade

will be assigned at the end of the sequence. In-Progress grades do not count toward earned hours. No credit is awarded or grade points assigned until the sequence is completed and a permanent grade is entered replacing the In-Progress grade(s).

In-Progress grades may be given in thesis or dissertation research. Additionally, the Graduate Council may approve the In-Progress grade for specific internships, practica, or project courses that allow at least six months for completion. In no case will an In-Progress grade be given for other graduate research or internship experiences. Instead, students will be given a Delayed grade if work is not completed during the semester that the course is taken.

In-Progress grades are left on the student's record until the committee and dean of the Graduate School accepts the thesis or dissertation and the research advisor or internship director submits the final regular grade. At that time, the grade point average will be calculated to award the same grade for all hours taken in the In-Progress grade.

In the event that the full sequence is not completed as scheduled, the Registrar shall replace the In-Progress grade with the Delayed grade when the instructor has no basis for assigning a grade for the term(s) completed.

#### Graduate Grade Appeals

In case of disputes regarding grades, graduate students shall follow the university Grade Appeal Process.

#### Grade Point Average (GPA)

UM-St. Louis calculates three types of G.P.A. At the end of each semester, the term G.P.A. is calculated on the courses attempted that semester. The cumulative GPA on the transcript includes all courses taken at UM-St. Louis for graduate credit figure, including courses that may not be a part of the degree program. The degree program GPA includes only the grades of those courses that are part of the degree program. The degree program GPA must be at least 3.0 for a student to receive a graduate degree.

Any course work transferred from other universities, including other UM campuses, will not be included in any GPA calculation.

#### Probation

Failure to make adequate progress jeopardizes a student's potential to complete the degree and their financial aid. To provide students notice of inadequate progress at the end of each semester, graduate students with a cumulative GPA below 3.0 in a minimum of nine credit hours are placed on probation. A program may also place a student on probation if faculty regards the student's progress as unsatisfactory. The Graduate School will inform students of their probation by letter, with copies sent to the graduate director of the program, the Graduate Admissions Office and Financial Aid.

If at the end of the probationary semester the cumulative GPA is at least 3.0, the probationary status is removed. A probationary student who fails to raise the cumulative GPA to 3.0 may, on the recommendation of the program, be allowed a second probationary semester. A student is subject to dismissal upon failure to raise the cumulative GPA to 3.0 by the end of the second probationary semester, or at any time a semester or cumulative GPA falls below 3.0.

#### **Dismissal**

A student who is on probation for more than two semesters during his/her program of study will be dismissed, unless the dean of the Graduate School approves an exception request for continuation from the advisor and/or graduate director. Upon recommendation of the unit, the Graduate School may dismiss any graduate student who does not make adequate progress. The Graduate School is responsible for sending dismissal letters to students, with copies sent to the graduate advisor, the graduate director of the program, the Graduate Admissions office, and the Financial Aid Office.

#### **Master's Degree Requirements**

##### **Admission**

Each master's degree program determines any eligibility standards beyond the minimum for admission to the Graduate School.

##### **Enrollment**

All master's degree students shall be enrolled for credit for access to university resources, including advisement, data gathering, or examinations.

Full-time status for all graduate students is defined as at least nine credit hours of course work. Individual units may require higher enrollments.

##### **Credit Requirements**

A minimum of 30 semester hours of graduate credit is required for all master's degree programs. Units may require a greater number of hours for their programs.

##### **Residence Requirement**

The final two-thirds of the courses in a master's degree program must be completed in residence at UM-St. Louis.

##### **Time Limitation**

All courses included in a master's degree program, whether taken at UM-St. Louis or at another institution, shall have been completed within six years after enrollment in the first course.

##### **Credit From a Certificate Program**

Students who have completed course credits in certificate programs may transfer such credits into a master's degree program with the unit's consent, as long as the credits fall within the time limitation set for master's degrees. If the

master's degree is in a different unit from that awarding the certificate, then no more than one-third of the credits from the certificate program may apply to the master's degree. Multi-disciplinary programs may seek programmatic exceptions to this limit when the program undergoes the approval process.

#### **Dual Master's Degrees**

With approval of the unit and the Graduate School, students who have completed one master's degree may transfer appropriate credits to a second master's degree program. The number of transferable credits may not exceed one-third of the credit hours required by the second program. Subsequent transfers to a third degree are not permitted.

With approval of the units involved and the Graduate School, students may simultaneously pursue two master's degrees under the following conditions:

- (a) No more than one-third of the credit hours required by either program may be applied to both programs;
- (b) Students must obtain approval of both units before completing 12 hours in either program.

Multi-disciplinary programs may seek programmatic exceptions to the one-third limit when the program undergoes the approval process by addressing specific allowable transfers between those two degree programs.

#### **Master's Degree for Doctoral Students**

Doctoral students may receive a master's degree in their unit for work they have completed toward to a doctoral degree. The unit establishes the requirements for such a master's degree. However, the requirements should, in principle, be similar to those for master's degrees offered by the unit.

Doctoral students may also receive a master's degree for work they have completed toward to a doctoral degree in another unit provided (a) they apply no more than two-thirds of the master's degree courses to their doctoral degree program; (b) they have been admitted to the master's degree program; and (c) they have obtained the approval of the advisors from both programs and from the Graduate School. Credit from the master's degree must constitute less than half the total credits required for the doctorate.

Multi-disciplinary programs may seek programmatic exceptions to these limits when the program undergoes the approval process.

#### **Filing the Degree Program**

A master's degree student enrolled shall file an approved program plan with the Graduate School before completing the first two-thirds of the credit hours required in the program. Students may petition the dean of the Graduate

School to change the degree program after it has been filed.

### **Comprehensive Examination, Scholarly Paper, or Exit Project**

Each unit requiring a comprehensive examination for the master's degree informs the Graduate School of (a) the number of times the unit will allow its students to take a comprehensive examination, and (b) the period of time that the unit will allow between the first and final attempt to pass the examination.

Units recommend Graduate Faculty members to serve on committees for capstone projects. The Graduate Dean shall review and may appoint the committee.

### **Master's Thesis**

Units recommend Graduate Faculty members to serve on committees for capstone projects. The Graduate Dean shall review and may appoint the committee.

Master's degree students who write a thesis must submit to the dean of the Graduate School one copy of the thesis by the posted university deadline, normally six weeks before the end of the term in which graduation is sought. The chairperson of the thesis committee is responsible for verifying that the final draft of the thesis is acceptable to the Graduate Dean and the thesis committee.

Students disseminate the thesis according to current Graduate School procedures.

### **Application for Master's Degree**

To receive the master's degree, students who have met all degree requirements must apply for graduation by the end of the fourth week of classes during the fall or spring term or by the first day of the eight-week session during the summer term.

## **Doctoral Degree Requirements**

### **Admission**

Each doctoral degree program may determine eligibility standards beyond the minimum for admission to the Graduate School.

### **Credit Requirements**

A minimum of 60 semester hours of graduate credit is required for every doctoral degree program. Units may require a greater number of hours for their programs.

### **Enrollment**

Full-time status is defined as nine credit hours per semester. Units may require higher enrollments than this. After students achieve candidacy and complete the residence requirement, they must remain enrolled during fall and spring semesters until the degree is completed. Failure to register in any regular semester will result in termination from the Graduate School. If students so

terminated decide to reapply and if they are readmitted, they will be subject to all regulations in effect at the time of readmission, and will be required to enroll for at least one credit hour in each semester since their last enrollment.

When doctoral students are enrolled for research credit, the credit amount may vary, but the student must register for all work required, and the credit total may exceed the minimum requirements.

### **Classification of Doctoral Students**

There are two stages in a student's doctoral degree work:

(1) A pre-candidate is a student who has requirements to fulfill in addition to the dissertation, including course work, language requirements, and/or comprehensive examinations.

(2) A candidate is a student who has met all degree requirements except the completion of the dissertation.

### **Time Limitation**

The maximum amount of time allowed for completion of a Doctoral degree will be eight years after the first course enrollment.

The maximum of 12 hours of graduate credit completed as a post-master's degree student prior to admission to a doctoral program may apply toward a doctoral degree. Inclusion of such course work is subject to unit approval and must have been completed within eight years of the time the doctoral degree is awarded. Exceptions to this regulation must be justified on academically defensible grounds and approved by the Graduate Dean prior to filing the program.

When doctoral students have earned a master's degree at any institution, appropriate credits may be applied toward meeting the requirement for the doctoral degree, subject to unit approval. Such credits shall constitute less than half of the total credits required for the doctorate. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, no more than 44 credits from a master's degree may apply to the doctoral degree. Credit for courses taken for a master's degree is exempt from the eight-year time limitation.

### **Residence Requirement**

The majority of credits used to satisfy requirements for a doctoral degree must be completed in residence at UM-St. Louis. The residence requirement may be satisfied with dissertation credit hours, graduate institutes, and credit courses taken through Continuing Education, as well as regular courses.

Students who enter the Ed.D. or Ph.D. in Education degree programs with an Education Specialist (Ed.S.) degree from an accredited university, or with an Advanced Certificate

approved by the Missouri Department of Elementary and Secondary Education, may satisfy the residence requirement by completing one-third of the required credits at UM-St. Louis.

Residency normally requires that doctoral students successfully complete a minimum of 15 hours over two consecutive terms, which may include summer. The dean of the Graduate School may grant exceptions upon recommendation by the program.

### **Comprehensive Examinations**

Each unit will determine the number of times a comprehensive examination may be taken by a student. The department or college must file with the Graduate School a statement specifying (a) the number of times the unit will allow its students to take a comprehensive examination, and (b) the maximum and/or minimum period of time the unit will allow between the first and final attempt to pass the comprehensive examination.

The Comprehensive Examination Committee will consist of no fewer than three members of the UM-St. Louis graduate faculty appointed by the Graduate Dean upon recommendation of the unit.

An oral examination may not substitute for the standard written portion.

### **Advisors**

Upon entering the program, each doctoral student will have an assigned program advisor who is a member of the Graduate Faculty. As early as possible in a doctoral student's program, but no later than when the student achieves candidacy, the unit will recommend, in consultation with the student, a doctoral dissertation advisor.

### **Application for Candidacy**

Doctoral students may apply for candidacy after passing all required comprehensive and language examinations, written or oral, and successfully completing all course work.

### **Doctoral Dissertation Committee**

The Doctoral Dissertation Committee consists of at least four members of the Graduate Faculty who can contribute their expertise to the dissertation study: the committee chair, and at least one other member from the unit. A recognized scholar from outside the university may serve as a member upon the recommendation of the unit and approval of the Graduate Dean. The Graduate Dean reviews and may approve the committee membership and changes in the committee membership.

### **Dissertation Proposal**

Before a student may conduct substantial research for the dissertation committee may approve a proposal after a formal defense. The student submits the approved proposal

for review and approval by the dean of the Graduate School. An approved dissertation proposal in no way implies a contract between the university and the student. Depending on the outcome of the research, the dissertation may require substantially more work than anticipated when the proposal was approved. The termination of a line of research and the adoption of a substantially new dissertation project requires the preparation, formal defense, and acceptance by the Graduate School of a new dissertation proposal.

### **Preliminary Approval**

One copy of the dissertation, certified as complete and provisionally acceptable to the committee, shall be submitted to the Graduate Dean at least six weeks prior to commencement. The Dean of the Graduate School may seek advice and make suggestions to the committee about content and style before approving the dissertation.

### **Defense of Dissertation**

Normally the approved Doctoral Dissertation Committee serves as the Oral Defense of Dissertation Committee. The Graduate Dean may appoint one additional qualified voting member to the Defense of Dissertation Committee from the Graduate Faculty within the University of Missouri System.

After deliberating on the oral defense of the dissertation, the Defense of Dissertation Committee votes on whether the defense was successful. The defense shall be deemed unsuccessful if there are two negative votes, even if outnumbered by positive votes. An abstention will be considered a negative vote. A student failing an oral defense shall have the opportunity for one additional defense before the same committee. The Defense of Dissertation Committee shall determine the timing and format of the subsequent defense.

Final examinations are open to the public.

The decision of the Defense of Dissertation Committee is final. The report of the final examination is due to the Graduate School no later than two days after the examination.

### **Dissertation Abstracts**

Two different abstracts are required. UMI requires an abstract of a maximum of 350 words and is published with the announcement of the dissertation defense. The abstract forming the second page of the dissertation should be no more than 600 words.

### **Dissertation Format**

Only high quality copies are acceptable with the following margins throughout: left margin 1 ½ inches; top, bottom, and right margins, 1 inch. Final copies may be submitted electronically following current procedures on the Graduate School homepage (<http://www.umsl.edu/divisions/graduate/etd/index/html>)



or on paper. Original hard copies of the dissertation must be typed on good quality paper, and they must be legible and neat in order to be accepted by the Graduate School.

In matter of style and documentation, the custom of the discipline shall be followed.

The chairperson of the dissertation committee is responsible for verifying that all the changes suggested by the Graduate Dean and the dissertation committee have been incorporated in the final draft of the dissertation or have been discussed further with the Graduate Dean or the committee.

Students shall disseminate the dissertation according to current Graduate School procedures.

### **Graduate Certificate Program**

#### **Admission**

Each graduate certificate program may determine eligibility standards beyond the minimum for admission to the Graduate School.

#### **Credit Requirements**

A minimum of 18 hours of graduate course work is required for a graduate certificate. At least 12 of these hours must consist of courses drawn from the list of core courses for the particular certificate program. At least 12 hours must be completed in residence at UM-St. Louis. At least nine hours must be at the 5000 level or above. No more than six hours may be independent study.

#### **Filing the Program Plan**

A graduate student enrolled in a certificate program is required to file a degree program plan with the Graduate School before completing the first two-thirds of the number of hours required in the program. Changes made in a certificate program plan after it has been filed shall be submitted to the Graduate School.

#### **Fees for Graduate Study**

Detail information regarding current fees and residency regulations is furnished in the *Schedule of Courses*, distributed before each semester registration, available at the Registrar's office or on the web site:

<http://www.umsl.edu/services/financial/feeinfo.htm>

The University reserves the right to change fees and other charges at any time without advance notice. By Board policy, students are charged fees according to their status, not by the level of the course. For that reason, students are charged graduate fees for all course work taken while they are classified as a graduate student.

#### **Nonresident Students**

A student who is admitted to the University as a nonresident must pay the Nonresident Educational Fee as

well as all other required fees. The Residence and Education Fee Rules are available at:

<http://www.umsl.edu/services/finance/resrules.htm>

The petition for a change of Missouri Resident Status is available at:

<http://www.umsl.edu/services/finance/res-pet.htm>

All questions should be directed to the Office of Admissions at (314) 516-5451.

#### **Final Semester Fee**

Students must enroll on campus in the semester in which they graduate.

#### **Thesis and Dissertation Fee**

Graduate students must also pay a fee for the binding and microfilming of the thesis or dissertation.

#### **Fees for Auditing Courses**

Auditors are charged full fees and receive no academic credit.

#### **Laboratory Breakage Fee**

Breakage or loss of laboratory equipment due to personal negligence on the part of the student shall be assessed against the student when the actual value of the supplies exceeds \$1. The amount of the charge shall be determined by the department chairperson.

#### **Room and Board**

The university offers many different rooms and board plans. For more information please contact the Office of Residential Life at (314)516-6877.

#### **Student Insurance: International Students (required)**

International Students in F-1 and J-1 status are required to purchase the health insurance policy offered through the university. Information regarding waivers, premiums, and coverage is available through the Office of International Students Services.

#### **Student Insurance (optional):**

An Accident and Sickness Insurance plan is available to students and their dependents. Information concerning premiums and coverage is available upon request from University Health Services. Graduate Assistants with half-time appointments are eligible for a subsidy of the insurance premium. To receive the subsidy, GTAs/GRAs (U.S. Citizens only) must enroll in the insurance program through the Graduate School.

#### **Payment of Fees**

Students received a fee payment schedule at the time of their registration. All fees are due and payable prior to the start of each semester. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. A finance charge will be assessed on the unpaid balance of all students at the rate of 1 percent per month. All accounts will be billed using this method; therefore, it is NOT necessary that a

student choose the minimum payment plan at the time the charges are incurred. Students with delinquent accounts will NOT be allowed to register in subsequent semesters.

**Policy on Administrative Cancellation of Student Registration for Nonpayment of Educational Fees:**

A registered student is required to remit payment of assessed fees by deadlines that are announced each semester. The University will cancel the registrations in all courses of students from whom the University has not received and processed either the full payment or the required minimum payment (a stipulated portion of the balance due after deducting approved financial aid) for assessed fees by announced deadlines.

**Policies and Procedures Related to Cancellation of Student Registration**

- The University will make efforts to notify any student whose registration is about to be administratively cancelled prior to taking this action.
- On or before the last day on which a student may enroll in a course, a cancelled student's space in a course will be given to other students on that course's wait lists. The cancelled student will be placed at the end of the course wait list.
- Any student who has been administratively cancelled for nonpayment of assessed fees may not enroll in a class unless the required fees have been paid.
- Cancelled students who re-register on or after the first day of the semester will be assessed a nonrefundable late registration charge.
- Once a student's registration has been administratively cancelled for nonpayment of assessed fees, that student may not attend class unless s/he has officially re-registered.

**The University Reserves the right to modify** by increase or decrease the fees charged for attendance and other services at the University, including but not limited to educational fees, at any time when in the discretion of the governing board the same is in the best interest of the University, provided that no increases can or will be effective unless approved by the governing board not less than thirty (30) days prior to the beginning of the academic term (semester, etc.) to which the fees are applicable and such increase does not exceed ten (10) percent over the fee level existing immediately prior to the increase, with all modification of fees to be effective irrespective as to whether fees have or have not been paid by or on behalf of a student prior to the effective date of the modification.

**Personal Checks.** Personal checks in payment of fees and other obligations to the university will be accepted only when the amount of the check does not exceed the amount due from the student. Any checks payable to the university which are returned unpaid will be assessed a \$20 return check charge.

**Credit Cards.** Valid MasterCard, VISA, and Discover credit and debit cards are accepted toward payment of fees.

**Quick and Easy Ways To Pay Fees:**

- Mail, using the mail-in coupon and envelope provided with the monthly statement.
- Using STAR, from a PC in your home, work or campus. Payment can be made by credit card only.
- In Person at one of the service windows at the cashier's Office.

**Fee Assessment for Dropping Classes or Withdrawal**

Fees are reassessed for students who officially withdraw from the University or who drop classes. It is the student's responsibility to formally notify the registrar's office and to follow proper procedures when withdrawing from the university or dropping a class or classes. Failure to receive financial aid or refusing financial aid does not constitute an official withdrawal from the university. Likewise, failing to attend class does not, in and of itself, mean a student has dropped a class. Refer to the appropriate sections in this publication for specific information about these procedures. Fees included in the reassessment are the Educational Fee, Student Activity Fee, Instructional Computing Fee, Special Course Fee (if applicable) and Parking Fee (if applicable). Such fees are reassessed and reduced according to the schedule published in the *Schedule of Courses* each semester.

**Financial Assistance**

**Teaching and Research Assistantships**

Most departments with established graduate programs offer teaching and research assistantships to qualified graduate students. Appointments are usually half-time and carry stipends. Students receiving .5 FTE assistantships receive a tuition scholarship covering residential and nonresidential educational fees. Students with these assistantships must register for a minimum of 6 credit hours in semesters in which they hold the assistantship. Please consult the Graduate School website (<http://www.umsl.edu/divisions/graduate/index.html>) for other policies concerning graduate assistantships. Teaching or research assistantship appointments are made directly by the departments. Inquires and applications for assistantships should be addressed to the director of the graduate program of the appropriate department. Applications should be submitted no later than March 15 for the fall semester. Occasionally a few teaching assistantships are available for the spring semester. Interested students should contact the director of the appropriate graduate program as soon as possible.



## Millennium Student Center

Fall 2000 students were the first to use this 165,000-square foot center. The design includes a four-story rotunda, a third-floor gallery with clerestory windows, and a climate-controlled pedestrian bridge leading to the academic quadrangle. In addition, there is a fireside social lounge, a quiet study lounge, a student art gallery, a large tiered meeting chamber, an expanse of first-class conference areas, twin television lounges, a game room and a cyber lab.

Students asked for a “one-stop shopping” building with a consolidation of all student services and functions under one roof. Accommodating this request, the following departments, previously scattered around the campus are conveniently located in the Millennium Student Center: Student Activities, Student Government, Student Organizations, Academic Advising Center, Admissions, Registration, Financial Aid, Cashiers, Degree Audit, Career Services, Counseling Services, Women’s Center, Multi-Cultural Relations, Health Services, Accessibilities Services, Food Services, Bookstore, convenience Store and a full service bank.




### Food Services

The Millennium Student Center has a food venue on each level. The first floor features The NOSH food court where students enjoy a variety of foods in a relaxed, friendly dining experience. The second floor is the location for Aroma’s bakery and coffee shop and the convenience store for those students who want to grab and go. Catering is located on the third floor.

### Bookstore and Computer Shop

The University-owned and-operated Bookstore is the headquarters for textbooks, reference materials, general reading books, supplies, gifts, and logo items.



## UM-St. Louis Libraries

**Amy Arnott**, Dean of Libraries  
M.A.L.S., University of Missouri-Columbia  
**Gregory Ames**, Curator, John W. Barriger National  
Railroad Library  
M.L.S., State University of New York, Genesco  
**Clinton Berry**, Reference Librarian  
M.A., University of Missouri-Columbia  
**Cheryle Cann**, Head, Ward E. Barnes Library  
M.S.L.S., University of Missouri-Columbia  
**Lisandra Carmichael**, Head of Access Services,  
M.A.I.S.L.T., University of Missouri-Columbia  
**Christopher Dames**, Reference Librarian  
M.S., University of Missouri-St. Louis  
M. L.S., Kent State University  
**Mary Doran**, Reference Librarian  
M.L.S., University of California-Los Angeles  
**Julie Dunn-Morton**, Curator, Woodcock  
American Art Collection, M.A., University of Delaware,  
Ph.D., University of Delaware  
**Joyce Edinger**, Coordinator, Library Serials/Acquisitions  
M.B.A., University of Missouri-St. Louis  
**Judith Friedrich**, Technical Services Librarian  
M.A.L.S., University of Missouri-Columbia  
**Bette Gorden**, Curator, Herman T. Pott Inland Waterways  
Library  
M.A., University of Oregon; M.A.L.S., University of  
Missouri-Columbia  
**John H. Hoover**, Director, St. Louis Mercantile Library,  
Associate Director of Libraries for Special Collections  
M.A.L.S., University of Missouri-Columbia; M.A.,  
Southern Illinois University-Edwardsville  
**Joan Miller**, Reference Librarian  
M.S.I.S., University of North Texas  
**Raleigh Muns**, Reference Librarian  
M.L.S., University of California-Los Angeles  
**Christopher Niemeyer**, Reference Librarian  
M.L.I.S., University of Texas at Austin  
**David Owens**, Head, Technical Services  
M.A.L.S., University of Missouri-Columbia  
**Janis Peach**, Head of Collection Development,  
M.S., University of Illinois-Urbana-Champaign  
**Frances Piesbergen**, Reference Librarian/Government  
Documents  
M.A., University of Missouri-Columbia  
**Karen Robinson**, Reference Librarian  
SISLT, M.L.S., Emporia State University  
M.A. Regent University  
**Marilyn Rodgers**, Reference Librarian  
M.A., University of Missouri-Columbia  
**Helen Shaw**, Reference Librarian  
M.Ed., University of Illinois-Champaign;  
M.A., University of Missouri-Columbia

The University Libraries support the educational objectives of the university and meet the teaching, research, and informational needs of the campus community. House in three locations—the Thomas Jefferson Library and the St. Louis Mercantile Library at UM-St. Louis (North Campus) and the Ward E. Barnes Library (South Campus)—the Libraries' collections consist of more than one million volumes, 2,900 periodical subscriptions, one million U.S. government documents, over one million items in microform, and numerous special and manuscript collections.

Materials from the libraries of all campuses of the University of Missouri and Saint Louis University can be identified in the MERLIN online catalog. Through the MERLIN catalog, users can request that items at other institutions be transferred to UM-St. Louis to be checked out. A full range of services, including interlibrary loan, reference assistance, library instruction and access to a large number of databases are also available through the Libraries.

### Western Historical Manuscript Collection and University Archives

**Kenneth F. Thomas**, Senior Manuscript Specialist,  
Western Historical Manuscript Collection  
M.A., University of Missouri-St. Louis  
**William M. (Zelli) Fischetti**, Associate Director  
Western Historical Manuscript Collection and University  
Archives  
M.A., University of Missouri-St. Louis  
**Linda J. Belford**, Senior Manuscript Specialist,  
University Archives  
M.A., University of Missouri-St. Louis

The Western Historical Manuscript Collection contains primary source materials for research in many fields, including local history, the environment, labor history, women's history, politics, and black history. The collection is open to the university community and the general public. Material from the other three campuses in the WHMC system may be borrowed for research use at UM-St. Louis. A catalog of the holdings of the other branches of WHMC is available.

The archives contain official records, campus publications, student newspapers, photographs, and other material on the history of the University of Missouri-St. Louis. Located on Level II in the Thomas Jefferson Library, the office is open for reference service Monday through Friday, 8 a.m. to 4:45 p.m. and until 9 p.m. on Tuesday. Archival and manuscript material does not circulate.

## University Services

### Veteran's Affairs

The Veteran's Affairs Office, 269 Millennium Student Center, serves as liaison to the Veteran Affairs Regional Office. A certifying official is available to answer veterans' questions about educational benefits and process official paperwork.

Veterans are certified to the Veteran Affairs Regional Office beginning with the date of initial registration, and regularly until the expected completion date of the VA-approved program or degree. Veteran students must promptly inform the certifying official in 269 Millennium Student Center of any changes in status that might affect benefits. Failure to report such changes can result in overpayments and other complications in receipt of benefits.

Veteran students are expected to attend classes, perform academic duties as assigned by instructors, and adhere to academic policies. Failure to do so will result in reports to the VA of unsatisfactory progress, which may result in discontinuance of benefits. Veteran students who cease attending but do not officially withdraw from class or from the university will be reported as not making satisfactory progress. If enrollment status is altered in any way, the VA will be notified and an overpayment may be charged against the veteran. For complete details and information, contact the Veteran Affairs Office at (314) 516-5548.

### University Health Services, Wellness, and Counseling Services (UHWCS)

UHWCS provides services to students, faculty and staff from a holistic perspective with consideration given to the six dimensions of wellness. Our primary objective is to assist students in maintaining their optimum level of wellness so that they are able to achieve their maximum academic potential. Services provided are organized into three major areas within UHWCS: Health Services, the Wellness Resource Center, and Counseling Services.

### Health Services

University Health Services, is an ambulatory care clinic located in 131 MSC. Basic health services include treatment of minor injury and illness, screening exams, women's health care, strep throat testing, pregnancy testing, tuberculin skin testing, flu shots, immunizations, urinalysis, and allergy injections. Care is provided by nurse practitioners and a medical assistant. Consultation is offered on nutrition and diet management, sexually transmitted diseases, contraception, wellness assessment, and health promotion (such as asthma and diabetes) in assisting with health problem management. Educational materials on a variety of health related topics are available.

Educational outreach programs addressing current health issues and needs are offered. Assistance with referral to medical facilities is provided upon request and when deemed necessary. For an appointment, call (314) 516-5671. For a medical emergency on campus, call 911.

The university requests that students born after 1956 provide documented proof of immunity to measles and rubella, through current immunization records or disease documentation by a physician. Immunization records may be sent to Health Services. Meningococcal Meningitis immunization is required for all students residing in campus housing.

Tuberculosis screening is required for students who a) have lived for two months or more in Asia, Central or South America or Eastern Europe, b) have been diagnosed with a chronic medical condition that may impair the immune system, c) are health care workers, d) are volunteers of nursing homes, prisons, or other residential institutions, e) have had contact with a person known to have active tuberculosis. For forms and further information please refer to the website; <http://www.umsi.edu/services/health>.

Information, application and claim forms for the Student Insurance Plan are available from Health Services. Validation for handicapped parking is available through the Cashier's Office located in 258 MSC.

### Wellness Resource Center

The Wellness Resource Center in 180 Millennium Student Center serves as a health and wellness center offering information and referral sources on a wide variety of health related issues including women's health and coping with crises. The office of the Coordinator of Alcohol and Drug Prevention is located in the Wellness Resource Center. The campus *Partners in Prevention* program is coordinated through this office, as well as many outreach activities dealing with responsible decision making related to choices students make on a daily basis. Resources are available for students with issues related to alcohol and drug use. Support groups on a variety of issues including smoking cessation, and Adult Child of Alcoholics are available at various times during the semester.

### Drug and Alcohol Prevention

Pursuant to the Drug-Free Schools and Communities Act Amendments of 1989, the University of Missouri-St. Louis is required to establish a drug and alcohol prevention program for its students and employees. A biennial review of this program will be done to determine its effectiveness, to implement changes to the program if they are needed, and to ensure that the university's disciplinary sanctions are consistently enforced. The UM-St. Louis Drug and Alcohol Prevention Program is described in a brochure which is mailed to students annually. For information regarding this policy, contact the Coordinator of Alcohol and Drug Prevention Programming at (314) 516-5414.

A variety of resources exist for drug or alcohol counseling, treatment, or rehabilitation programs. For information concerning these resources contact the offices below. Referrals will be made with respect of individual confidentiality.

Coordinator of Alcohol and Drug Prevention Programming, 180 Millennium Student Center, (314) 516-5414; Counseling Service, 126 Millennium Student Center (314) 516-5711; Student Health Center, 131 Millennium Student Center, (314) 516-5671; Office of Human Resources, 211 General Services Building, (314) 516-5804.

### **Smoke-Free Campus Policy of UM-St. Louis**

Effective June 1, 1991, smoking is prohibited throughout the University of Missouri-St. Louis campus.

### **Counseling Services**

Counseling Services, located in MSC 126, offers professional counseling regarding personal and social concerns, such as personal growth and self-esteem, relationship issues, anxiety and stress, depression, anger management, grief and loss, problematic eating patterns, personal and sexual identity issues, sexual assault and rape, family history of alcoholism and/or abuse, and current issues with family of origin, as well as issues of low motivation, poor concentration, time management, test anxiety, and procrastination. The web site (<http://umsl.edu/services/counser>) contains mental health self screenings and links to a variety of self-help topics. Call (314) 516-5711 for appointment.

### **Institutional Safety**

The mission of the University of Missouri-St. Louis police department is to work cooperatively with the university community and within the framework of the Constitution, enforce the laws, preserve the peace, and provide a safe environment for the campus.

The police department an internationally accredited department is committed to professional management and to providing services in a manner that is responsive to community concerns. It pledges to be sensitive to the needs of those it serves.

The police department located in the TeleCommunity Center, serves the students, faculty, and staff by providing year-round campus security. The police are trained to give emergency aid in the event of accident or illness. All incidents should be reported immediately to the police department, telephone (314) 516-5155. A "911" phone number is available on all phones with a 516 prefix and should be used for emergencies only. These numbers are monitored 24 hours a day. Call for help or to report fire or any hazardous conditions. Emergency telephones on campus include the red A Hot-Line phones, which are located in every building. In addition, there are a number

of outdoor emergency phones that connect directly to the police dispatcher.

### **Parking and Transportation**

Traffic regulation is also a responsibility of the campus police, including issuance of faculty/staff parking permits and any temporary parking permits. These permits may be picked up at the police department office. Informational booklets on traffic regulations and parking, as well as campus maps, tips on crime prevention, and other useful publications are available outside the police department office.

The police department provides limited emergency vehicle service, at no charge, to vehicles on campus. Any person requiring such service (due to dead battery, empty fuel tank, flat tire, etc.) should phone the university police for assistance. An escort service is available 24 hours a day by calling (314) 516-5155. All members of the campus community are strongly encouraged to call the police for an escort if they feel uncomfortable walking to their car at night.

For information on any of these services, contact the police by calling (314) 516-5158, Monday through Friday, 8 a.m. to 5 p.m. For emergencies, call (314) 516-5155 or 911.

### **Academic Resources**

#### **Center for Academic Development**

CAD is an academic support and assessment unit that focuses attention on the needs of UM-St. Louis students seeking success in their coursework. The center is comprehensive in nature and offers the following services:

#### **The Writing Lab**

This lab offers tutorial assistance to students working on papers for their classes. No appointment is necessary, and tutors are prepared to help both undergraduate and graduate students in all the disciplines. Issues covered in the lab include organization, sentence clarity, development, grammar, and usage. The Writing Lab offers IBM computers for student use, and tutors provide computer assistance. There is no charge for any Writing Lab service.

#### **English-as-a-Second Language Program (ESL)**

The center is the administrative home for the English as a Second Language Program. The program provides assessment and supplementary ESL courses for international students. Courses are listed under the Foreign Languages and Literatures Department.

#### **Mathematics Lab.**

This lab offers individual assistance on a walk-in basis to students needing help with any mathematics from basic math through calculus or needing help with the mathematical skills required for a course in another discipline. The Math Lab contains a small computer lab.

Students or prospective students who are preparing to take the Mathematics Placement Test or C-Base Exam may come to the lab for help. Review materials for the C-Base Exam are available on general reserve in the Thomas Jefferson Library. Practice math placement exams are available at the University's home page under: math placement information/math practice tests. There is no charge for any math lab service.

#### **Math Precollegiate Courses**

The center provides assistance for students needing to improve their skills in mathematics. A three-credit hour (not toward a degree) course in Intermediate Algebra and a zero-credit workshop in Beginning Algebra are offered as semester-long lecture classes or as independent study courses with flexible beginning and ending options. Schedules for the courses can be found in the current *Schedule of Courses*.

#### **Assessment Center**

The center provides a controlled environment for students to take make-up exams or to test under conditions where special accommodations are needed and authorized. Students unable to take campus level exams (e.g. Math Placement, Academic Profile) in regularly scheduled group sessions may take them in the center for a fee. All testing is by appointment. Call (314) 516-6396.

#### **Tutor Referral Services**

Students desiring a private tutor for a particular course should check with the appropriate academic department for a list of tutors. Some tutor names and phone numbers can be found on the tutor referral list Web site under the tutor referral services on the campus home page. Times and costs are arranged by student and tutor.

#### **Multicultural Relations**

The Office of Multicultural Relations was designed to support the University's goal of academic success and student retention. Cognizant of the unique challenges facing the minority population, Multicultural Relations works to enhance and promote academic success for these students. It provides and directly links students to such services as new student orientation, mentoring, tutoring, academic counseling, career exploration, and leadership development. Workshops and seminars are held to foster a larger awareness of the University and its resources. Students meet with counselors to work on individual academic plans and are assigned tutors if necessary. The web site is <http://www.ums1.edu~mcraa/mcraa.html>. The phone number is 516-6807.

## Division of Student Affairs

### Office of the Vice Provost for Student Affairs

The Office of the Vice Provost for Student Affairs, located in 301 Woods Hall, 516-5211, offers assistance and a wide variety of services to students. The office is responsible for administering the Student Conduct Code, confidentiality of student records, and the Discrimination Grievance Procedure for Students.

### Disability Access Services

Located in 144 Millennium Student Center, Disability Access Services provides information, guidance, referral services, and assistance for students with disabilities. Special arrangements and assistance in providing for the accessibility needs of students with permanent or temporary disabling conditions are available through this office. A TDD is available for individuals who are deaf or have hearing loss. For more information or questions, call (314) 516-6554 (voice) or (314) 516-5212 (TDD). Additional information is available at the Web site: <http://www.umsl.edu/services/disabled/>.

The Division of Student Affairs is a recipient of a federally funded Student Support Services TRIO Grant to provide individual specialized educational services to 125 students with disabilities. The SSS grant project offices are also located in 144 Millennium Student Center, telephone number (314) 516-6554 (voice) or (314) 516-5211 (TDD). Applications for this program are available in 144 Millennium Student Center. Web site: <http://www.umsl.edu/~sss/>

### Provisions for Auxiliary Aids, Reasonable Accommodations, and other Services to Students with Disabilities

The University of Missouri is committed to equal educational opportunities for qualified students without regard to disabling condition. The university, therefore, will take necessary action to ensure that no qualified student with a disability is denied access to any particular course or educational program. Such action includes an assessment of the student's abilities and an evaluation of the requirements of the particular course or program.

If the university determines that some type of auxiliary aid is required, it will assist the qualified student with a disability in obtaining the necessary auxiliary aid from other sources. If the necessary auxiliary aid is not available from other sources, the university, at its option, will provide the necessary appropriate auxiliary aid.

Requests for the assessments must be made to the director of Disability Access Services no later than six weeks prior to the beginning of the next semester. If an unfavorable determination is made, the student may appeal the

decision. See Discrimination Grievance Procedure, Appendix.

The university will make reasonable modifications to its academic requirements, if necessary to comply with legal requirements ensuring that such academic requirements do not discriminate or have the effect of discriminating on the basis of a student's known and adequately documented disability, unless the requested modification would require alteration of essential elements of the program or essential elements of directly related licensing requirements or would result in undue financial or administrative burdens.

The divisional dean's office, in cooperation with the director of Disability Access Services and the department through which the requirement is fulfilled, will determine the appropriate modification or substitution.

\*See Executive Order 21, Policy Related to Students With Disabilities, in the Appendix section for further information.

### Admissions

The Office of Admissions is located in 351 Millennium Student Center, (314) 516-5451. Admissions is generally the first point of contact for prospective students who require information and assistance as they go about planning for the college decision process. The Office of Admissions arranges tours of campus, sponsors open houses throughout the year for both first-time freshmen and transfers, and processes admission applications. Prospective students and families as well as applicants can arrange to meet personally with admission counselors. Counselors can provide information on applying for financial aid and scholarships, placement tests, and new student orientation.

### Registrar/Registration/Records

The Office of the Registrar is located in 269 Millennium Student Center, (314) 516-5545 and the website is: [www.umsl.edu/~register/](http://www.umsl.edu/~register/)

This office is responsible for registration, academic records, grades, transcripts, enrollment verification, veterans certification, change of name and/or address, ordering diplomas, and many other enrollment-related services. No appointment is needed for service, and hours are convenient to both day and evening students.

### Degree Audit

The Degree Audit office, 231 Millennium Student Center, (314) 516-6814, provides an automated record (DARS report) which reflects a student's progress toward degree completion. This report is very useful in planning a major, tracking graduation requirements, and investigating other areas of study. DARS reports are available from a student's academic adviser, who will assist in the interpretation of the audit as well as online through the STARUMSI system.



### **Student Financial Aid**

The Office of Student Financial Aid is located in 278 Millennium Student Center, (314) 516-5526. The staff in this office assist students with applying for financial aid, including scholarships, grants, loans, and work study. The office is open various hours to accommodate both day and evening students. Appointments are not necessary.

### **Student Financial Aid Programs**

The University of Missouri-St. Louis maintains an Office of Student Financial Aid to assist students with the cost of their education. Financial assistance is available in the form of grants, loans, scholarships, and work-study. Funds for these programs are available from federal, private, state, and institutional resources. To apply for financial aid, students must complete a Free Application for Federal Student Aid (FAFSA). Preference will be given to those students who have completed the FAFSA by April 1. Preference means that the Student Financial Aid Office will begin awarding FWS (Federal College Work-study), Federal SEOG (Federal Supplemental Educational Opportunity Grant) and Federal Perkins Loan funds. A completed financial aid application means that the Financial Aid Office has received an official Student Aid Report from the Federal Processing Center.

The Student Financial Aid Office maintains a Web site at [www.umsl.edu/services/finaid](http://www.umsl.edu/services/finaid), where students will find useful information along with the ability to contact the office electronically via e-mail. Also included is a scholarship directory that is updated biweekly.

To be considered for all university scholarships offered through the Financial Aid Office, a student must be accepted for admission. A scholarship application must be completed to apply for scholarships awarded through Student Financial Aid. All incoming freshmen should complete the Incoming Freshman Scholarship Application. Continuing students should complete the Continuing Student Scholarship Application.

Students are encouraged to contact the department in which they are majoring for other possibilities for scholarships.

### **Office of Residential Life**

Located in 101A Provincial House, (314) 516-6877. The Office of Residential Life offers on-campus housing to students year-round. The Office of Residential Life offers air-conditioned, furnished residence halls, in which 93 percent of rooms are singles. Contracts for 9 and 12 months are available. Residence Hall rates include all utilities, local phone service with six features, cable, microfridges (combination refrigerator and microwave), data communications hook-ups in each room, and a tax-exempt declining-balance meal plan. The halls also offer a large swimming pool, as well as laundry facilities, kitchenettes, and common TV lounges. All residence halls are located on the free campus shuttle route.

For students who are at least 21 years of age, Mansion Hill condominiums offer one-and two-bedroom unfurnished apartments conveniently located adjacent to the campus. The complex is on the free campus shuttle route and offers swimming pool, picnic areas, recreation areas, and laundry facilities. Rent is billed to the university account of UM-St. Louis student residents.

A variety of social, cultural, and educational programs and activities are offered by the Office of Residential Life and the Residence Halls Association. As one of the most active and visible student organizations on campus, RHA serves as the student voice for residence hall students, providing leadership opportunities and activities both on- and off-campus. Residential students are active in intramurals, student organizations, campus leadership positions, and other university activities. Tours of the UM-St. Louis residence halls and campus operated-housing are available by calling (314) 516-6877.

### **Office of Student Life**

E-Mail: [studentlife@umsl.edu](mailto:studentlife@umsl.edu). Web Page: <http://www.umsl.edu/studentlife>

The Office of Student Life, 366 Millennium Student Center, advises and serves as a facilitator for programs and services provided to 120 recognized and registered student organizations at the University of Missouri-St. Louis. The director of Student Activities serves as a nonvoting chairperson for the Student Activity Budget Committee, which allocates operating budgets to organizations approved for funding.

The Office of Student Life directs the campuswide orientation program so that students can become acquainted with university rules, procedures, and services. For more information call (314) 516-5291.

In conjunction with the University Program Board, the Office of Student Life sponsors a diverse series of educational, cultural, recreational, and social programs, services, and activities which complement the academic mission of the campus and attend to developmental needs of students at UM-St. Louis.

The office serves as a resource for students desiring information about any student organization on campus and will actively assist any student wishing to participate in any student organization or program on campus.

### **Organizations**

There are approximately 120 student organizations at UM-St. Louis ranging in size from 13 to 500 members. Their activities address the educational, cultural, social, recreational, and spiritual cocurricular needs of the campus community. Social fraternities and sororities, performing and fine arts, curriculum-related support groups, ice hockey, bowling, and other special interest clubs enhance

the collegiate experience. The Associated Black Collegians, International Students Organization, and Women's Center serve as resources for students on campus. Information regarding student organizations is available in 366 Millennium Student Center. Specific organizations may be contacted by mail through the same address.

The University Program Board, a volunteer group, initiates and implements a variety of lectures, and appearances by comedians and musical groups throughout the year. The board also sponsors games, tournaments, and discounted tickets for local sporting events, concerts, and theater. Most campus events are free to the campus community and are subsidized by student activity fees. Membership in this organization is open to students who are interested in coordinating these types of programs. Information is available by calling (314) 516-5291 or by stopping by the Office of Student Life in 366 Millennium Student Center.

## Student Government

### Student Government Association

The Student Government Association (SGA) of the University of Missouri-St. Louis is the student governance body composed of both elected student representatives from each school and college, and of organizational representatives from every recognized student organization which petitions for representation on the assembly.

The purpose of the SGA is to represent University of Missouri-St. Louis student concerns at every level of governance within the University. This is done by ensuring adequate and capable student representation within the University Senate, the policy-making and governance body of the University of Missouri-St. Louis. SGA has its own standing committees to address student concerns. For more information call (314) 516-5105 or drop by 366 Millennium Student Center.

**Student Court** The Student Court is nominated by the SGA. The five-member court rules on student appeals concerning matters such as disputes between individuals and organizations, or organizations and organizations, as well as traffic parking appeals.

### Faculty Senate and University Assembly

The governance structure at UM-St. Louis was substantially reorganized during the 1999-2000 academic year. The governance structure was approved by the Faculty on January 26, 2000 and the Board of Curators on March 23, 2000.

The Faculty Senate has 40 faculty members, 30 representing departments and 10 elected at large. In addition, three administrators are non-voting members. The University Assembly consists of all Senate members (40), 13 students and five administrators including the Chancellor, Vice Chancellors for Academic Affairs,

Research and the Graduate School, Student Affairs, and Continuing Education. In addition, three other vice chancellors, all the academic deans and the President of the Student Government Association are non-voting members. The Faculty Senate meets monthly between September and May and the Assembly meets in alternate months during the year. Information about the Faculty Senate and University Assembly is available at: [www.umsl.edu/committees/senate/](http://www.umsl.edu/committees/senate/)

## Athletics

**Recreational Sports** The University's recreational sports program is geared toward the interests of the entire University community. Students, faculty, staff, and alumni are encouraged to take active roles in the creation of new recreational sports programs.

Intramural activities currently offered include touch football, basketball, volleyball, racquetball, golf, tennis, bowling, softball, hoc soc, fun run, soccer, indoor floor hockey, and weight lifting. For more information call (314) 516-5125.

**Intercollegiate Sports** A variety of intercollegiate sports are available for both men and women at UM-St. Louis. The Rivermen and Riverwomen compete at the NCAA Division II level and are members of the Great Lakes Valley Conference. The women's intercollegiate athletic program includes basketball, soccer, tennis, volleyball, golf, and softball. The men's intercollegiate athletic program includes basketball, soccer, golf, baseball, and tennis. Scholarships are available for both men and women in all sports. Both men's and women's athletic teams have brought both local and national recognition to the university for more than 20 years, with one national championship and numerous trips to the NCAA Tournament in several sports. UM-St. Louis students with validated IDs are admitted free to all home athletic contests.

For more information about intercollegiate athletics, please call (314) 516-5661.

### Facilities

The athletic and exercise areas in the Mark Twain Building are available for use by the university community at specified hours. During the regular semester, the building is open seven days a week and on specified evenings. Facilities include basketball, volleyball, badminton, and handball/racquetball courts, an aerobic dance room, and an NCAA regulation swimming pool.

The facilities also include two conditioning and fitness rooms with state-of-the-art equipment, an indoor running track suitable for walking or running, and a sauna. Outdoor facilities include baseball, softball, soccer, intramural fields, and tennis courts. For further information call (314) 516-5641.

## Other Services

### Alumni and Constituent Relations Office

UM-St. Louis alumni, now numbering more than 62,000, help shape the future of not only the university but the entire St. Louis region. The Alumni Association and the Office of Alumni and Constituent Relations work together to promote the St. Louis campus and build mutually beneficial relations between the university and its alumni and friends. Membership in the Alumni Association is open to all graduates and former students with payment of modest dues.

### Alumni Association

The Alumni Association sponsors several scholarship funds for UM-St. Louis undergraduate and graduate students, provides special funding of certain campus projects, and works as an organization to obtain increased public support for the university. For more information, call (314) 516-5833.

A historic and elegant setting, the Alumni Center, located at 7956 Natural Bridge Road across the street from the main campus entrance, offers students, faculty, staff, and alumni a gathering place for community receptions and other social events. Contact the Alumni Center at (314) 516-5722 for more information and reservations.

### Career Services

Career Services works in partnership with employers and the campus community by helping students and alumni to develop, implement, and evaluate job search strategies.

Job and career services are available to all UM-St. Louis students and alumni. Career Services hours are Monday through Thursday, 8 a.m. to 6 p.m. and Friday, 8 a.m. to 5 p.m.. For more information, call (314) 516-5111, or visit 278 Millennium Student Center.

**Web Registration.** Internet technology allows students 24/7 access to career services. Web registration enables students to become members of the Candidate Database, display resumes in the Web Resume Book to hundreds of local and national employers to view, interview on campus, and more.

**Candidate Database.** Qualifications and experience of Candidate Database members may be quickly matched with job vacancy listings. Resumes will be sent directly to the employer.

**Web HomePage.** Provides general information about Career Services, upcoming Job Fairs, Career Days, and other special events, the on-campus interviewing schedule, direct links to company information, job banks, career resource materials, and self-assessment exercises. The

Web Job Listings service has hundreds of current vacancies listed daily by employers.

<http://www.umsl.edu/depts/career/>

### Career Experience and Employment Program

The Career Experience and Employment Program combines classroom studies with work experience in a field related to education and career goals. These degree related positions offer students an excellent opportunity to gain professional job experience and earn money to help with expenses while in school. Through this program, students begin to understand what career choices they might make, gain valuable contacts in their field, and, in many cases, get paid for their work. They graduate with a college degree and an impressive resume. Throughout this program, Career Services, and academic departments work with students and employers to ensure that positions are linked to curriculum and career development. These work arrangements are available to UM-St. Louis students at all levels in all majors. Contact Career Services for more information at 516-5111, or visit 278 Millennium Center. Following is an overview of internships and practicums available through various academic departments:

#### Anthropology

**4325-4329,** Internship in Cultural Anthropology, Archaeology, Folklore, Museum Studies, Physical Anthropology - elective, for credit; placement with outside organizations; junior standing required.

Positions available on competitive basis as lab and research assistants, teachers/facilitators, and interns/assistants - optional, noncredit.

Human Origin and Cultural Diversity program offers internships in educational anthropology and diversity education.

#### Biology

**3699,** Undergraduate Internship in Biotechnology - optional as part of certificate program, for credit or noncredit, enrollment in certificate program required.

**4299,** Practicum in Conservation - required as part of certificate program, for credit, enrollment in certificate program required.

#### Chemistry and Biochemistry

Opportunities are available to pursue research with faculty members for credit during the academic year. Normally requires enrollment in Chemistry 3905. Stipend available in some cases. Expanded opportunities available in the summer through the Research Experience for Undergraduates Program, which is typically funded by the National Science Foundation and local industry. In some cases students may conduct Chemistry 3905 research at a local company through collaborative arrangement between a faculty members and an industrial chemist.

**Criminology and Criminal Justice**

**3280**, Internship in Criminology and Criminal Justice - elective, for credit.

**Economics**

Career-related work arrangements for students majoring in economics are primarily administered through the department, located in 408 SSB. These positions are generally paid and non-credit bearing; however, students receive a transcript notation for each semester worked. Occasionally credit may be earned for selected assignments with departmental approval.

**English**

**4890**, Independent Writing Project - internships offered in areas such as journalism, public relations, advertising, publishing, and technical writing; for credit, enrollment in Writing Certificate Program required.

**2980**, Practicum in Theater - optional, credit

**4980**, Internship in Theater - optional, credit

**Foreign Languages and Literatures**

Positions as tutors in language lab available on a competitive basis - paid, noncredit. Students of German can apply for summer internships abroad through the German-American Student Exchange Program - noncredit. Information available in department.

**History**

**4001**, Special Readings - internships occasionally available with historical agencies; department chair and/or undergraduate coordinator must approve to obtain credit.

**Mathematics and Computer Science**

Career-related work arrangements for students majoring in math and/or computer science are primarily administered through Career Services located in 278 Millennium Student Center. These positions are paid and non-credit-bearing.

**Physics and Astronomy**

The department funds research internships in the department in both physics and astronomy. The awards are competitive, and preference is given to students who have completed the Physics 2111/2112 sequence.

**Political Science**

**3940**, Public Affairs Internship - required, for credit, for bachelor of science in public administration program. It may also count as an elective, for credit, within the bachelor of arts in political science program and is open to all majors. Placements include municipal, state, and federal governmental agencies, nonprofit organizations, courts, and political campaign offices.

**Psychology**

**3295**, Selected Projects in Field Placement - elective, for credit.

**Social Work**

**4800 and 4850**, Supervised Field Experience in Social Work I and II - required, for credit, enrollment in B.S.W. program and prior consent of instructor are required

**Sociology**

**4385**, Internship in Sociology - elective, for credit.

**4040**, Survey Research Practicum - elective, for credit.

Students should consult the sociology department, 707 Tower, for requirement guidelines. Many department; within the College of Arts and Sciences work in cooperation with the College of Education for students seeking teaching certification in an emphasis area. Student teaching work arrangements are coordinated through the College of Education.

**College of Business Administration**

Career Services works in partnership with the College of Business Administration to assist students in securing career-related work arrangements for students majoring in all areas of business. These positions can be paid or unpaid and credit bearing or non-credit bearing. Those students choosing to receive academic credit through one of the courses listed below must contact the College of Business Administration Internship Coordinator.

**BA 3090** Internship in Business Administration

**BA 3289** Internship in International Business

**BA 3390** Internship in Logistics & Operations Management

**BA 3490** Internship in Accounting

**BA 3590** Internship in Finance

**BA 3690** Internship in Management

**BA 3790** Internship in Marketing

**BA 3890** Internship in Management Information Systems

**BA 3990** Internship in Business Law

**College of Education**

Student Teaching - required, for credit. The College of Education is involved with a variety of programs which provide students with academically related work opportunities. These include Parkway Central Middle School/UM-St. Louis Internship Program, Professional Development School Program, and Schools for Thought-Compton-Drew Middle School. These programs are optional and both for credit and non-credit. Positions at Parkway Central Middle School and Compton-Drew Middle School are paid.

**College of Fine Arts and Communication****Art**

**3387**, Professional Internship for Art History majors only - elective, for credit

**3388**, St. Louis Art Museum Internship for Studio Art or Art History majors only - competitive position elective for credit.

### **Communication**

1193, 1194, 1196, 1197, Practicum in Applied Communication, Debate/Forensics, Radio, and Television/Film - required, for credit. On-campus positions, as available.

3393, 3394, 3396, 3397, Internship in Applied Communication, Journalism, Radio, and Television/Film-elective for credit, Senior standing, 3.0 GPA, and faculty recommendation required; off-campus positions.

### **Music**

4920, Internship – required, for credit, enrollment in bachelor of music business required. Department sponsored internships available for all majors at St. Louis area arts institutions.

### **Engineering**

UM-St. Louis/Washington University Joint Undergraduate Engineering Program Career-related work arrangements for students majoring in all areas of engineering are primarily administered through Career Services. These positions are paid and non-credit-bearing.

### **College of Nursing and Health Studies**

Clinical courses are required in both the undergraduate and graduate programs. These experiences are limited to nursing majors only.

### **Pierre Laclède Honors College**

Internships chosen by Honors College students, or arranged by their major departments, are valuable opportunities to broaden educational experience while also meeting the honors independent study requirement for graduation.

Visit Career Services, 278 Millennium Student Center, or call (314) 516-5111 for more information on these programs and other work arrangements available. Web site: <http://www.umsl.edu/career>

## Specialized Centers and Facilities

### Research Enterprise

#### Office of Research Administration

The Office of Research Administration (ORA) provides support services to faculty, graduate students, and staff seeking external grant funds for research, instruction, and service from federal, state, and local government programs, as well as private foundations. Several specialized research units report to the Office of Research Administration. In addition, the ORA facilitates technology transfer through assisting inventors in filing for patent applications, negotiating licensing agreements, and setting up start-up companies.

The ORA works together with faculty committees to award and administer internal research grants, including coordination of the University of Missouri Research Board competition, Research Awards, the Small Grants Funds, the Chancellor's Awards for Research and Creativity, and the Grants Incentive Funds. The ORA also works through faculty committees to monitor University compliance with various federal and state regulations for research.  
<http://www.umsl.edu/services/ora/>

#### Center for Emerging Technologies

The Center for Emerging Technologies is a public-private-academic partnership, which includes the University of Missouri-St. Louis and the Missouri Department of Economic Development. The mission of the Center is to position the St. Louis region as an important center for advanced technology and knowledge-based economic development. The Center primarily functions as an incubator for startup companies. With 90,000 square feet space, it houses fifteen startup companies. Inventions that lead to the establishment of these startups often originate from university research laboratories and faculty and graduate students provide valuable expertise to these enterprises. In addition, the Center presents educational seminars to help entrepreneurs with legal matters related to patents and licenses, information on venture capital financing, and other business strategies. <http://www.emergingtech.org/>

#### Missouri Enterprise

Missouri Enterprise is a non-profit statewide operation affiliated with the university. It assists small businesses with industrial, manufacturing, and design engineering projects; it helps in developing strategic business and marketing plans; and in setting up performance evaluation. Missouri Enterprise specialists advise businesses on all aspects of their operations, from tactical product promotions to complete, company-wide five-year business plans. Their services assist businesses in improving personnel management, safety, manufacturing efficiency, research funding, communications services and record-keeping, feasibility studies, and more.  
<http://www.missourienterprise.org/>

#### Public Policy Research Center

The Public Policy Research Center at University of Missouri-St. Louis seeks ways to make communities more livable through improved public policies. The PPRC provides research services, programs, opportunities and expertise designed to foster university-community partnerships at the local, county and regional level. PPRC responds to community-identified needs with a multi-disciplinary approach to applied research and community and neighborhood development.

The PPRC endeavors to achieve its mission by:

- Undertaking objective basic and applied research.
- Serving as a regional information and data center.
- Sponsoring forums and seminars for debates and discussions.
- Publishing and disseminating policy briefs, issue papers, research reports, newsletters and books.
- Interpreting and preserving local history to help communities shape their future.
- Commenting on issues of public policy and identifying regional challenges and opportunities.
- Providing training and certificate programs for community and government leaders and professional organizations.
- Partnering with civic, governmental, non profit, and other agencies, as well as with individuals

The PPRC undertakes these tasks by developing partnerships with local, county, regional and state governments and agencies, nongovernmental organizations, and citizen's groups. It also promotes policy research through faculty and community fellowships. PPRC also serves as a policy laboratory for a number of graduate students participating in research and outreach activities.

PPRC is organized around three units: Applied Research, Community and Neighborhood Development, and Metropolitan Information and Data Analysis Services (MIDAS). It also curates regularly changing community photography exhibits.  
<http://pprc.umsl.edu>

#### Center for Business and Industrial Studies

The Center for Business and Industrial Studies is organized within the College of Business Administration for studying managerial problems and performing applied research. The center operates on a not-for-profit basis, helping organizations nationwide to understand factors affecting their business environments and to enhance their productivity. University faculty, supported by powerful computer systems, statistical databases, and sophisticated software, provide multidisciplinary consultation in a wide variety of business applications. Studies are undertaken in computer systems, operations management, human resources management, planning and business development, facilities location, distribution, marketing, and financial analysis. Organizations contract with the center for studies tailored to their specific

needs. For a brochure outlining the center's services, call (314) 516-5857.  
<http://www.umsl.edu/divisions/business/ncbis/cbis.html>

#### **Center for Transportation Studies**

This center is an interdisciplinary center, bridging contemporary and historical aspects of transportation. It brings together scholars from Business, History, Economics, Political Science, English, Art History and others. The Center is pioneering a new program in Supply Chain Management, developing funds for research into the role private sector transportation plays in the provision of public transportation services. <http://www.umsl.edu/depts/cts/>

#### **Center for Entrepreneurship and Economic Education**

The Center for Entrepreneurship and Economic Education is sponsored by the College of Arts and Sciences and Continuing Education-Outreach to support and enhance economic education in elementary and secondary schools. The center provides in-service programs in economic education to area teachers. Working closely with local school districts, the center serves to improve and evaluate economics curriculum. The center develops and publishes curriculum units for K-12 classrooms. Entrepreneurship and personal finance education are other focuses for center activities. The center also promotes the goals of economic, entrepreneurship and personal finance education among business, professional, educational, labor, and other organizations and individuals in the St. Louis community. <http://www.umsl.edu/~econed/>

#### **International Center for Tropical Ecology**

The Center for Tropical Ecology promotes education and research concerning the study of biodiversity, conservation, and sustainable use of tropical ecosystems. The center was established to centralize the activities of faculty at UM-St. Louis and researchers at the Missouri Botanical Garden who specialize in ecology, evolution, systematics, and conservation biology. A priority is to provide funding for graduate students interested in tropical biology and conservation who are enrolled in the cooperative graduate program between UM-St. Louis and the Missouri Botanical Garden. The International Center for Tropical Ecology sponsors multidisciplinary lectures and symposia on biological, political, and cultural issues related to tropical ecosystems. The center also provides funding and assistance to the undergraduate Certificate in Conservation Biology, which focuses on Missouri conservation, and the graduate certificate in Tropical Biology and Conservation. For further information visit the ICTE Web page: <http://icte.umsl.edu>.

#### **Center for Molecular Electronics**

Molecular electronics lies at the cutting edge of recent developments in the study and application of thin-film materials, the growth of semiconductor device material, the fabrication of electronic sensors and devices, and the development of high-performance polymers. In all these areas, knowledge and control at the atomic or molecular level is essential for state-of-the-art materials and devices. In

recognition of the critical importance of research, education, and industry-university cooperation in these areas, the University of Missouri-St. Louis has established the Center for Molecular Electronics. The goals of the center are both research at the forefront of the field of molecular electronics and assistance in development of high-technology products by St. Louis-area corporations. To encourage cooperation between university and corporate scientists and engineers, the membership of the center includes physicists, chemists, and engineers from the University of Missouri-St. Louis, Washington University, MEMC Electronic Materials, and Monsanto Company. <http://newton.umsl.edu/cme.html/>

#### **Center for Neurodynamics**

This center sponsors basic research on transmission and processing of information by the brain and the sensory nervous system. Research functions are performed largely by faculty, graduate students, and postdoctoral research associates, though exceptionally talented and motivated undergraduate students also make valuable research contributions. The center is interdisciplinary, composed of faculty from the departments of Biology and Physics and the College of Optometry. It maintains a program of external associates with whom collaborative research projects are pursued. Current associates are in Baylor College of Medicine, Houston, Texas; the Department of Biomedical Engineering, Boston University, Boston, Mass.; and Viatech Imaging Inc., Ivoryton, Conn. The center is host to frequent scientific visitors and maintains an active program of seminars on contemporary problems in neuroscience and in the physics underlying neural processes. For further information consult the URL <http://neurodyan.umsl.edu>.

#### **Missouri Research Park**

The University of Missouri System Strategic Plan establishes a mission and goal to promote economic growth for the state and provide assistance in manpower training, technology transfer, innovation and research and development through productive partnerships. The Missouri Research Park is a result of that vision and has been the catalyst for high-tech development along the Hwy. 40/61 corridor in St. Charles County. Major corporations have followed the trend and are clustering near the Missouri Research Park. <http://www.umtechparks.com/home.html>

#### **Center for Trauma Recovery**

CTR is a multi-disciplinary center of the University of Missouri-St. Louis whose purpose is to foster research, graduate and undergraduate education, and service in the areas of trauma and victimization. The Center consists of faculty affiliates from six departments in the University who have research, teaching or service interests in trauma related topics. These individuals share a common set of goals. The Center sponsors a colloquium series every semester and offers an undergraduate certificate in Trauma Studies. The CTR is housed in the Kathy J. Weinman Building which also contains the Weinman Child Advocacy Center that provides services to traumatized children.

<http://www.umsl.edu/divisions/artscience/psychology/CTRHome.html>

### **Children's Advocacy Services of Greater St. Louis (CASGSL)**

The Children's Advocacy Services of Greater St. Louis provides services to children who have been sexually abused. The organization offers forensic fact-finding interviews; medical exams; victim advocacy, individual, family and group therapy; and training for the community at-large and area professionals. Internships for undergraduate and graduate students are available. Children's Advocacy Services has two facilities: one is located on the University of Missouri-St. Louis South Campus and one is located in the Central West End.

<http://www.safekidsmo.org>

### **Centers Providing Public and University Service**

#### **Blanche M. Touhill Performing Arts Center**

Now beginning its third season of presenting the finest in the performing arts to the St. Louis region, the Blanche M. Touhill Performing Arts Center opened its doors in September 2003. The \$52 million non-profit facility designed by Pei Cobb Freed and Partners, features the 1,625-seat Anheuser-Busch Performance Hall and the 350-seat E. Desmond and Mary Ann Lee Theater. The Center is the jewel of the UM-St. Louis campus and is a focal point for creating an arts district for students at the University.

The Touhill's mission is laid out in the following statement: The Touhill Performing Arts Center at the University of Missouri-St. Louis creates opportunities for the people in our region to experience, appreciate and embrace the transformational power of the performing arts. It is a welcoming place, a leading cultural partner in our community and a symbol of this University's commitment to integrate education, innovation and excellence. More information about the Touhill can be found at [www.touhill.org](http://www.touhill.org)

#### **Child Development Center**

The Child Development Center, 130 South Campus Classroom Building, provides high-quality day programs for children of students, faculty, staff, and community families. The center is accredited by the Academy of Early Childhood Programs, a division of the National Association for the Education of Young Children, one of 24 accredited programs in the St. Louis area. The program operates from 7 a.m. to 5:30 p.m. Monday through Friday, year round. This program serves children from six weeks to five years of age. The center also provides university students with observation, participation, research, and similar educational and clinical opportunities. Call the center at 516-5658 for additional information.

#### **Center for Human Origin and Cultural Diversity**

The Center for Human Origin and Cultural Diversity was founded in Fall, 1995 as a joint venture between the Anthropology Department, and the May buye Center (Archive of the African National Congress) at the University of the Western Cape, South Africa. Building on the foundation of anthropological knowledge, the Center will design a K-12 curriculum. Currently, no comprehensive anthropology curriculum exists in the U.S. Programs are also offered in conjunction with the Gerontology Program and the Missouri Historical Society.

#### **Center for the Humanities**

The Center provides visibility and focus for humanities activities at UM-St. Louis and attracts and channels resources for support of interdisciplinary humanistic inquiry. The Center sponsors a variety of conferences, symposia, and lectures. For over a decade, the Center has sponsored an annual conference titled "What is a City?" that examines the structure and social environment of cities and their effects on social and cultural life. The Center sponsors the Monday Noon Cultural Series, which features a variety of humanities and arts presentations and performances. The Center also supports and coordinates the poetry and short story series, which showcases authors reading their original works. In addition, the Center houses and funds the journal *Theory and Society*, a refereed, interdisciplinary journal of social theory and practices, published by Kluwer Academic in The Netherlands. The Center disseminates information on the humanities on its Web site and promotes development of interdisciplinary outreach programs.

#### **Center for International Studies**

The Center for International Studies supports academic programs, seminars, and conferences designed to promote and improve research in international studies, improve methods of teaching international studies in schools and colleges, and encourage an interest in international affairs in the university and area communities. The center's Office of International Student and Scholar Services coordinates and provides services for international students and scholars including admissions, immigration, orientation, nonacademic advising, etc. In addition, the center administers the campus exchange and study abroad programs and disseminates information on study, work, and travel abroad. The center promotes the development of interdisciplinary and multidisciplinary courses, assists in staffing courses within individual departments, houses the Joint Center for East Asian Studies of UM-St. Louis and Washington University, the E. Desmond Lee Global Ethnic Collaborative, the Karakas Family Foundation Alliance for the Advancement of Hellenic Studies, and the Endowed Professorships in African-American Studies, Chinese Studies, Greek Studies, international education, Irish Studies, Japanese Studies, the German Culture Center, and the Greek Culture Center. It conducts seminars that address specific faculty and student needs and interests, sponsors conferences for academic and community audiences, organizes international business development programs, sponsors an International Performing



Arts series, issues occasional papers, administers undergraduate certificate programs in Africana studies, East Asian studies, European studies, Greek studies, international business, international studies, and Latin American studies and the Graduate Certificate in International Studies. In addition, the Center serves precollegiate educators statewide through the International Studies Resource Library and operates a comprehensive global education program.

#### **Center for Teaching and Learning**

The CTL is a division of the Office of Academic Affairs that promotes student learning by offering programs and resources that support effective teaching and learning at the University of Missouri-St. Louis. Orientations, workshops, and seminars are designed to support the professional development of faculty (full-time and part-time), academic leaders, graduate students, and Teaching Assistants. The CTL co-sponsors programs with other campus units to introduce technology supports for teaching and learning and to create campus conversations about timely initiatives such as student and civic engagement. The CTL programs include:

- New Faculty Orientation in August
- New Part-time Faculty Orientation offered before the start of fall, spring, and summer semesters
- Teaching Assistants conference and workshop in August
- Academic Leaders Forum
- Fall Focus on Teaching and Technology Conference

The CTL coordinates two UM System initiatives on campus, the New Faculty Teaching Scholars Program and the Leadership Development Program and sponsors the implementation of the Faculty Survey of Student Engagement. Confidential classroom consultations and mid-semester online course are available each semester to all faculty. Additional information and current program offerings are available at <http://www.umsl.edu/ctl>

#### **E. Desmond Lee Technology and Learning Center**

The TLC models a technology enriched classroom where theories and ideas are put into practice. The TLC is a resource for the community. Everyone is welcome to use the facility. Graduate students working in the center focus on research and assist in the development of effective uses of technology learning environments.

#### **Information Technology Services**

Information Technology Services provides students, faculty, and staff with an integrated array of voice, video, and data services, including consultation, programming, training and operational support

Eleven Smart classrooms provide network-attached computers at each student station as well as an instructor station. High-resolution projectors and video/audio systems complete these facilities. There are also more than fifty media-enhanced lecture halls/classrooms with instructor stations as well as projection systems. These Technology Enhanced classrooms provide faculty with electronic blackboards for lecture notes, and software demonstrations.

Complementing these facilities are student computer laboratories in the Social Sciences Building, Thomas Jefferson Library, Benton Hall, and South Campus Computer Building where consultants are available to assist students with general operation and troubleshooting needs

#### **KWMU**

90.7 KWMU-FM, is the 100,000-watt public radio station of the University of Missouri-St. Louis and National Public Radio/ Public Radio International affiliate. The professionally staffed station broadcasts news, talk, and entertainment 24 hours a day. KWMU provides programming that is responsive to the needs of the community. In training students who plan to pursue broadcast careers, KWMU augments the educational and training function of the university.

#### **Regional Center for Education and Work**

The Center initiates, promotes and supports programs that foster cooperation and information sharing among business, labor, social service and education for healthy long-term work force development and economic improvement for the St. Louis Region. The center will be a hub for regional research and planning in workforce development, employment trends and job forecasting. It serves as a resource to education, school counseling, labor force training and social service providers

#### **The Faculty Resource Center (FRC)**

The Faculty Resource Center (FRC), provides enhanced technical support to faculty, TA's, graduate students and support staff wishing to integrate technology into course content. These support resources include assistance in development of web-based material, assistance with online courses; the integration of video or graphics into course materials; training in the use of various instructional technologies; and access to networked workstations with software and media capabilities. For more information, please visit our web site at: <http://www.umsl.edu/technology/frc> or call (314) 516-6704

The My Gateway Site (<http://mygateway.umsl.edu>) provides on-line course materials as well as many other features such as: class email, discussion forums, virtual chat, and address book, calendar, and task list. From this web site, you can access course and organizational information; find tools to communicate with students, professors and colleagues; link to Registrar's grades and schedules; and access links to other campus services.

The On-Line Testing Center in the South Campus Computer Building, Room 200, provides new line computer-based testing services. The center is staffed seven days a week, offering both midday and evening hours, by a proctor that assists the students in getting started with examinations and provides scheduling support.  
<http://www.umsl.edu/technology/mgwhelp/fachelp/otc.html>

The Technology Support Center, 211 Lucas Hall (516-6034) is available for students, faculty, and staff who have general questions regarding their accounts or use of campus resources. The Web office provides assistance for faculty and staff in developing Web pages.

**University Eye Center**

Located on the South Campus, the center is open to the public as well as to faculty, staff, and students of the university. Its goal is to provide patients with high-quality vision care and optometry students with diverse educational opportunities. The school also operates the Optometric Center, a comprehensive optometric eye care facility in the Central West End of the city of St. Louis, and the East St. Louis Eye Center, jointly owned and operated by the University of Missouri-St. Louis College of Optometry and Southern Illinois University at Edwardsville.

## Continuing Education and Outreach

As the region's only public research university, UM-St. Louis serves students who are in many ways nontraditional in their demographic make-up, their approach to higher education, and their educational needs. Meeting the needs of these nontraditional students while extending the expertise of the university to the community is the mission of Continuing Education and Outreach.

Through Continuing Education and Outreach, the university's schools, colleges and centers administer a wide variety of credit courses, noncredit programs, and problem-oriented research for the benefit of the greater St. Louis metropolitan area and beyond. Programs are offered both on and off campus. Research, generally of an applied, urban-related nature, is designed to solve specific problems of client groups.

### Arts and Sciences

Continuing Education and Outreach in the College of Arts and Sciences includes credit courses and noncredit programs from the college's departmental disciplines, including courses and workshops in the archaeology, microcomputers, writing, languages, history, and social and physical sciences. Interdisciplinary teaching and research programs deal with such fields as social work, the humanities, women's studies, and economics.

The Center for Entrepreneurship and Economic Education provides programs and curriculum consultations to local teachers and schools internationally.

**The Microcomputer Program** develops and teaches applied computer courses and offers the Chancellor's Certificate on the Computer, along with other certificate programs.

**The Advanced Credit Program** provides an enrichment experience for university-bound secondary students by providing freshman-level courses for credit in selected high schools.

**The Gateway Writing Project** offers credit and noncredit programs on writing improvement for classroom teachers.

### Business Administration

Continuing Education noncredit programs through the College of Business Administration are offered in several areas, including organizational and management development and individual professional growth. Several certificate programs are offered.

### Education

The overall aim of the College of Education's outreach activities is to provide services that bring about better teaching and learning situations in educational settings.

The programs and courses help students complete Missouri teacher certification requirements as well as provide work either toward advanced degrees or for in-service professional growth. Programs can be customized to meet the particular needs of organizations.

### Fine Arts and Communication

The College of Fine Arts and Communication offers a variety of Continuing Education and Outreach activities to the community. Four endowed professorships are focused on community outreach in the arts. The award-winning E. Desmond Lee Music Education Collaborative, and other collaborative activities undertaken by the College in conjunction with arts organizations in the greater St. Louis area, all contribute to the college mission.

A range of credit and noncredit fine arts outreach programs are offered in partnership with the Saint Louis Symphony, Opera Theatre of Saint Louis, and the Muny.

### Graduate School and Public Policy Administration

The Nonprofit Management and Leadership Program offers comprehensive education and training for professional staff, board members, and other leaders of nonprofit and voluntary organizations, as well as students and others wishing to explore a future in the field. The program offers noncredit seminars and credit courses leading to undergraduate and graduate certificates.

### Nursing

The College of Nursing at the University of Missouri-St. Louis offers a variety of programs for Registered Nurses. Currently, the college offers the RN/BSN option at St. Charles Community College and at various sites in the Barnes-Jewish Health Care System. The MSN/FNP program is offered at St. Charles Community College and at Mineral Area College.

### Optometry

The University of Missouri-St. Louis offers diagnostic and therapeutic Continuing Education and Outreach programs for optometrists through the UM-St. Louis College of Optometry.

### Outreach Sites

Continuing Education and Outreach offers selected graduate and undergraduate credit courses at UM-St. Louis Lindbergh, a satellite center located at Lindbergh High School in south St. Louis County. Continuing Education and Outreach also offers credit courses at other metropolitan sites, including St. Charles Community College, Mineral Area College, Jefferson College, and the South County Education and University Center.

### In-house Training

Specialized research and technical assistance and in-house training programs are available to local businesses and organizations. With the help of expert faculty and staff

consultants, the University is equipped to deliver specialized training on an in-house basis.

**J.C. Penney Conference Center**

This large conference facility at UM-St. Louis houses a 435-seat auditorium, as well as six large conference rooms, designed to provide an excellent academic environment and maximum convenience for course participants. A complete conference staff provides administrative support for seminars and conferences, as well as coordination for special hosted programs each year.

## **Degree Programs**

### **Undergraduate Studies**

Undergraduate degree programs are offered by the College of Arts and Sciences, College of Business Administration, College of Education, College of Fine Arts, College of Nursing and Health Sciences and joint programs with Washington University..

### **Bachelor of Arts (B.A.)**

Anthropology  
Art history  
Biology  
Chemistry  
Communication  
Economics  
English  
French  
History  
Mathematics  
Music  
Philosophy  
Physics  
Political science  
Psychology  
Sociology  
Spanish

### **Bachelor of Fine Arts (B.F.A.)**

### **Bachelor of General Studies (B.G.S.)**

### **Bachelor of Health Studies (B.H.S.)**

### **Bachelor of Music (B.M.)**

Music  
Music education

### **Bachelor of Science (B.S.)**

Accounting  
Applied mathematics  
Biology  
Biochemistry and Biotechnology  
Chemistry  
Civil engineering (joint program with Washington University)  
Computer science  
Criminology and criminal justice  
Economics  
Electrical engineering (joint program with Washington University)  
Management information systems  
Mathematics  
Mechanical engineering (joint program with Washington University)  
Nursing  
Physics

Sociology

### **Bachelor of Science in Business Administration (B.S.B.A.)**

### **Bachelor of Science in Education (B.S.Ed.)**

Early childhood education  
Elementary education  
Physical education  
Secondary education  
Special education

### **Bachelor of Science in Nursing (B.S.N.)**

### **Bachelor of Science in Public Administration (B.S.P.A.)**

### **Bachelor of Social Work (B.S.W.)**

### **Graduate Studies**

The Graduate School administers all degrees and certificates beyond the bachelor's degree in all divisions except the College of Optometry, which administers the professional program leading to the Doctor of Optometry degree. In most cases, master's degree programs can be completed through part-time study.

### **Master of Accounting (M. Acc.)**

### **Master of Arts (M.A.)**

Communication  
Criminology and criminal justice  
Economics  
English  
History  
Mathematics  
Philosophy  
Political science  
Psychology  
Sociology

### **Master of Fine Arts (M.F.A.)**

Creative writing

### **Master of Music Education (M.M.E.)**

### **Master of Business Administration (M.B.A.)**

### **Master of Education (M.Ed.)**

Adult and Higher Education  
Counseling  
Educational administration  
Elementary education  
Secondary education  
Special education

### **Master of Public Policy Administration (M.P.P.A.)**

**Master of Science (M.S.)**

Biology  
Biochemistry and Biotechnology  
Chemistry  
Computer science  
Gerontology  
Management information systems  
Physics  
Physiological optics

**Master of Science in Nursing (M.S.N.)****Master of Social Work (M.S.W.)****Education Specialist (Ed.S.)**

Education Administration  
School Psychology

**Doctor of Education (Ed.D.)****Doctor of Optometry (O.D.)****Doctor of Philosophy (Ph.D.)**

Applied mathematics  
Biology  
Business administration  
Chemistry  
Criminology and criminal justice  
Education  
Nursing  
Physics  
Physiological optics  
Political science  
Psychology



## College of Arts and Sciences

### General Information

The College of Arts and Sciences consists of some 220 full-time faculty members in the following departments and school, each offering work in specific undergraduate degree programs: anthropology, biology, chemistry, criminology and criminal justice, economics, English, foreign languages and literatures, history, mathematics and computer science, philosophy, physics and astronomy, political science, psychology, social work, and sociology.

In addition the College offers a Bachelors Degree in Biochemistry and Biotechnology and a Bachelor of Science in Liberal Arts.

Graduate study degree programs, administered through the Graduate School, are also offered in the following departments of the College of Arts and Sciences: biology, chemistry, criminology and criminal justice, economics, English, history, mathematics and computer science, physics and astronomy, philosophy, political science, psychology, social work, and sociology. An interdisciplinary master's degree in public policy administration is offered in cooperation with the College of Business Administration. Specific degree requirements for both undergraduate and graduate degree programs are described in the departmental sections which follow this general information on the college. The College also offers a Master of Science in Biochemistry and Biotechnology.

**Coursework in the evening or through on-line and/or video instruction is made available by all departments of the College and the School of Social Work. The following degree programs can be completed in the evening:**

**Bachelor of Arts** in Biology, Chemistry, Economics, English, History, Mathematics, Physics, Political Science, Psychology, and Sociology.

**Bachelor of Science** in Biology, Chemistry, Computer Science, Criminology and Criminal Justice, Economics, Mathematics, Physics, and Sociology.

**Bachelor of Social Work**

**Bachelor of Liberal Studies**

Consult the website of the department in which you plan to major for details on degree requirements and a three year schedule of planned course offerings.



**Requirements for Undergraduate Study**  
In addition to the university's general education requirements, all majors in the College of Arts and Sciences must meet the following requirements:

**To graduate, all majors including the Bachelor of Liberal Studies must complete the following:**

- Requirements of their chosen baccalaureate degree (i.e., B.A., B.S., BSW., etc.) in accordance with the policies of the College of Arts and Sciences, explained below.
- Requirements of the department for their selected major or interdisciplinary program.

### Academic Policies

#### Grade Requirements

To graduate, all majors in the college must satisfy **one** of the following **grade point options**:

- Earn 120 graded hours with a C grade or better, which constitutes a complete degree program neither a grade of C- nor a satisfactory grade may be counted.
- Have a minimum UM-St. Louis campus grade point average of 2.0 and have met all other grade point restrictions for the degree or program.

#### Cultural Diversity Requirement

To expand cultural awareness, all students are required to complete a course that emphasizes Asian, African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or a comparable culture. A list of courses which satisfy this requirement can be found in the introductory section of this Bulletin.

#### Residency Requirements

Unless otherwise specified, a transfer student must complete 12 hours of graded work at UM-St. Louis at the 2000 level or above within the minimum number of hours required for each major.

Unless otherwise specified, a transfer student must complete at least six hours of graded work at UM-St. Louis at the 2000 level or above within the minimum number of hours required for each minor. Students should consult the minor department for specific residency and grade requirements.

#### Specific Baccalaureate Degree Requirements

##### Course Requirements

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the bachelor's degree from courses (which the appropriate department has evaluated as being of university-level quality) from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/ literatures, geology, history, mathematics/computer science, media studies, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work,

sociology, theatre and dance, business, education, engineering, or interdisciplinary. Other areas or courses not listed require approval by the chair of the student's department.

### **Bachelor of Arts (B.A.)**

All B.A. degree candidates must successfully complete a curriculum which includes a departmental major or an approved interdisciplinary field. A major must include at least 30 credit hours but no more than 45 hours. The College offers the B.A. degree in anthropology, biology, chemistry, economics, English, French, history, mathematics, philosophy, physics, political science, psychology, sociology, and Spanish.

### **Foreign Language Requirement**

Candidates for the B.A. degree are required to complete 13 credit hours or the equivalent in proficiency in one foreign language. Foreign language guidelines are as follows:

- 1) Students entering with no high school language units must enroll in Language 1 or may enroll in the 2115 series (see section 4).
- 2) Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption by passing the department's placement exam. The specific dates for the exam are announced in the *Schedule of Courses* or may be obtained from the admissions office or the Department of Foreign Languages and Literatures.
- 3) Native speakers of language other than English may meet the foreign language requirement by presenting a transcript from a university or secondary school of their native country. The department will certify native speakers of those languages which are taught at the university. Those who are proficient in other languages must submit certification of competence to the college.
- 4) Language 2115 A, B, C (Intensive) will satisfy the foreign language requirement.
- 5) Students may not repeat, for either credit or quality points, an elementary course if they have already completed a higher-level course for which the elementary course, or its equivalent, is a prerequisite.

### **Bachelor of Science (B.S.)**

The College offers the B.S. degree in mathematics, biochemistry and biotechnology, biology, chemistry, biochemistry, computer science, criminology and criminal justice, economics, physics (with emphasis in applied physics, astrophysics, engineering physics, or medical physics), and sociology. The requirements are generally the same as for the B.A. degree with the following exceptions:

- 1) More credit hours in the major discipline may be counted toward satisfying the 120 hours needed for graduation. See departmental degree requirements for information.
- 2) Not all departments require foreign language proficiency. See departmental degree requirements for information.

### **Bachelor of Liberal Studies**

(See Interdisciplinary Programs for complete description)

### **Bachelor of Science in Public Policy and Administration (B.S.P.A.)**

The B.S.P.A. degree program is administered through the Political Science Department and offers two emphasis areas. Public Administration emphasizes management in the public and nonprofit sectors. Public Policy allows focus on a particular policy area with attention to analytic training and research skills.

**Bachelor of Social Work (B.S.W.)** The School of Social Work offers the B.S.W. degree, stressing the scientific and applied aspects of social work.

### **Minors**

A number of minors are available at UM-St. Louis. Some are offered by individual departments, while others, such as Classical Studies is interdisciplinary in nature and involves a number of departments. The requirements for the various minors are listed in either the departmental or interdisciplinary sections of this *Bulletin*.

### **Special Programs**

#### **Certificate Programs**

Graduate and undergraduate certificate programs are offered in biochemistry, biotechnology, forensic economics, gerontology, studies in religions, trauma studies, tropical and conservation biology, nonprofit organization management and leadership, women's and gender studies, and writing.

#### **International Studies Certificate**

In cooperation with the Center for International Studies and other Colleges, the College offers certificate programs in Africana, East Asian, European, Greek, International, and Latin American studies. The College also cooperates in offering the International Business Certificate.

#### **Departmental Honors**

Majors in the following departments may pursue departmental honors: biology, chemistry, economics, English, foreign languages and literatures, history, and political science.

#### **Cooperative Education and Internship Programs**

Cooperative education and internship programs are available for students seeking career-related employment while enrolled in school. These programs afford Arts and Sciences students an opportunity to gain practical experience and earn a substantial income. Co-ops and internships are administered through Career Services, 278 Millennium Student Center.

#### **College of Arts and Sciences Extension**

Credit courses are offered at off-campus locations through the continuing education branch of the College of Arts and Sciences. These courses are open to UM-St. Louis students and qualify for regular academic credit toward degrees in the college. In addition, noncredit courses are offered in a range of disciplines within the college.



## Department of Anthropology

### Faculty

**Susan E. Brownell**, Associate Professor\*, Chairperson  
Ph.D., University of California-Santa Barbara  
**Michael Cosmopoulos**, Hellenic Government-Karakas  
Foundation Professor of Greek Studies and Professor  
Ph.D., Washington University  
**Sheilah Clarke-Ekong**, Associate Professor\*,  
Ph.D., University of California-Los Angeles  
**Margo-Lea Hurwicz**, Associate Professor\*  
Ph.D., University of California-Los Angeles  
**Jay Rounds**, Des Lee Professor of Museum Studies\*  
Ph.D., University of California-Los Angeles  
**Pamela Ashmore**, Assistant Professor  
Ph.D., Washington University  
**Timothy E. Baumann**, Assistant Professor  
Ph.D., University of Tennessee-Knoxville  
**Jacquelyn Lewis-Harris**, Assistant Professor of Education  
and Director for the Center for Human Origin and Cultural  
Diversity  
Ph.D., Washington University  
**John Wolford**, Adjunct Assistant Professor\*  
Ph.D., Indiana University  
**Patti Wright**, Assistant Professor\*  
Ph.D., Washington University  
**Donna Hart**, Lecturer  
Ph.D. Washington University  
**Lessie Jo Frazier**, Adjunct Associate Professor  
Ph.D., University of Michigan, Ann Arbor  
**Catherine Koziol**, Adjunct Assistant Professor  
M.A., Washington University  
**Paul Schoomer**, Senior Lecturer  
B.A., Washington University  
**Aobin Machiran**, Lecturer  
M.A., University of Missouri-St. Louis

\*members of Graduate Faculty

### General Information

The aim of anthropology is to understand the cultural diversity of humans. For 100 years we have studied the cultures of the world, teaching people how to see themselves more clearly through those who are different from themselves and how to work with the underlying humanity that unifies all cultural differences.

Anthropology is the study of humans through all time and space. The discipline considers our struggle to adapt to and survive in the natural and social environments and to improve our lot in the face of perpetual change.

Anthropologists teach how cultures evolve and the role of individuals and groups in the invention and perpetuation of cultural beliefs, behaviors, symbols, and systems.

Anthropologists have accumulated in-depth knowledge of thousands of cultures and use this to understand better our own cultural beliefs, actions, and institutions, as well as

those of people from other cultures. As the science of cultures, anthropology brings a powerful perspective to bear in understanding the emerging global order. Cross-cultural and evolutionary insights and knowledge help us envision how we can incorporate vast human diversity into a unified world order of peace, prosperity, justice, and opportunity.

### Degrees and Areas of Concentration

A Bachelor of Arts in Anthropology is offered with a focus on applied and theoretical skills. The anthropology faculty are actively involved in cultural, archaeological, and biological anthropology research at home and abroad.

#### Cultural Anthropology

Faculty are involved in research in St. Louis, Los Angeles, Ghana, South Africa, China, Japan, India, the Pacific, Papua-New Guinea, Australia, and Native American communities in the United States. They encompass studies in health care choices of elder citizens, economic development, body culture, culture diversity principles, educational anthropology, evolution of consciousness, and more. With a large core of cultural anthropology faculty, opportunities abound for students to pursue diverse research experiences on a vast range of topics on human actions, beliefs and organization. Through its partnership with the College of Education, selected students are able to work with a team of anthropology and education faculty and students in the design and teaching of human origin and cultural diversity lessons for 3rd-12th grade school children and their teachers.

#### Archaeology

Faculty are involved in regional and global research of both New and Old World Cultures. Current projects include excavation of an 800-year-old ceremonial and village site at Cahokia Mounds, Illinois; a mid-19<sup>th</sup> century pottery factory and postbellum African-American community in Arrow Rock, Missouri; and exploring the rise of state-level societies around Iklaina, Greece, a Bronze Age administrative center. The department also has an archaeology lab and library with one of the largest extant collections of prehistoric and historical artifacts from eastern Missouri.

#### Biological Anthropology

Faculty are active in the study of the behavior, ecology, and evolution of primates and of educational issues in the study of paleoanthropology (fossil record of human origins). Students have conducted original research at the St. Louis Zoo. In Forensic Anthropology they work with the department's own collection of skeletal remains.

#### Student Experience

Students may work closely with faculty in designing their personal course of study and carrying out their own research projects in any of the above fields of study. Research results written by students have been presented at professional meetings, published, and presented to government and community agencies for use in planning and development. Students are encouraged to participate in the department's

network of internships, providing an opportunity to practice newly acquired skills. As a capstone experience, all students, under faculty supervision, complete a significant independent research project for the Senior Seminar, culminating in written and oral reports to student colleagues and the faculty. The department encourages study abroad and in other regions of the United States and has scholarship funds to assist. There is an active Association of Student Anthropologists that sponsors an intercultural film series, speakers, and social activities.

**Paid undergraduate positions are available on a competitive basis to anthropology majors as 1) Biological Anthropology teaching lab assistants, 2) faculty research assistants, 3) human origin and cultural diversity lab teachers/facilitators working with school groups grades 3-12, and adults, and 4) staff intern/assistant at the St. Louis Art Museum.**

#### Minors in Anthropology

The department offers two minors in cultural anthropology and archaeology. The minors are designed to offer students a flexible introduction to the fundamentals of the discipline to complement their major field of study. A minor is advisable for anyone planning a career with intercultural or international dimensions, where knowledge of cultural systems, environments, values, and symbols is useful.

#### Certificate in Archaeology

The certificate in archaeology provides applied training in both laboratory and field methods to students who could be hired to assist professional archaeologists in area firms. Internships can be arranged with the UM-St. Louis archaeology lab or with a local institution (e.g. Cahokia Mounds State Historic Site, Missouri Historical Society, Mastodon State Historic Site). These internships can be conducted on Saturdays, Sundays or in the evenings.

#### Undergraduate Studies

##### General Education Requirements

Majors must satisfy the university and college general education requirements. Any foreign language may be used to meet the language requirement for the B.A. degree.

##### Degree Requirements

##### Bachelor of Arts in Anthropology

Six hours of credit will be accepted for courses taken on a satisfactory/unsatisfactory basis from any departmental elective. The statistics requirement may be taken on an S/U basis. All other required courses for the major must be completed with a grade of C- or better. The following courses are required:

**Anth 1005**, Introduction to Biological Anthropology  
**Anth 1011**, Introduction to Cultural Anthropology  
**Anth 1019**, Introduction to Archaeology  
**Anth 3202**, Culture, Politics, and Social Organization

**Soc 3220**, Sociological Statistics, or any other college level statistics course

**Anth 4301**, Ideas and Explanations in Anthropology  
**Anth 4308**, Practicum in Cultural Research Methods **OR**  
**Anth 4310**, Laboratory Methods in Archaeology  
**Anth 4315**, Senior Seminar  
**Anth 4316**, Senior Seminar Tutorial

Two courses from two *different* subfields in Anthropology (Cultural Anthropology, Archaeology, Physical Anthropology, or Linguistic Anthropology) numbered 2100-2199

Two courses in Anthropology numbered 3200-3299, in addition to 3202.

The total number of hours required for the major is 39. Students may elect to take up to, but not to exceed, 12 additional hours in anthropology courses of their choice.

#### Residency Requirement

Undergraduate majors must complete a minimum of 17 hours of upper-level (3000-5000) Anthropology courses in residence, including 3202, 4301, 4308 or 4310, 4315, 4316, and one other course numbered from 3000 to 5000.

#### Archaeology Minor

**Anth 1019**, Introduction to Archaeology

One anthropology course at the 2100-2199 level with an archaeological emphasis.

One anthropology course at the 3200-3299 level with an archaeological emphasis.

One elective anthropology course at any level-archaeological emphasis is not required.

**Anth 4310**, Laboratory Methods in Archaeology **OR**  
**Anth 4309**, Archaeological Field School

#### Cultural Anthropology Minor

**Anth 1011**, Introduction to Cultural Anthropology

One anthropology course at the 2100-2199 level with a cultural emphasis.

One anthropology course at the 3200-3299 level with a cultural emphasis.

One elective anthropology course at any level-cultural emphasis is not required.

**Anth 4301**, Ideas and Explanations in Anthropology **OR**  
**Anth 4308**, Practicum in Cultural Research Methods  
Grades of C- or better should be attained in all courses used to satisfy these requirements. One elective course taken on satisfactory/unsatisfactory basis may be applied toward the minor.

#### Archaeology Certificate

**Anth 1019**, Introduction to Archaeology

One anthropology course at the 2100-2199 level with an archaeological emphasis.

One anthropology course at the 3200-3299 level with an archaeological emphasis.

**Anth 4310**, Laboratory Methods in Archaeology  
**Anth 4309**, Archaeological Field School

**Anth 4326**, Internship in Archaeology (1-6 credit hours)

## Career Outlook

The B.A. in Anthropology equips the student for employment in almost any area in which a bachelor's degree is sufficient and a sensitivity to cultural values and diversity is important. Graduates have found employment as university professors and lawyers and in archaeology research programs, urban development, planning programs, health care delivery, human services, many areas of business, government service, teaching, computer systems design, university administration, and many other areas.

Anthropology is excellent preparation for graduate and professional training in administration, the helping professions, development work, law, environmental studies, international and human resource areas of business, and in many other areas, depending upon individual interests. Many UM-St. Louis anthropology graduates have gone on to advanced training in master's, doctoral, and professional programs in respected universities around the country. For more career information, contact the department at 516-6020 for an appointment to talk with an appropriate faculty member or to request an information packet.

## Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 1005, 1011, 1015, 1019, 1021, 1025, 1033, 1041, 1091, 2109, 2110, 2111, 2113, 2114, 2117, 2120, 2124, 2125, 2126, 2131, 2132, 2134, 2135, 2136, 2137, 2138, 2173, 2190, 2191, 3202, 3210, 3212, 3215, 3225, 3230, 3231, 3234, 3235, 3238, 3242, 3244, 3250, 3255, 3286, 3290, 3291, 4301, 4308, 4309, 4310, 4315, 4350, 4391. The following courses satisfy the Cultural Diversity requirement: 1011, 1019, 1021, 1025, 1033, 1041, 1051, 1091, 2110, 2111, 2113, 2114, 2120, 2123, 2124, 2131, 2132, 2134, 2135, 2136, 2137, 2138, 2173, 2191, 3235, 3238.

### 1005 Introduction to Biological Anthropology (4)

Biological anthropology studies evolutionary theory and its development, the evolution/creationist debate, Mendelian and population genetics, the evolutionary place of humans within the animal kingdom, anatomical and behavioral characteristics of primates, fossilization, primate evolution, the human evolutionary fossil record, biological variability in modern humans, race as a biological concept, and applied biological anthropology. In addition to 3 hours of lecture, 1 hour per week is spent in lab classifying ancient human fossils, observing monkeys and apes at the zoo, and doing other projects.

### 1006 Introduction to Non-Human Primates (3)

As a general survey of our closest living relatives, this course introduces the ecology, cognition, communication, social and sexual behavior, and fossil history, of non-human primates.

The work of well-known primatologists is used to illustrate various aspects of field research. Conservation status of primates in the wild is assessed as well as current threats to survival.

### 1011 Introduction to Cultural Anthropology (3) [V, SS, CD]

Cultural anthropology is the study of human beings as creatures and creators of society. This course is an introduction to that study which aims to demonstrate how the basic concepts and techniques developed by cultural anthropologists help us to understand societies of various degrees of complexity, including our own. We will consider topics such as language, kinship, gender, ethnicity, economics, politics, religion, and social change in a broad comparative framework. Major goals are an increased awareness of the social and cultural dimensions of human experience; the diversity and flexibility of human cultures; and processes of intercultural communication and conflict.

### 1015 Introduction to Folklore (3)

Introduces the basic concepts of folklore. Examines the connections between folklore as a discipline and anthropology as a discipline. Examines specific folk cultures both in Western societies and in non-Western societies. Emphasizes the view of folk culture as a dynamic part of modern as well as historical societies, with a constant focus on the human element that comprises the very heart and soul of culture.

### 1019 Introduction to Archaeology (3) [MI, SS, CD]

Archaeology is a subfield of anthropology that studies past human societies from their material remains. Explores the development of archaeology as a scientific discipline. Archaeological methods and theories will be explained using case studies from the continents of Africa, Asia, Australia, Europe and the Americas.

### 1021 The Body in Culture (3) [CD]

This course will compare uses of the body as a social signifier in Western and non-Western cultures. It will explore how culture shapes the images, uses, and meanings of the human body. It concentrates on different historical and cultural beliefs in five areas: how the body works; sex and gender; eating manners and food; pain and punishment; beauty and bodily mutilation.

### 1025 World Cultures (3) [V, SS, CD]

An ethnographic survey of the major culture areas of the world (Africa, Asia, North and South America, Europe, and Oceania).

### 1033 World Archaeology (3) [MI, SS, CD]

Discusses some of the greatest discoveries in archaeology from prehistoric cultures to ancient civilizations of Africa, Asia, Australia, Europe, and the Americas. Archaeological examples may include early human origins at Olduvai Gorge in Tanzania, the pyramids of ancient Egypt, the Maya and Aztec of Mexico, the rise of civilization in Mesopotamia,

England's Stonehenge, the Roman city of Pompeii, upper Paleolithic cave paintings in France and Spain, and American Indian pueblos of the Southwest. This introductory course is designed for non-anthropology majors, or for those who are considering the major.

**1041 Sex and Gender Across Cultures (3) [CD]**

This course considers womanhood, manhood, third genders, and sexuality in a broad cross-cultural perspective. The focus of the course is on the diverse cultural logics that separate females, males and sometimes third genders into different groups in different societies, with the male group usually being the more prestigious one. Focusing on indigenous non-Western cultures, this course examines gender roles and sexuality within the broader cultural contexts of ritual and symbolism, family, marriage and kinship, economy, politics, and public life. This course will help students understand what it is like to be male or female in non-Western cultures.

**1051 Anthropology of Sport (3) [CD]**

This course is an overview of sports in different times and cultures. It offers a comparative perspective on similarities and differences between sports in Western and non-Western cultural traditions through an examination of such topics as: the ancient Greek Olympic Games vs. sports in ancient China and Japan; the use of sports by colonial empires to colonize non-Western subjects; the development and spread of the modern Olympic Games; sports and nationalism; sports in China. Particular attention will be paid to the relationships between sport and gender, social class, ethnic/racial identity, and nationalism.

**1091 Introductory Topics in Anthropology (3) [CD]**

This course features special and current topics at the introductory level in the areas of social, cultural and physical anthropology and archaeology. The course examines the basic concepts and provides an understanding of the development of new trends and areas of study in the field of Anthropology. Topics will focus on the comparative study of non-Western cultures such as ecological practices in tribal societies; religious practices in prehistoric cultures; the roles of women across cultures; etc. Topics may vary and the course may be repeated provided topic is different.

**1095 Brief Overview of the Four Fields of Anthropology (1)**

Through the use of videos, readings, and the online course management system, this course provides a brief overview of the four traditional fields of anthropology: biological, archaeological, cultural, and linguistic anthropology. This course is designed for video instruction and offers minimal direct interaction with the instructor.

**2105 Human Variation (3)**

This course will look at the variation that exists within our own species, both between and within populations. It will investigate the evolutionary and genetic basis of human variation, as well as its diversity, adaptive significance, and distribution. Topics covered will include: body shape and

physiology, blood groups, susceptibility to disease, and skin color. It will survey historical attempts to classify humans into different "races"; assess definitions of race as a solely cultural construct; and critique attempts to link race, intelligence and performance.

**2109 Archaeological Field School (3-6)**

Prerequisite: Consent of instructor. Introduction to field methods in archaeology and to the techniques of recording, storing, analyzing, and reporting archaeological findings. Experience is gained through participation in a field research project including excavation and survey projects. Emphasis is placed upon research design and implementation and upon the use of archaeological data in describing and explaining human behavior.

**2110 Cultures of Asia (3) [CD]**

A survey of the cultures of Asia including the prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of these groups.

**2111 Cultures of East Asia (3) [CD]**

An ethnographic and historical survey of the various people of East Asia including Japan, China, North and South Korea, Hong Kong, and Macau. Includes an examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments.

**2113 Cultures of South Asia (3) [CD]**

An ethnographic and historical survey of the various people of South Asia including India, Pakistan, Afghanistan, Bangladesh, Sri Lanka, Tibet, and Nepal. Includes an examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments.

**2114 Cultures of the Near and Middle East (3) [CD]**

A study of the cultural diversity and unity of the peoples of the Near and Middle East. Emphasis on historical and ethnological relationships, social and political structure, religious beliefs, and contemporary problems.

**2117 Greek History and Culture (3)**

(Same as Hist 2117)

Greek civilization has had a deep impact on contemporary society in art; social, political, and economic organization; philosophy; law; medicine; and science. This course covers major aspects of Greek history and culture from antiquity to the present. It considers the major political and military events of Greek history, as well as important aspects of Greek culture, including sports and the history of the Olympic Games, literature, philosophy, and mythology.

**2120 Native Peoples of North America (3) [CD]**

A survey of the aboriginal cultures of Native Peoples of North America, including prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of North American groups.

**2123 Cultures of Oceania (3) [CD]**

An introduction to the original cultures and peoples of the South and Western Pacific: New Guinea, Australia, New Zealand, Samoa, Hawaii, Easter Island, etc. Focus is on art, religion, language, relationships to the environment, economics, politics, social groupings, and how these intertwine to form distinctly adaptive cultures in one of the least understood regions of the world.

**2124 Cultures of Africa (3) [CD]**

A basic ethnographic survey of African cultures, with attention to social groupings, ethnicity, religion, language and social change, and the ecological relationship between humans and nature.

**2125 Introduction to Historical Archaeology (3)**

An introductory course in the archaeology of historic period sites. The historic period refers to that portion of human history that begins with the appearance of written documents and continues to contemporary societies. This course will discuss the development, research strategies and future goals of historical archaeology. Archaeological examples will come from all populated continents, but will concentrate on the Americas including the Colonial towns of Jamestown and Williamsburg, Deep South plantations, Civil War battlefields, and shipwreck sites like the Titanic.

**2126 Archaeology of Greater St. Louis (3)**

Discussion of Ice Age hunters and gatherers, moundbuilders, fur traders, farmers and industrial workers from the history of the Greater St. Louis Community. The physical testimony to their lives remains buried beneath the city streets and buildings. Archaeology is our link to this cultural legacy. Through the use of archaeological data and historical sources, this class will explore human social and cultural developments in St. Louis.

**2131 Archaeology of Missouri (3) [CD]**

An introduction to the prehistoric American Indian cultures of Missouri and adjacent areas from 20,000 years ago to the coming of Europeans. Examines the development of prehistoric cultures in Missouri from small bands of hunters and gatherers to moundbuilding, agricultural societies and discusses the decline of indigenous cultures as they came into contact with European civilization.

**2132 Archaeology of North America (3) [CD]**

Examines the archaeological record of human developments throughout prehistoric North America. Topics of discussion include the origins of human culture in America, the processes of prehistoric cultural development in the different regions of the continent, and archaeological approaches to explaining the behavior of North America's prehistoric inhabitants.

**2134 Archaeology of the Inca, Aztec, and Maya (3) [CD]**

Provides an overview of human social and cultural developments in Mesoamerica and Andean South America, from the first settlements over 20,000 years ago to the

Spanish Conquest. Focuses on events leading to and including the establishment of Classic Mayan and Aztec societies, and discusses changes that led to what was perhaps the largest nation on earth for its time, the Inca.

**2135 Old World Archaeology (3) [CD]**

Examines the long and rich archaeological record of the Old World (Africa, Europe, Asia, Australia, and Oceania). Various topics and cultures of the Old World will be discussed from the earliest human ancestors to the rise and fall of complex societies.

**2136 Archaeology of East Asia (3) [CD]**

Discusses the development of cultures of China, Japan, and Korea from the most ancient origin of humans in the region to the rise of early Chinese Dynastic states. Discoveries from archaeological excavations will be explored emphasizing China.

**2137 Archaeology of Africa (3) [CD]**

Examines the archaeology of Africa from pre-historic times up to the period of European contact (ca. A. D. 1700). Explores the diversity of the past African environments and cultures. It will deal with important archaeological issues such as the history and practice of African archaeology, the role of the environment in the development of technology, art, architecture, trade relations and statehood in Africa.

**2138 African-American Archaeology (3) [CD]**

This course examines people of African descent in the New World through archaeology. Class lectures will outline the development, research strategies and goals of African-American archaeology using examples from the colonial slave trade to the 20<sup>th</sup> Century. Specific topics include foodways, architecture, spirituality, health, ethnicity, acculturation/creolization, status, racism and gender.

**2173 Archaeology and Cultures of the Biblical World (3) [CD]**

A survey of the cultures of the Old Testament World with attention to their evolution, internal and external relationships, as well as their diverse religious, social, economic, and political institutions. The instructor will teach skills in evaluating popular vs. scientific and historical evidence of Biblical events.

**2190 Special Topics in Archaeology (3)**

Discusses varying cultural areas from an archaeological perspective. May be repeated with consent of department. Satisfies the Cultural Diversity requirement only when the topic is a Non-Western Culture.

**2191 Special Topics in Non-Western Cultures (3) [CD]**

This course focuses on a specific non-western culture, or geographically related groups of cultures. Ethnographic and/or archaeological cultures are chosen and their ecological, economic, social, religious, cosmological, political, ethnic, linguistic and other cultural domains are examined. Students are exposed to basic concepts and

knowledge for understanding diverse cultures in their historical and/or contemporary contexts of development and relationship. Topics will vary.

### **3202 Culture, Politics and Social Organization (3)**

Prerequisite: Anth 1011 or introductory course in another social science, or consent of instructor. A survey of political organizations and processes with emphasis on native and non-Western cultures. Included are topics such as strategies for obtaining and maintaining power, ethnicity, nationality, and the relationship of ideology to politics.

### **3209 Forensic Anthropology (3)**

Prerequisites: Anth 1005, or Biol 1102, or junior standing, or consent of instructor.

This course teaches the application of the methods of physical anthropology and archaeology to the collection and analysis of skeletonized human remains. Students will learn the basic human dental and skeletal anatomy necessary to maximize the information obtained from human remains, including: how to age and sex skeletal remains; associations with ethnic affiliations, stature and handedness; determining the presence of trauma and disease. Students will experience the precise scientific methodology for recovery of remains, including excavation methods and record keeping. They will work with both fingerprint analysis and DNA identification. Ethics, court testimony and human rights applications will also be discussed. There will be guest speakers such as individuals working with a coroner's office, judicial criminologists, human pathologists, forensic entomologists, or archaeologists.

### **3210 Applied Anthropology (3)**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of instructor. A description and analysis of methods, principles, and use of anthropology in solution of problems associated with the changing conditions of our times. The course will examine a wide variety of cross-cultural case studies.

### **3212 Medical Anthropology (3)**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of instructor. An examination of the growing interaction between anthropology and medicine, and the increasing use of anthropologists in medical and health-care settings. In addition to teaching current theory in medical anthropology, the course focuses on anthropologically based skills essential to those working in health-related fields.

### **3215 Growing Old in Other Cultures (3)**

Same as Ger 3215. This course examines the wide-ranging variability in the roles of older people across different cultures and the effects these have on older people, their families, and their societies.

### **3225 Ritual, Death, and Sports: The Archaeology of Greek Mythology (3)**

Prerequisites: Anth 1019 or Anth 1011 or consent of instructor. Since the beginning of our existence, humans have pondered the Mysteries of life and death and have strived to find meaning in a constantly changing world. In Western civilization, Greek mythology and religion represent humanity's earliest attempts to deal with the greater forces that affect our lives, which found expression in the great religious and athletic festivals, such as the Olympic Games. We will study the myths, rituals, religious beliefs of the ancient Greeks and how these were expressed in sports and art, in order to get a glimpse of the Greeks' understanding of life, death, and the supernatural. The sources of our exploration are two: the fascinating archaeological discoveries of ancient Greek sites and relevant readings from the ancient Greek literature.

### **3230 Method and Theory in Prehistoric Archaeology (3)**

Prerequisites: Anth 1019 or consent of instructor. An advanced course emphasizing the various theories and methods employed in prehistoric archaeological research. Archaeological theories and methods will cover diffusion, cultural ecology, seasonality, plant and animal domestication, subsistence, settlement patterns, spatial analysis, ethnoarchaeology, artifact analysis, seriation, dating techniques, remote sensing, and others. Requires substantial reading and writing.

### **3231 Method and Theory in Historical Archaeology (3)**

Prerequisites: Anth 1019, 2125, or consent of instructor. An advanced class in archaeological method and theory concerning historical period sites. Requires substantial reading and writing and covers a broad range of theoretical and methodological approaches. Theoretical paradigms will include functionalism, middle range theory, evolutionary theory, and public archaeology. Methodological topics will include pattern analysis, architectural archaeology, urban archaeology, subsistence studies, and others.

### **3234 Cultural Continuity and Change in Sub-Saharan Africa (3)**

Prerequisite: Anth 1011 or intro course in another social science or consent of instructor. This course is intended to examine cultural phenomena within Africa from the 19th century to the present. Our goal will be to reach an understanding of continuities and change in the existing universal social institutions. A thematic approach will include discussions on kinship, geo-politics, natural and supernatural forces, gender relations, economics in the world economy, and prospects for the future. Ethnographic and other supporting social scientific resources gathered from African people will be investigated. Problems and accomplishments are both reviewed so as to acknowledge the complexity of contemporary African societies.

**3235 Women in Sub-Saharan Africa: A Contemporary Perspective (3) [CD]**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of the instructor. Examines important traditional concerns of anthropologists such as the nature of kinship obligation and privilege; gender as a basis for the division of labor; social organization for formal and informal networks; and ritual and ceremony. In addition we look closely at the changing role of African women, as related by African women testing the very limits of what is "socially and culturally acceptable." The roles women continue to play in politics, comprehensive development (i.e., cultural and economic) and evolving social structures are reviewed to gain an understanding of the historical and contemporary mandates for their social action.

**3238 Culture and Business in East Asia (3) [CD]**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of the instructor. This course looks at the influence of local history and culture on the course of economic development in Mainland China, Taiwan, Hong Kong, Japan and North and South Korea. This course will consider how East Asia has departed from the Western model of modernization and will look at the clash of cultures as Western corporations try to do business in East Asia. The course will analyze the role of family, kinship, and social hierarchy in shaping East Asian business practices. The largest part of the course will be devoted to Mainland China.

**3242 The Culture of Cities (3)**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of instructor. A comparative analysis of the cultural roles of urban centers and the processes of urbanization in non-Western and Western societies, past and present. A consideration of urban influences on rural America and the traditional peasant and primitive peoples of Africa, Asia, and Latin America.

**3244 Religion, Magic, and Science (3)**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of the instructor. A consideration of the roles of religion, magic, and science in culture and social organization.

**3250 American Folklore (3)**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of the instructor. Focuses on United States society from humanistic and cultural viewpoints. Operates under the basic definition of folklore as "artistic communication in small groups," and thus embraces the idea of folklore as an ongoing creative process combining the conservative elements of tradition with the dynamic aspects of cultural creation. Comparing United States folklore with that from the borderlands of Canada and Latin America, the course will use fieldwork and concepts in folkloristics to focus on folklore genres (such as narratives, arts, crafts, architecture, oral history, and others) and folk groups (such as ethnic populations, age groups, gender groups, occupations, college students, and others).

**3255 Oral History and Urban Culture in St. Louis (3)**

Prerequisites: Anth 1011 or instructor's consent. This course involves students in background research and active fieldwork in urban anthropology within the metropolitan area. The focus will be on learning and applying oral history techniques in the city of St. Louis and its neighborhoods. Students will conduct in-depth fieldwork in one city neighborhood. They will learn fieldwork methodologies and how to conduct social, cultural, and historical research in preparation for fieldwork. This includes learning to research, conduct, and process interviews. They will also learn to work in teams to construct a group project to be presented to the class.

**3286 Society, Arts, and Popular Culture (3)**

Same as Soc 3286. Prerequisite: Soc 1010 or Anth 1011. The relationship of artists, writers, and musicians; their traditions and modes of artistic expression to variant social structures and institutions; and social pressures and rewards.

**3290 Advanced Topics in Archaeology (3)**

Prerequisites: Anth 1019, or consent of instructor. Selected topics in archaeology with a strong theoretical and methodological approach. Requires substantial reading and writing. May be repeated with consent of department.

**3291 Current Issues in Anthropology (3)**

Prerequisite: Anth 1011, or introductory course in another social science, or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. May be repeated provided topic is different.

**3292 Current Issues in Anthropology (4)**

Prerequisites: Anth 1011, or introductory course in another social science, or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. Includes a lab component. May be repeated provided topic is different.

**4301 Ideas and Explanations in Anthropology (3)**

Prerequisite: Anth 1011 or consent of instructor. Major developments in anthropological explanations of social and cultural behavior through intensive reading and discussion of source materials.

**4308 Practicum in Cultural Research Methods (4)**

Prerequisites: One course in statistics and Anth 1011, or consent of instructor. (With computer laboratory.) Emphasizes hands-on training in techniques for both the collection and analysis of ethnographic data, including participant observation, selection of ethnographic informants, key informant interviewing, and more systematic methods such as survey research. The use of computer programs for the development of protocols to collect, analyze, and display data will be covered in lab.

### **4309 Archaeological Field School (3-6)**

Prerequisite: Consent of instructor. Advanced methods in field archaeology and laboratory analysis. Emphasis is placed on sampling, the use of theory in guiding field and laboratory work, advanced field techniques, and specialty analysis. Opportunities are provided for the development of field and laboratory leadership skills. Independent research is encouraged.

### **4310 Laboratory Methods in Archaeology (4)**

Prerequisite: Anth 1019, Soc 3220 or equivalent, or consent of instructor. An advanced laboratory analysis and curation methods class. The emphases are (1) mastery of general lab methods and procedures, and (2) development of independent analysis skills in one or more specialty areas such as lithics, ceramics, computer graphics, statistical methods, paleoethnobotany, experimental analysis, and soils.

### **4315 Senior Seminar in Anthropology (3)**

Prerequisite: Anth 4308 or 4310.

The capstone course for anthropology majors, ideally taken in the final semester of the senior year. Students write a research proposal, conduct an original research project, write it up as a senior thesis, and present the thesis before the department. Must be taken concurrently with Anth 4316.

### **4316 Senior Seminar Tutorial (1)**

Prerequisites: Anth 4308 or 4310.

The student chooses a faculty member with expertise relevant to the topic of the senior thesis. The student and faculty member arrange a schedule of meetings to discuss the drafts of each section of the senior thesis as they are completed. The student will be expected to follow advice about research methods, find and utilize the sources suggested, and incorporate editorial corrections in the writing. The instructor will be the Second Reader of the senior thesis, and will jointly assign the final grade to the senior thesis together with the instructor of Anth 4315. Must be taken concurrently with Anth 4315.

### **4325 Internship in Cultural Anthropology (1-3)**

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Cultural Anthropology internships are aimed at providing students with opportunities to learn to apply their knowledge of social and cultural process and diversity to practical situations in the market place of ideas, goods, and services. Specific placements will be selected to match a student's interests and career goals.

### **4326 Internship in Archaeology (1-6)**

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Archaeology

internships are aimed at providing students with opportunities to work with professional archaeologists in public and private research environments including laboratories and curation centers. Specific placements will be selected to match a student's interests and career goals.

### **4327 Internship in Folklore (1-3)**

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate public or private institution. Folklore internships are aimed at providing students with opportunities to work with professional folklorists and anthropologists in an applied setting. Further, it allows a student to devote an entire semester to produce a viable urban fieldwork report. Specific placements will be selected to match a student's interests and career goals.

### **4328 Internship in Museum Studies (1-3)**

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate museum or other exhibition oriented institution. Museum internships are aimed at providing students with opportunities to work with professional museologists to learn skills relating to areas such as exhibition, curation, public programming, research, and publication. Specific placements will be selected to match student's interests and career goals.

### **4329 Internship in Physical Anthropology (1-3)**

Prerequisite: Recommendation of major adviser. Students will be assigned an internship on recommendation of their adviser. Internships will consist of a period of study, observation, and training in an appropriate institution, lab or research setting related to forensics, primate behavior and biology, human genetics, population, environmental policy, and other domains related to physical anthropology.

### **4350 Special Study (1-3)**

Prerequisite: Consent of instructor. Independent study through readings, reports, or field research. No student may take more than a cumulative total of 6 hours of Special Study.

### **4391 Current Issues in Anthropology (1-4)**

Prerequisite: Anth 1011 or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. May be repeated.

### **5428 Culture and Business in East Asia (3)**

Prerequisite: Advanced Undergraduate or Graduate standing and one course on East Asia. This course looks at the influence of the local history and culture on economic development of Mainland China, Taiwan, Hong Kong, Japan and North and South Korea. This course will consider how East Asia has departed from the Western model of modernization and will look at the clash of cultures as



Western corporations try to do business in East Asia. The course will analyze the role of family, kinship, and social hierarchy in shaping East Asian business practices. The largest part of the course will be devoted to Mainland China. This course is taught at Washington University for the Joint Center on East Asian Studies.

**5429 The Body in East Asian Culture (3)**

Prerequisites: Graduate standing and one course on East Asia. This course looks at the meanings and practices associated with the body in Mainland China, Japan, South Korea, Taiwan, and Hong Kong. Detailed analysis of the concepts of the body in classical Chinese medicine forms the basis for philosophical discussions of Western mind-body dualism vs. Eastern mind-body synthesis. Anthropological, sociological and historical research on sports, fashion, beauty, diet, meditation, and martial arts will also be covered. This course is taught at Washington University for the Joint Program on East Asian Studies.

**5440 Cultural Aspects of Aging (3)**

Prerequisite: Graduate status or consent of instructor Same as Ger 5440. Focuses on the variety of solutions encountered in different sociocultural contexts for dealing with the problems, challenges and opportunities of growing old. It is organized around topics that are of concern to both anthropology and social gerontology: the status of the aged, intergenerational relations, aging in modernizing societies, ethnic dimensions of aging in complex societies, health in later life, death and dying. Both in-depth case studies and cross-cultural comparisons are examined in an effort to arrive at a culturally informed assessment of factors affecting aging and the aged in the United States.

**6135 Foundations of Museology I (3)**

Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6135 and Hist 6135. Concepts for understanding museums in their social and cultural context, history of museums, museology and general social theory, information transfer vs. meaning-making models, museums and communities, the changing role of museums, museums as complex organizations, process models of museology.

**6136 Foundations of Museology II (3)**

Prerequisite: Anth 6135 and consent of Director of Museum Studies Program. Same as Art 6136 and Hist 6136. Audience-centered approaches to museology; visitor research and learning theory, philosophical and practical considerations in museum planning, the physical design of museums, creativity, exhibit and program development, collections and curation, the challenge of diversity, the future of museums.

**6137 Effective Action in Museums (3)**

Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6037 and Hist 6137. The nature of the work done in museums; how museums are organized to

accomplish this work, professional roles and practices, technology and resources used by museums, skills for creative and effective leadership in project management and administration in museums, planning, flow charting, budgeting, team dynamics, and related skills. The course will include several site visits to area museums and guest lectures by a variety of museum professionals.

**6138 Museum Studies Master's Project (4)**

Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6038 and Hist 6138. Research and writing/exhibit development on a selected topic.

**6139 Practicum in Exhibit and Program Development (3)**

Prerequisite: Consent of Director of Museum Studies Program. Development of exhibits and related education programs. Students work as teams with museum professionals to develop and implement an exhibit concept that integrates design, education and marketing from the onset. Methods in planning, flow charting, budgeting, team dynamics and related skills.

## Degree Programs in Biochemistry and Biotechnology

### Faculty

**Shirley Bissen**, Associate Professor of Biology\*, Director  
 Ph.D., University of Michigan

**Wesley R. Harris**, Professor of Chemistry and  
 Biochemistry\*

Ph.D., Texas A. and M. University

**Teresa Thiel**, Professor of Biology\*; Associate Dean, Arts  
 and Sciences

Ph.D., Case Western Reserve University

**Xuemin Wang**, E. Desmond Lee and Family Fund  
 Endowed Professor of Plant Sciences\*

Ph.D., University of Kentucky

**Valerian T. D'Souza**, Associate Professor of Chemistry  
 and Biochemistry\*

Ph.D., University of Detroit

**Cynthia M. Dupureur**, Associate Professor of Chemistry  
 and Biochemistry\*

Ph.D., Ohio State University

**Jane A. Starling**, Associate Professor of Biology  
 Emeritus\*

Ph.D., The William Marsh Rice University

**Keith J. Stine**, Associate Professor of Chemistry and  
 Biochemistry\*

Ph.D., Massachusetts Institute of Technology

**Colin MacDiarmid**, Assistant Professor of Biology\*

Ph.D., University of Auckland

**Michael R. Nichols**, Assistant Professor of Chemistry and  
 Biochemistry\*

Ph.D., Purdue University

**Wendy M. Olivas**, Assistant Professor of Biology\*

Ph.D., University of Nebraska Medical Center

**Marc Spingola**, Assistant Professor of Biology\*

Ph.D., University of New Mexico

**Chung F. Wong**, Assistant Professor of Chemistry and  
 Biochemistry\*

Ph.D., University of Chicago

\*members of Graduate Faculty

### General Information

#### Degrees

The Biochemistry and Biotechnology Program provides academic programs leading to the undergraduate B.S. degree or the graduate M.S. degree in Biochemistry and Biotechnology. These degrees are offered in cooperation with the Department of Biology and the Department of Chemistry and Biochemistry. Faculty members in this program are engaged in teaching and research in areas such as biochemistry, genetics, molecular biology, cell biology and developmental biology. Majors have the opportunity through coursework, laboratories, seminars and research experience to develop the knowledge and skills necessary to enter the workforce or to go on with further graduate education.

### Career Outlook

Nationally and regionally the emerging Biotechnology sector will increase the demand for workers with significant training in molecular biology, biochemistry, and genetics. The St. Louis metropolitan area has long been a major center for biochemistry and biotechnology, and in the past decade it has become a focus for the establishment of life sciences research and development. A degree in Biochemistry and Biotechnology provides students with the training they need to become part of the broad biotechnology and life sciences industries.

### Undergraduate Studies

#### Degree Requirements

#### Bachelor of Science in Biochemistry and Biotechnology

##### General Education Requirements

Students must satisfy the university and college general education requirements. Some math or science courses required for the major may be used to meet the science and mathematics requirement of the university. There is no foreign language requirement for the degree.

##### Satisfactory/Unsatisfactory Option

Up to 18 credit hours may be taken on a satisfactory/unsatisfactory (s/u) basis. Excluded from this option are required courses in biology, chemistry, physics, and mathematics.

##### Non-major Biology or Chemistry courses

Courses in Biology with a number less than 1800 and courses in Chemistry with a number less than 1100 do not count toward the credit hours required for a major in biochemistry and biotechnology.

#### 1) Biology and Chemistry Core Courses

**Biol 1811**, Introductory Biology: From Molecules to Organisms

**Biol 2012**, Genetics

**Biol 2013**, Genetics Laboratory

**Biol 2482**, Microbiology

**Biol 2483**, Microbiology Laboratory

**Biol 3622**, Cell Biology

**Biol 4602**, Molecular Biology

**Chem 1111**, Introductory Chemistry I

**Chem 1121**, Introductory Chemistry II

**Chem 2223**, Quantitative Analysis

**Chem 2612**, Organic Chemistry I

**Chem 2622**, Organic Chemistry II

**Chem 2633**, Organic Chemistry Laboratory

**Chem 3302**, Physical Chemistry for The Life Sciences

#### 2) Biochemistry and Biotechnology Core Courses

**Biol 4712** or **Chem 4712**, Biochemistry

**Biol 4713**, Techniques in Biochemistry or

**Chem 4733**, Biochemistry Laboratory

**Biol 4614**, Biotechnology Laboratory I

### 3) Math and Physics Core Courses

**Math 1030**, College Algebra

**Math 1035**, Trigonometry

**Math 1100**, Basic Calculus or

**Math 1800**, Analytic Geometry and Calculus I

**Phys 1011**, Basic Physics

**Phys 1012**, Basic Physics

### 4) Biochemistry and Biotechnology Elective Courses – 9 credit hours chosen from the courses below:

**Biol 4612**, Molecular Genetics of Bacteria

**Biol 4615**, Biotechnology Laboratory II

**Biol 4622**, Molecular Cell Biology

**Biol 4632**, Nucleic Acid Structure and Function

**Chem 3643**, Advanced Organic Chemistry Laboratory

**Chem 4722**, Advanced Biochemistry

**Chem 4764**, Interdisciplinary Topics in Biochemistry

**Chem 4772**, Physical Biochemistry

#### Electives

Recommendations include basic statistics (Math 1310 or Math 1320), computer science, public speaking (Comm 1040), foreign language, ethics, and undergraduate research.

#### Research Opportunity

Students are encouraged to complete a minimum of 2 credit hours of undergraduate research, which provides students with an opportunity to gain research experience under the supervision of a faculty member. The project will normally include a review of the literature, laboratory experience and a research paper.

#### Minor in Biology

Students complete the B.S. degree in Biochemistry and Biotechnology may also obtain a minor biology by completing **Biology 1821**, Introductory Biology : Organisms and the Environment. The minor must be approved by the chairperson of the Department of Biology. At least 9 hours of the biology course credits must be taken in residence at UM-St. Louis. Candidates must have a cumulative grade point average of 2.0 or better in the minor, and none of the courses may be taken on a satisfactory/unsatisfactory (s/u) basis.

#### Minor in Chemistry

Students complete the B.S. degree in Biochemistry and Biotechnology will also fulfill the course requirements for a minor in Chemistry. A GPA of at least 2.0 is required for the courses presented for the minor. At least three courses toward the Chemistry minor must be completed at UM-St. Louis.

## Graduate Studies

### Degree Requirements

#### Master of Science in Biochemistry and Biotechnology

The Biochemistry and Biotechnology Program offers two types of Master of Science degrees. One is a non-thesis option suitable for those with laboratory research experience or for others, such as educators, who do not require research experience. The other option includes a laboratory-based research apprenticeship leading to a written thesis. All students admitted to the graduate program are considered to be in the non-thesis program unless they have been accepted as a thesis student by a faculty member of the program.

### M.S. Admission Requirements

Applicants to the M.S. program must submit completed application and personal data forms, three letters of recommendation from undergraduate faculty, and transcripts of all previous work. Submission of Graduate Record Examination scores, although not required, is highly recommended and will be used by the admission committee for consideration of admittance. Admission as a regular graduate student requires graduation from an accredited college with a minimum grade point average overall and in biology and chemistry courses of 3.0 (where A = 4.0). Students will generally be expected to have completed a major in biology, chemistry, or biochemistry. In addition to the Graduate School admission requirements, applicants should have completed an undergraduate course in biochemistry (equivalent to Biology/Chemistry 4712) .

All foreign applicants, except those from countries where English is the primary language, must take the TOEFL. Ordinarily, a score of 213 on the computer-based exam (550 on the paper-based exam) or better is required.

### Requirements

Both the thesis and non-thesis options require a total of 30 graduate credit hours, of which at least half must be at the 5000-level or above. A maximum of 12 or 5 credit hours of Graduate Research (Biol or Chem 6905) may be applied toward the 30 credit hour total for the thesis or non-thesis options, respectively.

#### 1) Required Courses

**Chem 4722**, Advanced Biochemistry

**Chem 5794**, Special Topics in Biochemistry (Bioinformatics)

**Biol 4614**, Biotechnology Laboratory I or

**Biol 6615**, Advanced Biotechnology Laboratory II

**Biol 6602**, Advanced Molecular Biology or

**Biol 6612**, Advanced Molecular Genetics of Bacteria

**Biol 6889**, Graduate Seminar

#### 2) Elective Courses

**Chem 4733**, Biochemistry Laboratory

**Chem 4764**, Interdisciplinary Topics in Biochemistry

**Chem 4772**, Physical Biochemistry  
**Chem 5794**, Special Topics in Biochemistry  
**Chem 6787**, Problem Seminar in Biochemistry  
**Chem 6905**, Graduate Research  
**Biol 4842**, Immunobiology  
**Biol 5069**, Topics in Cell and Molecular Biology  
**Biol 6602**, Advanced Molecular Biology  
**Biol 6612**, Advanced Molecular Genetics of Bacteria  
**Biol 6615**, Advanced Biotechnology Laboratory II  
**Biol 6622**, Advanced Molecular Cell Biology  
**Biol 6632**, Advanced Nucleic Acid Structure and Function  
**Biol 6642**, Advanced Plant Molecular Biology & Genetic Engineering  
**Biol 6652**, Advanced Virology  
**Biol 6699**, Graduate Internship in Biotechnology  
**Biol 6889**, Graduate Seminar  
**Biol 6905**, Graduate Research

### Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult an adviser for further information.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St. Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

Biology: 1811, 2012, 2482, 3622, 4602, 4712, 4612, 4622, 4632. Chemistry: 1111, 1121, 2223, 2612, 2622, 3302, 4712, 4722, 4764, 4772.

### Biology Courses

\*Note – Majors in Biochemistry and Biotechnology are not required to take Biol 1821; hence it is not a prerequisite for Biol 2012, Biol 2482, or Biol 3622 for these majors.

#### **1811 Introductory Biology: From Molecules to Organisms (5), [MI, MS]**

Prerequisite: A minimum of high school chemistry, Eng 1100 or equivalent (may be taken concurrently), and placement into college algebra or higher. Required for students intending to major in biology or take specified biology courses at the 2000-level or above. This course presents an introduction to some of the principles of biology and scientific methodology applied to the molecular/cellular through organ system levels of organization. Topics include: cell structure, metabolism, reproduction, heredity and major physiological processes regulated by organ systems. Three hours of lecture, three and one-half hours of lab, and one hour of discussion per week.

#### **2012 Genetics (3)**

Prerequisite: Biol 1811 [majors must also take Biol 1821] and Chem 1111 or [Chem 1082 plus Chem 1091]. Fundamental principles of inheritance, including classical genetic theory as well as recent advances in the molecular basis of heredity. Three hours of lecture per week.

#### **2013 Genetics Laboratory (2)**

Prerequisite: Concurrent registration in Biol 2012, or by consent of instructor. Laboratory to accompany Biol 2012. Three and one-half hours of organized laboratory time per week. Students may need to return to the laboratory at unscheduled times to complete some exercises.

#### **2482 Microbiology (3)**

Prerequisite: Biol 1811 [majors must also take Biol 1821] and Chem 1111 [or Chem 1082 plus Chem 1091]. Study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours of lecture per week.

#### **2483 Microbiology Laboratory (2)**

Prerequisite: Biol 2482 (may be taken concurrently). Experimental studies and procedures of microbiological techniques. Three and one-half hours of organized laboratory time per week. Students will need to return to the laboratory at unscheduled times to complete some exercises.

#### **3622 Cell Biology (3)**

Prerequisite: Biol 1811 [majors must also take Biol 1821], Chem 1111, 1121 and 2612 or equivalents. Examination of the basic biological processes of cells.

#### **4602 Molecular Biology (3)**

Prerequisite: Biol 2012 and 4712. A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in the eukaryotic cells. Three hours of lecture per week. Students may not receive credit for both Biol 4602 and Biol 6602.

#### **4612 Molecular Genetics of Bacteria (3)**

Prerequisite: Biol 2482 and Biol 2012. A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students may not receive credit for both Biol 4612 and Biol 6612.

#### **4614 Biotechnology Laboratory I (4)**

Prerequisite: Biol 2012 or consent of instructor. An introduction to the fundamental concepts that underlie the field of biotechnology. Both the basic principles of molecular biology and hands-on experience with the techniques of the field will be addressed through lectures, discussion, and a series of laboratory exercises. Two hours

of lecture and four hours of laboratory per week. Fulfills a laboratory requirement only; may not be used to fulfill the 4000-level or above lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for Biol 4614 and a comparable biotechnology course from another institution.

#### **4615 Biotechnology Laboratory II (4)**

Prerequisite: Biol 4614 and either Biol 4602 or Biol 4612, or consent of instructor. An in-depth look at theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Fulfills a laboratory requirement only; may not be used to fulfill the 4000-5000 level lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for both Biol 4615 and Biol 6615.

#### **4622 Molecular Cell Biology (3)**

Prerequisite: Biol 3622, Biol 4602, and Biol 4712 or consent of instructor. A study of the structural organization and processes of eukaryotic cells. Topics of discussion will include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture per week. Students may not receive credit for both Biol 4622 and Biol 6622.

#### **4632 Nucleic Acid Structure and Function (3)**

Prerequisite: Biol 2012 and 4712 or equivalent or consent of instructor. Comprehensive view of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interactions, and RNA metabolism. Three hours of lecture per week. Students may not receive credit for both Biol 4632 and 6632.

#### **4712 Biochemistry (3)**

[Same as Chem 4712]. Prerequisite: Chem 2612 and either Biol 1811 or Chem 2622. Examines the chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Students may not receive credit for both Biol 4712 and Chem 4712.

#### **4713 Techniques in Biochemistry (2)**

Prerequisite: Biol 4712 or Chem 4712 (may be taken concurrently). Laboratory activities introducing fundamental qualitative and quantitative biochemical techniques. Student evaluation will be based on laboratory participation, student laboratory reports, and written examinations. Three and one-half hours of organized laboratory time per week. Students may need to return to the laboratory at unscheduled times to complete some experiments.

#### **4842 Immunobiology (3)**

Prerequisite: Biol 4712 and Chem 2612. The fundamental principles and concepts of immunobiology and immunochemistry. Emphasis on the relation of immunological phenomena to biological phenomena and biological problems. Three hours of lecture per week.

#### **5069 Topics in Cellular and Molecular Biology (1)**

Prerequisite: Graduate standing. Presentation and discussion of student and faculty research projects and/or current research articles in molecular, cellular and developmental biology. May be repeated.

#### **6602 Advanced Molecular Biology (3)**

Prerequisite: Biol 2012 and 4712, or consent of instructor. A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in eukaryotic cell. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biol 6602 and Biol 4602.

#### **6612 Advanced Molecular Genetics of Bacteria (3)**

Prerequisite: Biol 2012 and 2482. A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Student may not receive credit for both Biol 6612 and Biol 4612.

#### **6615 Advanced Biotechnology Laboratory II (4)**

Prerequisite: Biol 4614 and either Biol 4602 or Biol 4612, or consent of instructor. An in-depth look at the theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biol 6615 and Biol 4615.

#### **6622 Advanced Molecular Cell Biology (3)**

Prerequisite: Biol 4602, Biol 3622, and Biol 4712, or consent of instructor. A study of structural organization and processes of eukaryotic cells. Topics of discussion will include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biol 6622 and Biol 4622.

**6632 Advanced Nucleic Acid Structure and Function (3)**

Prerequisite: Biol 2012 and 4712 or equivalent or consent of instructor. Comprehensive view of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interaction, and RNA metabolism. Three hours of lecture and one hour of discussion per week. Students may not receive credit for both Biol 4632 and Biol 6632.

**6642 Advanced Plant Molecular Biology and Genetic Engineering (3)**

Prerequisite: Biol 4602 or 4612. Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture and one hour of seminar per week. Students may not receive credit for both Biol 4642 and Biol 6642.

**6652 Advanced Virology (3)**

Prerequisite: Biol 2482 and 2012. An advanced comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biol 4652 and 6652.

**6699 Graduate Internship in Biotechnology (1-4)**

Prerequisite: Graduate standing and enrollment in graduate Biotechnology Certificate Program. Six credit hours maximum (maximum of eight combined credit hours of Biol 6905 and internship). Internship will consist of period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours the student works each week and in consultation between the intern's supervisor and the instructor. Internship assignments will be commensurate with the education and experience of the student.

**6889 Graduate Seminar (2)**

Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

**6905 Graduate Research in Biology (1-10)**

Research in area selected by student in consultation with faculty members.

**Chemistry Courses****1111 Introductory Chemistry I (5) [MS]**

Prerequisite: Mathematics through college algebra and trigonometry may be taken concurrently. Presents an introduction to the fundamental laws and theories of chemistry. Laboratory experiments are designed to demonstrate some aspects of qualitative and quantitative analysis and to develop skills in laboratory procedures. Chemistry majors may not include both Chem 1082 and 1111, and both Chem 1011 and 1111 in the 120 hours required for graduation. Three hours of lecture and one hour of discussion per week, one hour of laboratory-lecture and three hours of laboratory per week.

**1121 Introductory Chemistry II (5) [MI, MS]**

Prerequisite: Chem 1111 or advanced placement. Lecture and laboratory are a continuation of Chem 1111. Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

**2223 Quantitative Analysis (3) [C, MI, MS]**

Prerequisite: Chem 1121. Principles and practice of elementary quantitative chemistry. The lecture treats descriptive statistics with emphasis on small samples: various types of competing equilibria pertaining to acid-base, complexometric and potentiometric titrations; and an introduction to spectrophotometric processes. The laboratory provides exercises in titrimetric, gravimetric, and spectrophotometric techniques. Both portions of the course deal with the analytical chemistry of environmentally-significant problems. Two hours of lecture and four and one-half hours of laboratory weekly.

**2612 Organic Chemistry I (3) [MS]**

Prerequisite: Chem 1121. An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

**2622 Organic Chemistry II (3) [MI, MS]**

Prerequisite: Chem 2612. A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

**2633 Organic Chemistry Laboratory (2) [C, MS]**

Prerequisite: Chem 2612 or consent of instructor. An introduction to laboratory techniques and procedures of synthetic organic chemistry including analysis of organic compounds. One hour of lecture and four and one-half hours of laboratory per week.

**3302 Physical Chemistry for the Life Sciences (3)**

Prerequisites: Chem 2612 and Math 1800 or Math 1100, and Phys 1012. Principles and applications of physical chemistry appropriate to students pursuing degree programs in the life sciences. Topics will include thermodynamics, equilibria, kinetics, and spectroscopy.

This course is intended for undergraduates seeking the B.S. degree in Biochemistry and Biotechnology and does not fulfill the physical chemistry requirement for other Chemistry B.A. and B.S. degree programs.

**3643 Advanced Organic Chemistry Laboratory (2)**

Prerequisites: Chem 2223, Chem 2622, Chem 2633. Chem 3022 may be taken concurrently. Identification of organic compounds by classical and spectroscopic methods; advanced techniques in synthesis and separation of organic compounds. One hour of lecture and four and one-half hours laboratory per week. Not for graduate credit.

**4712 Biochemistry (3)**

[Same as Biol 4712] Prerequisite: Chem 2612 and either Biol 1811 or Chem 2622. The chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Three hours of lecture per week. Students may not receive credit for both Biol 4712 and Chem 4712. Biol 4712 may not be used to fulfill the 3000 or 4000 level lecture course requirement for the B.S. in Biology.

**4722 Advanced Biochemistry (3)**

Prerequisite: Chem 4712. Selected advanced topics in the chemistry of life processes. Three hours of lecture per week.

**4733 Biochemistry Laboratory (2)**

Prerequisite: Chem 4712 may be taken concurrently. Laboratory study of biochemical processes in cellular and subcellular systems with emphasis on the isolation and purification of proteins (enzymes) and the characterization of catalytic properties. One hour of lecture and three and one-half hour of laboratory per week.

**4764 Interdisciplinary Topics in Biochemistry (3)**

Prerequisite: Chem 4712; Chem 4722 strongly recommended. Includes advanced studies of enzyme mechanisms, the role of metal ions in enzymatic and non-enzymatic processes, and the application of computational chemistry to biological systems. Three hours of lecture per week.

**4772 Physical Biochemistry (3)**

Prerequisite: Chem 3312 or Chem/Biol 4712. Designed to acquaint students with concepts and methods in biophysical chemistry. Topics that will be discussed include protein and DNA structures, forces involved in protein folding and conformational stability, protein-DNA interactions, methods for characterization and separation of macromolecules, electron transfer, and biological spectroscopy. Three hours of lecture per week.

**5794 Special Topics in Biochemistry (1-3)**

Prerequisite: Consent of instructor. Selected topics in biochemistry. May be taken more than once for credit.

**6787 Problem Seminar in Biochemistry (1)**

Prerequisite: Consent of the biochemistry staff. Problems from the current literature, presentations and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

**6905 Graduate Research in Chemistry (1-10)**

## Department of Biology

### Faculty

**James H. Hunt**, Professor\*, Chairperson  
Ph.D., University of California-Berkeley  
**Elizabeth A. Kellogg**, E. Desmond Lee Professor of  
Botanical Studies\*  
Ph.D., Harvard University  
**Patricia G. Parker**, E. Desmond Lee Professor of  
Zoological Studies\*  
Ph.D., University of North Carolina, Chapel Hill  
**Charles R. Granger**, Distinguished Teaching Professor\*  
Ph.D., University of Iowa  
**Robert E. Ricklefs**, Curators Professor\*  
Ph.D., University of Pennsylvania  
**Arnold B. Grobman**, Professor Emeritus\*  
Ph.D., University of Rochester  
**Robert J. Marquis**, Professor\*  
Ph.D., University of Iowa  
**Frank Moss**, Professor\*  
Ph. D., University of Virginia  
**Susanne S. Renner**, Professor\*  
Dr. Habil; Dr. rer. Nat, University of Hamburg  
**Martin Sage**, Professor Emeritus\*  
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**Peter F. Stevens**, Professor\*, Interim Director,  
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Ph.D., Edinburgh  
**Zuleyma Tang-Martinez**, Professor\*, Director Graduate  
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Ph.D., University of California-Berkeley  
**Teresa Thiel**, Professor\*; Associate Dean, Arts and  
Sciences  
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**Xuemin Wang**, E. Desmond Lee and Family Fund  
Endowed Professor of Plant Science\*  
Ph.D., University of Kentucky  
**Lon A. Wilkens**, Professor\*  
Ph.D., Florida State University  
**Shirley T. Bissen**, Associate Professor\*, Director  
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**John G. Blake**, Associate Professor\*  
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**Godfrey R. Bourne**, Associate Professor\*  
Ph.D., University of Michigan  
**Albert Derby**, Associate Professor Emeritus\*  
Ph.D., City University of New York  
**Harvey P. Friedman**, Associate Professor Emeritus\*  
Ph. D., University of Kansas  
**Lawrence D. Friedman**, Associate Professor Emeritus\*  
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**Donald E. Grogan**, Associate Professor Emeritus\*  
Ph.D., University of Missouri-Columbia  
**Bette A. Loiselle**, Associate Professor\*  
Ph.D., University of Wisconsin  
**Jane A. Starling**, Associate Professor Emeritus\*  
Ph.D., The William Marsh Rice University

**Colin MacDiarmid**, Assistant Professor\*  
Ph.D., University of Auckland  
**Lisa M. Schechter**, Assistant Professor\*  
Ph.D. Harvard University  
**Wendy M. Olivas**, Assistant Professor\*  
Ph.D., University of Nebraska Medical Center  
**Marc Spingola**, Assistant Professor\*  
Ph.D., University of New Mexico  
**Bethany K. Zolman**, Assistant Professor\*  
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**Mariette P. Baxendale**, Lecturer  
Ph.D., Saint Louis University  
**Carol Weber**, Lecturer, Undergraduate Advisor  
M.S., University of Missouri-St. Louis  
**Terry L. Erwin**, Research Professor\*  
Ph.D., University of Alberta  
**Peter H. Raven**, Research Professor\*; Director, Missouri  
Botanical Garden,  
Ph.D., University of California-Los Angeles  
**M. Jan Salick**, Research Professor\*  
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**Ihsan A. Al Shehbaz**, Research Associate Professor\*  
Ph.D., Harvard University  
**Bruce Allen**, Research Associate Professor\*  
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**Timothy Killeen**, Research Associate Professor\*  
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**Robert E. Magill**, Research Associate Professor\*  
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**David A. Neill**, Research Associate Professor\*  
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**Charlotte Taylor**, Research Associate Professor\*,  
Ph.D., Duke University  
**Hendrik H. van der Werff**, Research Associate  
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**George A. Yatskievych**, Research Associate Professor\*  
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**James S. Miller**, Research Assistant Professor\*  
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**Peter M. Richardson**, Research Assistant Professor\*  
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**George E. Schatz**, Research Assistant Professor\*  
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**Maria Del Carmen Ulloa Ulloa**, Research Assistant  
Professor, Ph.D., Aarhus Universitet  
**Guanghua Zhu**, Research Assistant Professor\*  
Ph.D., University of Missouri-St. Louis  
**Cheryl S. Asa**, Research Assistant Professor\*  
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**Mary E. Yurlina**, Research Assistant Professor  
Ph.D., Rutgers University  
**Kimberlie A. McCue**, Adjunct Assistant Professor\*  
Ph.D., University of Missouri-Columbia  
**Patrick L. Osborne**, Adjunct Associate Professor,  
Associate Director, International Center for Tropical  
Biology, Ph.D., East Anglia  
**Terry Jo Gile**, Affiliate Assistant Professor; Jewish  
Hospital College of Nursing and Allied Health  
M.A., Central Michigan University  
**Linda J. McCown**, Affiliate Assistant Professor; Jewish  
Hospital College of Nursing and Allied Health  
M.S., University of Pittsburgh  
**Michael D. Ward**, Affiliate Assistant Professor, Director,  
Allied Health Programs, Jewish Hospital College of  
Nursing and Allied Health  
Ph.D., Saint Louis University  
**Donna Duberg**, Adjunct Lecturer; Chair CLS Program,  
Jewish Hospital College of Nursing and Allied Health  
M.S., Michigan State University  
**Linda Hoechst**, Adjunct Lecturer  
M.A., Webster University

\*members of Graduate Faculty

## General Information

### Degrees and Areas of Concentration

The Department of Biology provides academic programs leading to the B.A. or B.S. in Biology. In cooperation with the College of Education, the department offers the B.S. in Secondary Education with a major in biology and the B.A. or B.S. in Biology with teacher certification. It also offers graduate work leading to the Master of Science and the Doctor of Philosophy degrees in Biology.

Biology faculty members are engaged in teaching and research in areas ranging from molecular biology to population studies. Majors have the chance to take courses that help them develop both theoretical and experimental backgrounds necessary for further work in some of the most rapidly expanding fields of biological science or to pursue in-depth studies in specific areas through advanced courses, seminars, and individualized research programs.

### Departmental Honors

Candidates for the B.A. or B.S. degree are eligible for departmental honors if they:

- 1) Have a minimum of 3.2 overall GPA and a minimum 3.2 average in biology courses used to complete the major.
- 2) Complete a minimum of 2 credit hours of Biology 4905, Research.
- 3) Complete an honors thesis based on Biology 4905 research work. The Honors Committee will evaluate the academic record and thesis, and those students who qualify will be recommended for honors.

### Minor in Biology

Students majoring in another discipline may earn a minor in biology by completing a prescribed course of study. Unique programs can be developed to coordinate with special career objectives.

### Graduate Studies

The Department of Biology offers graduate work leading to the M.S. and Ph.D. degrees in biology. Graduate students may work toward an M.S. or Ph.D. degree in two broad areas of biology: a) cellular, molecular, and developmental biology, or b) ecology, evolution, and systematics. Students in the M.S. and Ph.D. programs also have the opportunity to do their graduate work in collaboration with scientists at the Missouri Botanical Garden or the Saint Louis Zoo through a cooperative graduate program.

Objectives of the master's degree program are to provide the research-oriented training necessary for students to enter doctoral programs in biology; to develop professional biologists qualified to function in responsible technical positions; and to train secondary school and junior college biology teachers.

The objectives of the Ph.D. program are to train biologists for academic and professional positions in research and teaching. Ph.D. students in the areas of plant systematics and environmental studies have the opportunity for specialized training in tropical biology and conservation biology. This training prepares students for research careers and for leadership and scientific positions involving the conservation and management of tropical ecosystems. Ph.D. students in cellular, molecular and developmental biology will receive training in research techniques appropriate for careers in academic or industrial laboratories.

### Graduate Assistantships

Stipends for teaching and research assistantships are awarded on a competitive basis to qualified graduate students in master's or Ph.D. programs. Educational fees are waived for graduate assistants. Applications for assistantships must be sent to the Director of Graduate Studies in the Department of Biology and be received by December 1.

**Facilities**

Department facilities include research and teaching laboratories, environmental chambers, greenhouses, and a large array of supporting modern research instrumentation. Graduate research can be pursued using facilities of the Missouri Botanical Garden or the Saint Louis Zoo. Several sites within an hour of campus are suitable for regional field studies, including state parks, wildlife conservation areas, and Washington University's Tyson Research Center. UM-St. Louis is a member of the St. Louis University Research Station Consortium that operates Lay and Reis Field Stations in Missouri and it also holds membership in the Organization for Tropical Studies, which operates three field stations in Costa Rica. CEIBA Biological Centre in Guyana has hosted several UM-St. Louis courses and student researchers. Student researchers work independently at research stations throughout the tropics.

**Cooperative Programs**

The department participates in a cooperative consortium program in biology with Washington University, Saint Louis University, Southern Illinois University-Edwardsville, and the Missouri Botanical Garden.

**Undergraduate Studies****General Education Requirements**

Students must satisfy the university and college general education requirements. Some Biology courses may be used to meet the science and mathematics requirement of the university.

Candidates for the B.A. degree must fulfill the foreign language requirement of the College of Arts and Sciences. There is no foreign language requirement for the B.S. degree.

**Satisfactory/Unsatisfactory Option**

Up to 18 credit hours may be taken on a satisfactory/unsatisfactory (s/u) basis. Excluded from this option are required courses in biology, chemistry, physics, and mathematics.

**Non-major biology courses**

The following 1000 level biology courses do not count toward the biology credit hours required for a major in biology. Moreover, if biology majors take these courses, they are treated as biology courses when computing the 70 credit hours outside of biology needed to be included in the 120 total credit hours required for graduation.

1102, Human Biology  
1131, Human Physiology and Anatomy I  
1141, Human Physiology and Anatomy II  
1162, General Microbiology  
1202, Environmental Biology  
1850, Global Ecology

**Degree Requirements****Bachelor of Arts in Biology**

The B.A. degree provides maximum flexibility for biology majors to pursue an undergraduate liberal arts course of study that can lead to professional careers in medicine, allied health, public and environmental health, law, and graduate studies in the life sciences. Candidates must have a cumulative grade point average of 2.0 or better in biology courses.

All B.A. degree majors must take at least 39 credit hours but not more than 50 hours in appropriate biology course work. Transfer student must satisfactorily complete at least 12 credit hours of UM-St. Louis biology course work (including one laboratory) at the 2000 level or above before receiving a B.A. degree from the College of Arts and Sciences with a major in biology.

**Lecture and Seminar Course Requirements**

1) **Core Courses.** The following biology courses or their equivalents are required:

1811, Introductory Biology: From Molecules to Organisms  
1821, Introductory Biology: Organisms and the Environment  
2012, Genetics  
3302, Introduction to Evolution  
3622, Cell Biology  
4889, Senior Seminar, or 4985 and 4986 for those seeking teacher certification.

One of the following diversity courses:

2402, Vertebrate Biology or  
2442, Invertebrate Biology or  
2482, Microbiology or  
2501, Biology of Plants or  
4402, Ornithology or  
4422, Entomology or  
4482, Parasitology or  
4501, Flowering Plants Families

2) **Elective Courses.** Three additional biology lecture courses, at the 2000 level or higher are required. They may be selected from any of the lecture or lecture-laboratory courses offered. Selection of these courses should reflect the career interest of the student. Biology courses taken to fulfill basic skill requirements (e.g., statistics requirement or biochemistry option) can be used to satisfy this requirement.

At least two biology lecture courses taken as part of the **core** or as **electives** must be at the 4000 level or higher. No more than one of these higher level courses can be used to fulfill other requirements (e.g., diversity or statistics requirements, or biochemistry option).

### Laboratory Course Requirements

Three biology laboratory courses at the 2000 level or higher are required. They may be taken from any of the lecture-laboratory or laboratory courses offered. Two credit hours of Biol 4905 can be used to fulfill one laboratory requirement. Students may take Chem 4733 to satisfy one of these laboratory course requirements, but students may not use both Biol 4713 and Chem 4733 to fulfill this requirement.

### Basic Skills Requirement

A well-rounded biologist needs certain skills outside the biology subject matter. The basic skills requirement is designed to provide the student with a background in communication skills and knowledge in associated science areas.

**1) Communication Skills.** Courses in foreign languages and in writing are required for development of the basic communication skills needed to transmit scientific information. The following satisfy this requirement:

#### Foreign Language

The foreign language requirement of the College of Arts & Sciences fulfills the departmental requirement.

#### Writing

Eng 3100, Advanced Expository Writing or  
Eng 3160, Writing in the Sciences (strongly preferred)

**2) Associated Science Area.** The following courses or their equivalents must be successfully completed in science areas related to biology:

Phys 1011, Basic Physics  
Phys 1012, Basic Physics

Chem 1111, Introductory Chemistry I or  
[Chem 1082 and Chem 1091]  
Chem 1121, Introductory Chemistry II  
Chem 2612, Organic Chemistry I

One of the following:

Chem 2223, Quantitative Analysis or  
Chem 2622, Organic Chemistry II or  
Chem 2633, Organic Chemistry Laboratory or  
Biol/Chem 4712, Biochemistry

Math 1310, College Algebra  
Math 1035, Trigonometry  
Math 1100, Basic Calculus or  
Math 1800, Analytical Geometry and Calculus

One of the following:

Biol 4122, Biometry or  
Math 1310, Elementary Statistical Methods or  
Math 1320, Applied Statistics I or  
Ed Rem 5730, Educational Statistics or  
Psych 2201, Psychological Statistics

### Bachelor of Science in Biology

The B.S. degree in biology is designed to prepare students for basic technical positions and graduate studies in the life sciences. Candidates for the degree have the same core courses and general education requirements as those seeking the Bachelor of Arts degree, as well as additional requirements in depth of study, laboratory experience, communication skills, and background in associated science areas. Candidates must have a cumulative grade point average of 2.0 or better in biology courses.

There is no foreign language requirement for the B.S. degree. However, students should realize that the literature for biological studies is in many different languages and the ability to extract information from this literature is an important skill.

To fulfill the requirements for the B.S. degree a minimum of 44 hours but not more than 50 hours must be completed in appropriate biology course work. Transfer students must satisfactorily complete at least 17 credit hours of UM-St. Louis biology course work (including two laboratory courses) at the 2000 level or higher before receiving a B.S. degree in biology.

### Lecture and Seminar Course Requirements

**1) Core Courses.** The following biology courses or their equivalents are required:

1811, Introductory Biology: From Molecules to Organisms  
1821, Introductory Biology: Organisms and the Environment  
2012, Genetics  
3302, Introduction to Evolution  
3622, Cell Biology  
4889, Senior Seminar or 4985 and 4986 for those seeking teacher certification.

One of the following diversity courses:

2402, Vertebrate Biology or  
2442, Invertebrate Biology or  
2482, Microbiology or  
2501, Biology of Plants or  
4402, Ornithology or  
4422, Entomology or  
4482, Parasitology or  
4501, Flowering Plants Families

**2) Elective Courses.** Four additional biology lecture courses at the 2000 level or higher are required. They may be selected from any of the lecture or lecture-laboratory courses offered. Selection of these courses should reflect the career interest of the student. Biology courses taken to fulfill basic skill requirements (e.g., statistics requirement or biochemistry option) can be used to satisfy this requirement.

At least three biology lecture courses taken as part of the core or as electives must be at the 4000 level or higher. No more than two of these higher level courses can be used to fulfill other requirements (e.g., diversity or statistics requirements, or biochemistry option).

### Laboratory Course Requirements

Four biology laboratory courses at the 2000 level or higher are required. They may be selected from any of the lecture-laboratory or laboratory courses offered. Two credit hours of Biol 4905 can be used to fulfill one laboratory requirement. Students may take Chem 4733 to satisfy one of these laboratory course requirements, but students may not use both Biol 4713 and Chem 4733 to fulfill this requirement.

### Basic Skills Requirement

A well-rounded biologist needs certain skills outside the biology subject matter. The basic skills requirement is designed to provide the student with a background in communication skills and knowledge in associated science areas.

1) **Communication Skills.** Courses in both formal speaking and writing are required for development of the basic communication skills needed to transmit scientific information. The following courses satisfy this requirement:

Formal Speaking

Comm 1040, Introduction to Public Speaking

Writing

Eng 3100, Advanced Expository Writing or

Eng 3160, Writing in the Sciences (strongly preferred)

2) **Associated Science Area:** The following courses or their equivalents must be successfully completed:

Phys 1011, Basic Physics

Phys 1012, Basic Physics

Chem 1111, Introductory Chemistry I, or  
[Chem 1082 and Chem 1091]

Chem 1121, Introductory Chemistry II

Chem 2612, Organic Chemistry I

Chem 2622, Organic Chemistry II or

Biol/Chem 4712, Biochemistry

Chem 2223, Quantitative Analysis or

Chem 2633, Organic Chemistry Laboratory

Math 1030, College Algebra

Math 1035, Trigonometry

Math 1100, Basic Calculus, or

Math 1800, Analytic Geometry and Calculus I

One of the following:

Biol 4122, Biometry or

Math 1310, Elementary Statistical Methods or

Math 1320, Applied Statistics I or

Ed Rem 5730, Educational Statistics or  
Psych 2201, Psychological Statistics

One of the following:

Phil 2256, Bioethics or

Phil 3380, Philosophy of Science

### Research Opportunity

All students acquiring a bachelor of science degree are strongly encouraged to complete a minimum of 2 credit hours of undergraduate research, Biol 4905. The privilege of doing undergraduate research provides students with a firsthand opportunity to experience the research process under the supervision of a faculty member or off-campus scientist. The project normally includes a library search of pertinent literature, laboratory or field experience, and a summary paper.

### Bachelor of Science in Education with Emphasis in Biology

The B.S. Ed. is a professional degree designed for individuals who wish to pursue a teaching career in biology in the secondary schools. The biology requirements parallel those for the B.A. degree with the exception that Biol 4985, Curriculum and Methods of Teaching Life Sciences, and Biol 4986, Laboratory in Teaching Life Sciences, are substituted for Biol 4889, Senior Seminar. Students must also fulfill the requirements for the B.S. Ed. degree as prescribed by the College of Education.

### Bachelor of Arts in Biology with Teacher Certification

Biology majors interested in teaching biology in secondary schools may obtain teacher certification in cooperation with the College of Education by fulfilling the B.A. or B.S. with certain prescribed courses in biology, with the exception of Biol 4889, Senior Seminar, and in addition, completing the following courses:

Psych 1003, General Psychology

Ed Fnd 1111, The School in Contemporary Society

English 3160, Writing in the Sciences

History 1001, 1002, or 1003, American  
Civilization

PolSci 1100, Introduction to American Politics

Philosophy 3380, Philosophy of Science

Comm 1040, Introduction to Public Speaking

Theater 1210, Fundamentals of Acting

Geology 1001, General Geology

Atmospheric Science 1001, Elementary Meteorology

Ed Psy 3312, The Psychology of Teaching and Learning

Ed Tec 2248, Utilization of Computer-Based Materials in  
Instruction

Sec Ed 3213, Techniques of Secondary School Teaching  
and Field Experience or

Tch Ed 3310, Introduction to Instructional Methods

Spec Ed 3313, The Psychology and Education  
of Exceptional Individuals

Sec Ed 4391, Teaching Reading in Secondary School

### Content Areas

**Biology 4985**, Curriculum and Methods of Teaching Life Sciences  
**Biology 4986**, Laboratory in Teaching Life Sciences  
**Sec Ed 3290**, Secondary School Student Teaching  
**Biology 4999**, Science Teaching Intern Seminar

Since specific biology courses are required for teaching endorsement, contact the Department of Biology AND the College of Education for special advising regarding teacher certification.

### Minor in Biology

Students may minor in biology by completing a minimum of 19 credit hours in biology, of which at least 9 hours of the biology course credits must be taken in residence at UM-St. Louis.

### Requirements are:

**Biol 1811**, Introductory Biology: From Molecules to Organisms, **Biol 1821**, Introductory Biology: Organisms and the Environment, and **Biol 2102**, Genetics. Two additional courses totaling no less than 6 credit hours. At least one course should be at the 3000 level or above.

All students must consult with an adviser to plan an appropriate course of study. This program must be approved by the chairperson of the Department of Biology. Under certain circumstances, a student may deviate from the prescribed course of study and substitute a group of courses that exhibit a coherent area of specialization to coordinate with a career objective. Such a candidate must receive prior approval by the biology department to pursue this program.

Candidates must have a cumulative grade point average of 2.0 or better in the minor, and **none of the courses may be taken on a satisfactory/ unsatisfactory (s/u) basis.**

### Undergraduate Certificate in Biochemistry

The university offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization that may be earned within either a **biology** major or a **chemistry** major. To earn the certificate, biology majors must enroll in the Biochemistry Certificate Program upon the completion of 60 credit hours, fulfill all the science (biology, chemistry, math, and physics) course requirements for the B.S. degree in biology, and successfully complete the following courses:

**Chem 2622**, Organic Chemistry II  
**Biol/Chem 4712**, Biochemistry  
**Chem 2223**, Quantitative Analysis  
**Chem 2633**, Organic Chemistry Laboratory  
**Biol 4713**, Techniques in Biochemistry or  
**Chem 4733**, Biochemistry Laboratory  
**Chem 4722**, Advanced Biochemistry  
And **three** of the following **biology** courses:

**2482**, Microbiology  
**2483**, Microbiology Laboratory  
**3642**, Development  
**4602**, Molecular Biology  
**4612**, Molecular Genetics of Bacteria  
**4614**, Biotechnology Laboratory I  
**4622**, Molecular Cell Biology  
**4632**, Nucleic Acid Structure and Function  
**4842**, Immunobiology

### Undergraduate Certificate in Biotechnology

The university offers an undergraduate certificate program for biology majors who are interested in careers in biotechnology including biochemistry, microbiology, molecular biology, cell biology, and developmental biology. To earn the certificate, biology majors must enroll in the Biotechnology Certificate Program upon the completion of 60 credit hours, fulfill all the science (biology, chemistry math, and physics) course requirements for the B.S. degree in biology, and successfully complete the following courses:

**Biol 2013**, Genetics Laboratory  
**Biol 2482**, Microbiology  
**Biol 2483**, Microbiology Laboratory  
**Chem 2622**, Organic Chemistry II  
**Biol 4614**, Biotechnology Laboratory I  
**Biol/Chem 4712**, Biochemistry  
**Biol 4713**, Techniques in Biochemistry or  
**Chem 4733**, Biochemistry Laboratory

### One of the following courses:

**Biol 4602**, Molecular Biology  
**Biol 4612**, Molecular Genetics of Bacteria

### And one of the following courses:

**Biol 4615**, Biotechnology Laboratory II  
**Biol 4622**, Molecular Cell Biology  
**Biol 4632**, Nucleic Acid Structure and Function  
**Biol 4652**, Virology  
**Biol 4842**, Immunobiology  
**Chem 4722**, Advanced Biochemistry

### Undergraduate Certificate in Conservation Biology

The Certificate in Conservation is a multidisciplinary program of study integrating theoretical and applied topics associated with conservation biology. The certificate is intended for undergraduate students with majors in biology or in any other field who wish to develop a specialization in conservation. The certificate is offered by the Department of Biology in cooperation with the departments of Anthropology, Economics, History, Political Science, Social Work, and Sociology. Building on a core curriculum, students can elect courses from these departments to complete their requirements. Regularly enrolled undergraduates at UM-St. Louis or individuals with baccalaureate degrees who wish to receive a Certificate in Conservation Biology are eligible to participate in the conservation certificate program. To

participate, students must apply to the certificate program. Application forms are available from the biology department. Guidelines for admission to the certificate program are also available. Individuals with baccalaureate degrees who are interested in this certificate must apply to the university as unclassified undergraduates. The certificate requires completion of 21 credit hours, outlined below. Students should consult the *Bulletin* with regard to prerequisites for any of the courses listed here.

### Core Courses

#### Biology

- 2102, General Ecology
- 3202, Conservation Biology
- 3203, Conservation Biology Laboratory
- 4299, Practicum in Conservation

**Electives:** The remaining 11 credits must be selected from courses listed below. Five credits must be taken from within biology and 6 credits outside biology, from at least two departments.

#### Anthropology

- 2120, Native Peoples of North America
- 2131, Archaeology of Missouri
- 2132, Archaeology of North America

#### Biology

- 3122, Tropical Resource Ecology
- 3123, Tropical Resource Ecology Field Studies
- 4102, Behavioral Ecology
- 4112, Evolution of Animal Sociality
- 4182, Population Biology
- 4202, Wildlife Ecology and Conservation
- 4203, Wildlife Ecology and Conservation Laboratory
- 4245, Field Biology
- 4382, Introduction to Marine Science
- 4402, Ornithology
- 4403, Ornithology Laboratory
- 4422, Entomology
- 4423, Entomology Laboratory
- 4501, Flowering Plant Families: Phylogeny and Diversification

#### Economics

- 3300, International Economic Analysis
- 3301, Intermediate Economic Theory: Microeconomics
- 4550, Natural Resource Economics

#### History

- 3000, Selected Topics, when relevant

#### Political Science

- 3480, Environmental Politics
- 3590, Studies in Comparative Politics, when relevant
- 3850, International Organizations and Global Problem Solving

#### 4510, Comparative Public Policy and Administration

#### Social Work

- 3900, Seminar in Social Work, when relevant

#### Sociology

- 3420, World Population and Ecology
- 4470, Demographic Techniques

#### Preprofessional Graduation

The Department of Biology sponsors a 3+4 Program for the UM-St. Louis College of Optometry.

In this program students may be admitted to the College of Optometry after completing three years (90 semester hours) of study in the Department of Biology. The undergraduate degree is granted when students satisfactorily complete the first year of optometry school. One or more of the following conditions must be met in order to qualify for the undergraduate degree. All general education requirements and all requirements for the major, except electives, must be completed. Any deficiency in required courses must be remedied with courses taken at UM-St. Louis within three years after entering the College of Optometry. Up to 6 hours from the College of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology.

#### UMSL –Logan College (3+3 program)

The Biology Department has developed a 3+3 articulation agreement with Logan College of Chiropractic. This program enables qualified students the opportunity to complete a Bachelor of Science degree in Biology for the University of Missouri – St. Louis as well as a Doctor of Chiropractic for Logan College of Chiropractic in six years.

- The program is only open to students who enter UMSL as first-time freshmen.
- Participants must complete their first 90 hours of college work (3 years) at UMSL following a prescribed curriculum.
- Participants who have achieved at least 3.25 GPA at UMSL will automatically be granted admission by Logan College of Chiropractic.
- After successfully completing an additional 30 credit hours (4<sup>th</sup> year) at Logan, a student will receive a BS in Biology degree from UMSL.
- After completing two additional years at Logan, the student will receive a doctorate in chiropractic.
- The acceptance of transfer credits or testing toward completion of degree requirements shall be governed by current policies of UMSL. However, no more than 20 credits of required courses, and NONE of the science credits

required for admission to LCC may be earned via examination or transfer from another school.

- LCC shall accept, for the entrance date of their choice, all students who successfully complete the Pre-Chiropractic Program with a cumulative GPA of 3.25 or higher and meet all other criteria for admission.
- Students who earn less than a 3.25 GPA, but at least a 2.50 GPA, will be eligible for admission to LCC, and will receive appropriate consideration in the admission process for having completed the UMSL Pre-Chiropractic Program, but will not receive the assurance of a seat reserved for students earning a 3.25 or higher GPA.
- Students will make application to LCC one year in advance of their desired entrance date and will complete all required application procedures thereafter in a timely manner, including submission of recommendation and a satisfactory interview.

This program offers benefits to students (six years instead of seven from high school to doctorate). The University of Missouri courses are listed below:

**General Education Requirements (33):**

Humanities (9) Select from General Education List  
Social Sciences (One course must be a Psychology) (9)  
Select from General Education List of courses meeting  
Social Science Gen. Ed requirements.  
American History & Government (3)

Choose (3):

Statistics 1310 – Elementary Statistical Methods;  
or  
Statistics 1320 – Applied Statistics I or  
Biology 4122 – Biometry

Communication 1040 – Introduction to Public Speaking  
(3)

English 1100 – Freshman Composition (3)

English 3160 – Writing in the Sciences (3)

Cultural Diversity Requirement (3)

**Major (58):**

**Foundation courses**

Biology 1811 – Introductory Biology: From Molecules to  
Organisms (5)

Biology 1821 – Introductory Biology: Organisms and the  
Environment (5)

Biology 2012 – Genetics (3)

Biology 2482 – Microbiology (3)

Biology 3622 – Cell Biology (3)

Biology 3302 – Introduction to Evolution (3)

Biology/Chemistry 4712 – Biochemistry (3)

Biology 4889 – Senior Seminar (2)

Physics 1011 – Basic Physics (4)

Physics 1012 – Basic Physics (4)

Chemistry 1111 – Introductory Chemistry I (5)

Chemistry 1121 – Introductory Chemistry II (5)

Chemistry 2612 – Organic Chemistry I (3)  
Chemistry 2622 – Organic Chemistry II (3)  
Chemistry 2633 – Organic Chemistry Laboratory (2)  
Philosophy 2256 – Bioethics (3)  
Mathematics 1030 – College Algebra (3)  
Mathematics 1035 – Trigonometry (2)

Choose (3-5):

Mathematics 1100 – Basic Calculus (3); or  
Mathematics 1800 – Analytical Geometry &  
Calculus I (5)

The remaining 30 hours to be taken at Logan include:

**Transfer Credits (34):**

Anatomy I / Lab (6)  
Spinal Anatomy / Lab (5)  
Biochemistry I / Lab (4)  
Histology / Cell Biology / Lab (5)  
Anatomy II / Lab (6)  
Neuroanatomy / Lab (5)  
Biochemistry II (4)  
Physiology I (4)  
Microbiology / Lab (4)

**Graduate Studies**

**Master of Science in Biology**

The Department of Biology offers two ways of achieving the Master of Science degree. The first is a non-thesis option suitable for those who may already have extensive research experience, for educators who seek to upgrade their academic skills but do not require research experience, or for those who need to broaden their biological background. The second is a traditional apprenticeship in research leading to a written thesis. All students admitted to the graduate program are considered to be in the non-thesis program unless they have been accepted into an individual faculty lab. Starting with a common core, both the non-thesis or thesis option may be developed into a final degree program in either of two broad areas in biology: 1) Cell and Molecular Biology or 2) Ecology, Evolution, and Systematics.

**M.S. Admission Requirements**

Applicants to the M.S. program must submit completed application and personal data forms, three letters of recommendation from undergraduate faculty, and transcripts of all previous work. Submission of Graduate Record Examination scores, although not required, is highly recommended and will be helpful for positive consideration of admittance. Admission as a regular graduate student requires graduation from an accredited college with a minimum grade point average overall and in biology courses of 3.0 (where A = 4.0).

All foreign applicants, except those from countries where English is the primary language, must take the TOEFL. Ordinarily, a score of 213 on the computer-based exam (550 on the paper-based exam) or better is required.

In addition to the Graduate School admission requirements, applicants should have completed advanced undergraduate biology courses including genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are also expected, and a course in statistics is highly recommended. Students admitted to the degree program who have not met some of the prerequisites may be asked to pass appropriate courses before graduating. These courses will be agreed upon by the student's adviser, the student, and the Director of Graduate Studies during the first semester of enrollment. In particular, undergraduate deficiencies in genetics and either biochemistry or evolution shall be made up by taking the appropriate course(s).

Three credits of Biol 4920 Selected Topics can be given to graduate students for Biol 2012 or Biol 3302, if they receive a grade of B or better for all undergraduate course work and complete a graduate level paper assigned by the instructor. Instructor consent is required.

### **M.S. Degree Requirements**

#### **Advisers**

All incoming thesis and non-thesis students will be assigned an academic adviser by the Director of Graduate Studies upon admission to the graduate program.

In the event that a student's interest changes or the faculty adviser feels the student's direction no longer falls within his/her area of expertise, the student and adviser should discuss whether a change of adviser is warranted. The graduate director must be notified in writing of any change in advisers. If a student or adviser is uncomfortable discussing the issue directly with each other, he/she is encouraged to meet with the director or associate director of the graduate program.

#### **General Requirements**

All students are required to take at least 4 but not more than 8 hours of Biol 6889, Graduate Seminar.

#### **Non-thesis Option**

Including the general requirements, students must take at least 30 graduate credit hours, of which at least half must be at the 5000 or 6000-level. Students are encouraged to take a laboratory course (4000 level or higher) or 2 credit hours of Biol 6905, Graduate Research. A maximum of 5 credit hours of Biol 6905, will be counted toward the 30 credit hour total. This research may be conducted in the laboratory or the field.

#### **Thesis Option**

Including the general requirement, students must take at least 30 graduate credit hours, of which at least half must be at the 5000 or 6000 level. No more than 13 hours of Biol 6905, Graduate Research, may be counted toward the degree.

The student and adviser work together to develop a research plan. The thesis proposal must be approved by the student's adviser and advisory committee before the student enrolls in more than 4 credit hours of Biol 6905, Graduate Research, and before the student has completed 15 credit hours in the master's program. A thesis embodying results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. This approval requires both a written thesis and oral presentation and defense.

### **Ph.D. in Biology**

The doctoral program emphasizes empirical and theoretical approaches to biological research. Students are required to integrate basic skills in biology with focused studies in an emphasis area. The program is designed to provide research experience and training appropriate for advanced positions in academic research and teaching, government and public agencies, and industry.

### **Ph.D. Admission Requirements**

Applicants to the Ph.D. program must submit a formal application to the Graduate Admissions Office. In addition, the applicant should arrange to have sent: three letters of recommendation from faculty members at previously attended colleges or universities, GRE scores (Verbal, Quantitative, and Analytical), and transcripts of all postsecondary academic work. Admission to the Ph.D. program normally requires a minimum grade point average overall and in biology courses of 3.0 (where A=4.0).

Applicants from countries where English is not a primary language are required to take the TOEFL examination. Scores must be submitted before admission can be decided. Ordinarily, a score of 550 or better is required. Applicants should have a bachelor's or M.S. degree from an accredited United States college or university or evidence of equivalent training at an accredited institution outside the United States.

Applicants should have the appropriate background for graduate work in biology, including courses in genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are expected. A course in statistics is recommended. Students admitted to the Ph.D. program who have not met all the prerequisites may be required to make up deficiencies before admission to candidacy. The deficiencies will be decided during orientation meetings prior to the start of the second semester. Three credits of Biol 4920 Selected Topics can be given to graduate students for Biol 2012 or Biol 3302 if they receive a grade of B or better for all undergraduate course work and complete a graduate-level paper assigned by the instructor. Instructor consent is required.

### **Ph.D. Degree Requirements**

In addition to the general requirements of the Graduate School, the basic requirements for the Ph.D. degree in Biology include 60 graduate credit hours. At least 30 of



the 60 hours must be taken at the 5000 or 6000 level. With the explicit consent of the advisory committee, students may take for graduate credit up to 3 credit hours of 3000 level courses in allied departments. Courses in biology at the 3000 level and below are not available for graduate credit. At least 31 of the 60 hours must be taken while in residence at the University of Missouri-St. Louis. Graduate credit for course work transferred from another program is subject to approval by the graduate committee and by the Graduate School. Graduate courses taken elsewhere will be considered for transfer credit during orientation meetings conducted prior to the start of the second semester of enrollment.

Specific courses shall be completed as follows:

**Biol 4122** (3 hours), Biometry, or equivalent course in statistics.

**Biol 6889** (2 hours), Graduate Seminar.

Three semesters required (6 credits total).

12 hours of formal course work required by the student's emphasis area at the time a student is admitted to the Ph.D. program.

The maximum number of credit hours that may be applied toward the 60-hour requirement is limited as stated below:

**Biol 6889**, Graduate Seminar: 10 hours

**Biol 6905**, Graduate Research: 30 hours

A combination of 6 total credit hours of the following:

**Biol 5059**, Topics in Ecology, Evolution, and Systematics

**Biol 5069**, Topics in Cellular and Molecular Biology

**Biol 5079**, Topics in Floristic Taxonomy

#### **First-Year Experience**

Graduate students are expected to become involved in a research experience during their first-year program, usually winter semester or summer session.

#### **Qualifying Examination**

Students must pass a qualifying examination (which consists of a written and oral component), based on fundamental principles presented in formal courses and in papers of special importance in the field. The exam will be given in January of each year, at the beginning of the winter semester. Students beginning studies in the fall semester would normally take the qualifying examination prior to their fourth semester of full-time study. Doctoral students who have earned an M.S. degree previously are encouraged to take the examination in their first year.

#### **Admission to Candidacy**

To be admitted to candidacy, students must satisfy the requirements of the Graduate School, which includes passing all qualifying examinations and completing all required course work.

#### **Dissertation Proposal**

All students must defend orally a written dissertation proposal to their dissertation committee. The approved proposal must be submitted to the director of graduate studies in biology. Doctoral students may not enroll in more than 4 credits of graduate research (Biology 6905) before they have received approval for their dissertation proposal.

#### **Dissertation**

A dissertation embodying the results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. The general regulations of the Graduate School concerning the preparation of the dissertation must be met. These rules include a public oral defense of the written dissertation. Dissertations are to be presented in a style appropriate for one or more publications in scientific journals.

#### **Teaching**

At least one semester of supervised teaching is required of all doctoral students.

#### **Graduate Certificate in Biotechnology**

The Graduate Certificate in Biotechnology is offered for students with a bachelor's degree who wish to obtain advanced level training in those fields of biology that pertain to biotechnology without necessarily earning a master's degree. Students who enter this program may have a variety of interests, including biochemistry, microbiology, molecular biology, cell biology, developmental biology, or molecular evolution.

#### **Admission**

Students who wish to earn a Graduate Certificate in Biotechnology must apply to the Biotechnology Certificate Program for admission to the program. Students must be enrolled in the graduate program at the University of Missouri-St. Louis either as non-degree students or as master's students.

Students who wish to obtain a master's degree with a Biotechnology Certificate must be accepted into the Master's degree program in Biology as well as into the Biotechnology Certificate Program. Students who apply to the certificate program as non-degree students will earn only the certificate.

Students must have at least a 3.0 GPA for undergraduate course work to be accepted into the program. The minimum course prerequisites for admission to the program are undergraduate courses in genetics, cell biology, and biochemistry.

#### **Requirements**

Students must maintain a minimum GPA of 3.0 to remain in the certificate program. The certificate is awarded after completion of the courses listed below. Students enrolled in the Master's program may simultaneously earn a

graduate degree and count the appropriate courses from the list below toward the Biotechnology Certificate.

The biotechnology certificate requires **18 credit hours** of course work.

**Requirements**

**I. Biology 6615**, Advanced Biotechnology Laboratory II

**II. Biology 6602**, Advanced Molecular Biology or **Biology 6612**, Advanced Molecular Genetics of Bacteria (If both Group II courses are taken, one may be used as elective credit)

**III.** The remaining 11 credit hours must be taken from the following **electives**:

**Biology**

**4712**, Biochemistry  
**4842**, Immunobiology  
**5069**, Topics in Cellular and Molecular Biology  
**5842**, Advanced Immunology  
**6622**, Advanced Molecular Cell Biology  
**6632**, Advanced Nucleic Acid Structure and Function  
**6642**, Advanced Plant Molecular Biology and Genetic Engineering  
**6652**, Advanced Virology  
**6699**, Graduate Internship in Biotechnology  
**6889**, Graduate Seminar, when relevant

**Chemistry**

**4722**, Advanced Biochemistry  
**4733**, Biochemistry Laboratory

**Graduate Certificate in Tropical Biology and Conservation**

The certificate is awarded after completion of 18 credit hours of core courses and electives with a minimum of 12 credits at the 5000 or 6000 level. Up to 3 credits may be taken at the 2000 - 3000 level upon permission of the Graduate Committee. Electives must include a minimum of 3 credits outside biology with a maximum of 7 outside biology. A maximum of 3 credits may be taken elsewhere than UM-St. Louis. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the certificate when appropriate.

**Required Core Courses:**

**Biology 6250**, Public Policy of Conservation and Sustainable Development  
**Biology 6299**, Internship in Conservation Biology (May be replaced with a biology elective for individuals with applied conservation or environmental agency experience upon consent of the Graduate Committee).

**Choice of:**

**Biology 6212**, Theory and Application of Conservation Biology  
**Biology 6222**, Advanced Tropical Ecology and Conservation

**Electives:**

**Biology**

**4382**, Introduction to Marine Science  
**4182**, Population Biology  
**4202**, Wildlife Ecology and Conservation  
**4402**, Ornithology  
**4422**, Entomology  
**4501**, Flowering Plant Families Phylogeny and Diversification  
**5122**, Advanced Tropical Resource Ecology  
**5123**, Advanced Tropical Resource Ecology Field Studies  
**5192**, Community Ecology  
**6102**, Advanced Behavioral Ecology  
**6112**, Advanced Evolution of Animal Sociality  
**6182**, Advanced Population Biology  
**6192**, Applications of Geographic Information Systems  
**6212**, Theory and Application of Conservation Biology  
**6222**, Advanced Tropical Ecology and Conservation  
**6889**, Graduate Seminar, when relevant

**Economics**

**3300**, International Economic Analysis  
**3301**, Intermediate Economic Theory: Microeconomics  
**4550**, Natural Resource Economics

**History**

**3000**, Selected Topics in History, when relevant  
**3201**, History of Latin America: to 1808  
**3202**, History of Latin America: Since 1808  
**3302**, West Africa Since 1800  
**6114**, Readings in Latin American History, when relevant  
**6115**, Readings in African History, when relevant

**Political Science**

**2530**, Political Systems of South America  
**2540**, Political Systems of Mexico, Central America, and the Caribbean  
**2580**, African Politics  
**3480**, Environmental Politics  
**3590**, Studies in Comparative Politics, when relevant  
**3830**, International Political Economy  
**3850**, International Organizations and Global Problem Solving  
**3890**, Studies in International Relations  
**4470**, Introduction to Environmental Law and Policy  
**4510**, Comparative Public Policy and Administration  
**4850**, International law  
**4940**, Leadership and Management in Nonprofit Organizations  
**6414**, Topics in Public Policy Analysis, when relevant  
**6448**, Political Economy and Public Policy  
**6459**, Seminar in Latin American Politics, when relevant  
**6462**, Political Theory and Public Policy  
**6490**, Seminar in International Relations

**Social Work**

**4950**, Seminar in Social Work Issues, when relevant

## Sociology

4342, World Population and Ecology

4646, Demographic Techniques

5426, Community and Regional Conflict Resolution

### Career Outlook

The biology degree programs, at the baccalaureate and master's degree levels, are designed to prepare the student for further training. The undergraduate degree is designed to prepare the student for professional training in areas such as medicine, dentistry, veterinary medicine, optometry, and related areas, or for further graduate training in research. The Master of Science program is an extension of the undergraduate program and has as its goals three main objectives:

Provide research-oriented training and education.

Provide qualified graduates for doctoral programs.

Provide secondary school and junior college biology teachers with training necessary to maintain and improve their teaching effectiveness.

The Ph.D. program prepares students as research professionals in fields such as biological conservation, ecology, and biomedical science. Employment opportunities are available in college or university research and teaching, in government and public institutions such as museums and botanical gardens, and in industry.

### Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult an adviser for further information.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

1012, 1013, 1081, 1102, 1131, 1141, 1162, 1202, 1811, 1821, 2012, 2013, 2102, 2103, 2402, 2403, 2442, 2443, 2482, 2483, 2501, 3102, 3103, 3122, 3123, 3182, 3183, 3202, 3203, 3302, 3622, 3642, 3643, 3802, 3803, 3920, 4102, 4112, 4122, 4162, 4182, 4202, 4203, 4222, 4245, 4402, 4403, 4422, 4423, 4482, 4501, 4532, 4552, 4602, 4612, 4614, 4615, 4622, 4632, 4642, 4652, 4712, 4713, 4822, 4842, 4889

#### 1012 General Biology (3), [MS]

Emphasis on fundamental principles of biology. Biol 1012 can be applied toward fulfillment of the general education requirement in science. Biol 1012 does not satisfy the prerequisite requirements in other courses in biology at the 2000 level or above. Students who plan to pursue a career in medicine or one of the medical-oriented professions

should enroll in Biol 1811 rather than Biol 1012. Three hours of lecture per week.

#### 1013 General Biology Laboratory (2), [MS]

Prerequisite: Biol 1012 (may be taken concurrently).

Laboratory course to accompany Biol 1012. Biol 1013 can be used to fulfill the general education requirements in a laboratory science. Biol 1013 does not meet the prerequisite requirements for other courses in biology. Three and one-half hours of laboratory per week.

#### 1102 Human Biology (3) [C, MS]

Lectures and readings concerned with the reproduction, development, genetics, functional anatomy, behavior, ecology, and evolution of the human species. Three hours of lecture per week.

#### 1131 Human Physiology and Anatomy I (4), [MS]

Prerequisite: Biol 1012 or its equivalent. The basic aspects of the structure of the healthy human body and how it functions. Special emphasis is on how the human body adapts itself to its environment and how changes affect physiological activities. Three hours of lecture and two hours of laboratory per week.

#### 1141 Human Physiology and Anatomy II (4), [MS]

Prerequisite: Biol 1131. A continuation of Biol 1131. A study of the basic aspects of human physiology and anatomy. Three hours of lecture and two hours of laboratory per week.

#### 1162 General Microbiology (3), [MS]

Prerequisite: Biol 1012 or its equivalent. A survey of microbial structure, genetics, and physiology. Special emphasis will be placed on the transmission and control of such organisms as they relate to the maintenance of human health. Three hours of lecture per week.

#### 1202 Environmental Biology (3), [MI, MS]

An examination of the biological basis of current environmental problems, with emphasis upon resources, energy, pollution, and conservation. Three hours of lecture per week.

#### 1811 Introductory Biology: From Molecules to Organisms (5), [MI, MS]

Prerequisites: A minimum of high school chemistry, Engl 1100 or equivalent (may be taken concurrently), and placement into college algebra or higher. Required for students intending to major in biology or take specified biology courses at the 2000 level or above. This course presents an introduction to some of the principles of biology and scientific methodology applied to the molecular/cellular through organ system levels of organization. Topics include: cell structure, metabolism, reproduction, heredity and major physiological processes regulated by organ systems. Three hours of lecture, three and one-half hours of lab, and one hour of discussion per week.

**1821 Introductory Biology: Organisms and the Environment (5), [MI, MS]**

Prerequisite: A minimum of high school chemistry, Engl 1100 or equivalent (may be taken concurrently), and placement into college algebra or higher. Required for students intending to major in biology or take specified biology courses at the 2000 level or above. This course presents an introduction to some of the principles of biology and scientific methodology applied to the organismal and supraorganismal levels of biology. Topics to be covered include: ecology, evolution, diversity, and population biology. Three hours of lecture, three and one half hours of lab and one hour of discussion per week.

**1850 Global Ecology (3), [V, SS, MS]**

Prerequisite: None. Must be taken concurrently with Pol Sci 1850 for 3 hours of Biol credit and 3 hours of Pol Sci credit. A course team-taught by the Biology and Political Science departments, combining natural science and social science perspectives in taking a global view of a variety of environmental concerns, such as air and water pollution, climate change, energy use, use and conservation of natural resources, human population ecology and other issues. Examines the underlying scientific dimension, as well as the political-economic-social aspects of problem-solving at local, national, and international levels. Features labs and field trips in addition to lecture and discussion. This course does not count towards a major or minor in Biology.

**2012 Genetics (3)**

Prerequisite: Biol 1811 [majors must also take Biol 1821] and Chem 1111 or [Chem 1082 plus Chem 1091]. Fundamental principles of inheritance, including classical genetic theory as well as recent advances in the molecular basis of heredity. Three hours of lecture per week.

**2013 Genetics Laboratory (2)**

Prerequisite: Concurrent registration in Biol 2012, or by consent of instructor. Laboratory to accompany Biol 2012. Three and one-half hours of organized laboratory time per week. Students may need to return to the laboratory at unscheduled times to complete some exercises.

**2102 General Ecology (3)**

Prerequisite: Biol 1811 and 1821. An examination of the relationships between living organisms and their environment. Three hours of lecture per week.

**2103 General Ecology Laboratory (2)**

Prerequisite: Biol 2102 required (may be taken concurrently); a general statistics course strongly recommended. Analysis of environmental factors influencing the abundance and distribution of living organisms. Some classes held at field sites in and around St. Louis. Three and one-half hours of laboratory or field work per week.

**2402 Vertebrate Biology (3)**

Prerequisite: Biol 1811 and 1821. Development, structure, function, interrelationships, and zoogeography of vertebrate animals with particular attention to phylogenetic aspects. Three hours of lecture per week.

**2403 Vertebrate Biology Laboratory (2)**

Prerequisite: Biol 2402 (may be taken concurrently). Laboratory to accompany Biol 2402. Morphological analysis and systematic survey of major vertebrate groups. Overview of the vertebrate life forms and their adaptations to habitats and resources. Three and one-half hours of laboratory per week.

**2442 Invertebrate Biology (3)**

Prerequisite: Biol 1811 and 1821. A general introduction to the form, function and biodiversity of animals, 95% of which lack backbones. The course focuses on the evolution and phylogenetic interrelationships of animals from single-cell protozoans to the giant squid, with an emphasis on fresh water and marine (non insect) invertebrates. Three hours of lecture per week.

**2443 Invertebrate Biology Laboratory (2)**

Prerequisite: Biol 2442 (may be taken concurrently). Laboratory to accompany Biol 2442. Analysis of invertebrates structure and function with emphasis on the feeding and locomotory behavior of live animals. Students will collect and study animals in habitats ranging from UMSL's Bugg Lake to the Gulf of Mexico. The course meets three and one-half hours per week and includes a one-week field trip to a marine laboratory in Florida. Students will be responsible for expenses they incur.

**2482 Microbiology (3)**

Prerequisite: Biol 1811 [majors must also take Biol 1821] and Chem 1111 [or Chem 1082 plus Chem 1091]. Study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours of lecture per week.

**2483 Microbiology Laboratory (2)**

Prerequisite: Biol 2482 (may be taken concurrently). Experimental studies and procedures of microbiological techniques. Three and one-half hours of organized laboratory time per week. Students will need to return to the laboratory at unscheduled times to complete some exercises.

**2501 Biology of Plants (5)**

Prerequisites: Biol 1811 and 1821. A general discussion of the plant groups from algae through angiosperms. Plant morphology, physiology, reproduction, and ecology will be discussed in lecture (three hours per week). The laboratory (three and one half hours per week) involves examination of representatives of the plant kingdom and experimentation in plant physiology and genetics. Fulfills both a lecture and a laboratory requirement.

**3102 Animal Behavior (3)**

Prerequisite: Biol 1811 and 1821. The study of invertebrate and vertebrate behavior, including neurophysiological, hormonal, developmental, genetic, ecological and evolutionary aspects of behavior; behavior interactions within and between populations. Three hours of lecture per week.

**3103 Animal Behavior Laboratory (2)**

Prerequisite: Biol 3102 (may be taken concurrently) and any college level course in introductory statistics (may not be taken concurrently). Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours of formal laboratory time per week, but additional time may be required for independent projects. Some activities involve field trips or trips to the St. Louis Zoo.

**3122 Tropical Resource Ecology (3)**

Prerequisite: Biol 2102 and either Biol 3302 or 3102 or their equivalent, or consent of instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biol 3122 and 5122. Three hours of lecture per week. Offered in odd numbered years.

**3123 Tropical Resource Ecology Field Studies (2)**

Prerequisite: Biol 3122 (may be taken concurrently). The field component to the lecture and seminar course. Examines the patterns of use and exploitation of resources in the tropics by humans in the context of the theories of behavioral ecology. Two weeks of intensive field research and lectures in Guyana, South America during the second and third weeks of Summer Session I (trip costs to be borne by the student). Students may not receive credit for both Biol 3123 and Biol 5123. Offered in odd numbered years.

**3202 Conservation Biology (3)**

Prerequisite: Biol 1811 and 1821. Introduction to the principles and theories of conservation biology. Course topics include biodiversity, extinctions, population modeling, habitat fragmentation, conservation area management, restoration ecology, and social science elements of conservation strategies. Class sessions will include lectures, discussions, and simulation exercises. Three hours of lecture per week.

**3203 Conservation Biology Laboratory (2)**

Prerequisites: Biol 3202 (recommended to be taken concurrently). Laboratory to accompany Biol 3202. Laboratory will include computer simulations of conservation problems using existing software, 2-3 field trips to local conservation projects, and field interviews with governmental and non-governmental agencies. Three and one-half hours of laboratory per week.

**3302 Introduction to Evolution (3)**

Prerequisite: Biol 1811 and 1821; Biol 2012 strongly recommended. Introduction to the theory, events, and processes of organic evolution.

**3622 Cell Biology (3)**

Prerequisite: Biol 1811 [majors must also take Biol 1821], Chem 1111, 1121 and 2612 or equivalents. Examination of the basic biological processes of cells.

**3642 Developmental Biology (3)**

Prerequisites: Biol 1811 and 1821. Basic principles of developmental biology, with an emphasis on the underlying cellular and molecular mechanisms.

**3643 Developmental Biology Laboratory (2)**

Prerequisite: Biol 3642 (recommended to be taken concurrently). Laboratory to accompany Biol 3642. Three and one-half hours of laboratory per week.

**3699 Undergraduate Internship in Biotechnology (1-4)**

Prerequisite: Biol 1811 and 1821, Chem 1111 and 1121 and consent of instructor. Concurrent enrollment in Chem 2612 or higher is strongly encouraged. A 2.5 GPA and enrollment in the undergraduate Biotechnology Certificate Program is required. Internship will consist of a period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours a student works each week and in consultation between the intern's supervisor and instructor. Two credits may be used to fulfill the lab requirement.

**3802 Vertebrate Physiology (3)**

Prerequisite: Biol 1811 and 1821 and Chem 1111 or Chem 1082 plus Chem 1091. Basic functional aspects of organ systems in relation to the physiochemical properties of protoplasm. Three hours of lecture per week.

**3803 Vertebrate Physiology Lab (2)**

Prerequisite: Biol 3802 (may be taken concurrently). Instrumental and experimental studies in physiology. Three and one-half hours of laboratory per week.

**3920 Special Topics in Biology (1-5)**

Prerequisites: Biol 1811 and 1821, junior standing, and consent of instructor or curriculum committee. Topics will vary each semester. Topics are available from the biology department office. This course may be used to satisfy requirements for elective biology courses for the B.A. or B.S. degree in biology; it cannot be substituted for core courses required for all majors. Credit arranged. May be taken up to two times for credit.

**4102 Behavioral Ecology (3)**

Prerequisite: Biol 3102; Biol 2102 recommended. Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the

role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture per week. Students may not receive credit for both Biol 4102 and 6102.

#### **4112 Evolution of Animal Sociality (3)**

Prerequisite: Biol 3102 or consent of instructor, Biol 2102 or 4182 recommended. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches to social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture, one hour of discussion per week. Students may not receive credit for both Biol 4112 and 6112.

#### **4122 Biometry (3)**

Prerequisite: Math 1030 and a minimum of 15 hours in biology. Reviews descriptive, analytical, and experimental methods useful for the statistical study of biological phenomena. Students will develop the skills needed to better appreciate and evaluate the published literature, as well as the ability to design their own research programs. Topics include: the collection and summarization of biological observations; development, design, and testing of hypotheses; analysis and presentation of data. Three hours of lecture per week. Fulfills the statistics requirement for the B.A. or B.S. degree in biology.

#### **4162 Evolutionary Ecology (3)**

Prerequisites: Biol 3302 and 4182, or equivalent, or consent of instructor. The course will explore the use of evolutionary theory to interpret life-history adaptations of organisms, family and social interactions, coevolution, and macroevolution. Topics will include the evolution of sex, sexual selection, aging, parent-offspring conflict, evolution of pathogen virulence, artificial selection, and genetic modification of organisms. Students will also analyze data sets using computer software to highlight the application of game theory approaches and phylogenetically based comparative analysis to interpret patterns in nature. Three hours of lecture per week. Students may not receive credit for both Biol 4162 and 6162.

#### **4182 Population Biology (3)**

Prerequisite: Biol 2102 and 2012 (Biol 3302 recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. Three hours of lecture per week. Students may not receive credit for both Biol 4182 and 6182.

#### **4202 Wildlife Ecology and Conservation (3)**

Prerequisite: Biol 2102, and junior standing. This course will provide a basic survey of the ecological issues involved in conservation and management of wild animals. Topics will include population dynamics and regulation, habitat management, endangered species, wildlife legislation, predator-prey interactions, human-wildlife conflicts, sustainable use of wildlife. There will be a strong emphasis on temperate ecosystems, but many examples will be drawn from tropical ecosystems. Use of computer simulation models in wildlife conservation and management will be included. Three hours of lecture per week.

#### **4203 Wildlife Ecology and Conservation Laboratory (2)**

Prerequisite: Biol 4202 (may be taken concurrently) or consent of instructor. This course will provide field and laboratory experiences to accompany Biol 4202. Field trips will emphasize field research techniques, including methods for sampling animal populations and their habitat. Considerable emphasis will be placed on learning to identify common vertebrates of Missouri streams and forests. Laboratory periods will be used to discuss methods of data analysis, computer simulations, as well as further emphasis on identification. Three and one-half hours of lab per week. Several one- to two-day field trips will be required as well.

#### **4222 Tropical Ecology and Conservation (3)**

Prerequisite: Biol 2102, 4182, 5192, or equivalent. This course will cover research areas in tropical population, community and ecosystems ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and development of strategies leading to sustained use of nonrenewable resources. Students may not receive credit for both Biol 4222 and 6222. Three hours of lecture per week.

#### **4245 Field Biology (3)**

Prerequisite: Three biology courses and consent of instructor. Intensive study of the flora and fauna of selected natural areas of North America, including an extended field trip. Details of the field trip and course schedule will be posted in the Biology Department preceding registration for the term in which the course will be offered. Students will be required to pay costs of travel and of the field trip. This is a laboratory course appropriate for advanced undergraduates and non-thesis Master of Science students. Students may not receive credit for both Biol 4245 and 6245.

#### **4299 Practicum in Conservation (2)**

Prerequisite: Biol 3202 or consent of instructor. This course is generally restricted to students officially enrolled in the Certificate Program in Conservation Biology. The

course provides practical experience with conservation or environmental agencies. Specific placement will be selected according to student's interests and career goals as well as availability of agency openings. Course requirements include practical experience and final report on practicum experience.

#### **4382 Introduction to Marine Science**

Prerequisite: Consent of the instructor; Biol 2442 and 2443 recommended. A multidisciplinary study of the ocean environment. Topics to include the geology of ocean basins, atmospheric and astronomic effects on the motion of water, chemical and physical properties of sea water, and the adaptations and diversity of marine organisms to their environment. Topics will include the ecology of various benthic and pelagic marine communities and human impact on the world's oceans. Offered in Winter Semester only.

#### **4383 Introduction to Marine Science Laboratory (2)**

Prerequisite: Biol 4382, consent of instructor. An intensive laboratory and field study of selected North American marine communities. Based on a two-week field trip to Florida and offered during the Summer Session I, following the lecture course Biol 4382 of the preceding winter semester. Students must pay their own travel and living expenses.

#### **4402 Ornithology (3)**

Prerequisite: Biol 2102 and junior standing. Introduction to avian biology and ecology. Material to be covered will include basic adaptations of anatomy, physiology, and behavior of birds. There will be a strong emphasis on avian ecology and conservation. Specific topics will include flight, reproductive behavior, migration, foraging behavior, community structure, and current conservation concerns. The diversity of birds will be emphasized through comparisons between temperate and tropical regions. Three hours of lecture per week

#### **4403 Ornithology Laboratory (2)**

Prerequisite: Biol 4402 (may be taken concurrently) or consent of instructor. This course will introduce students to methods of identifying and studying birds. Labs will almost entirely be comprised of field trips to local areas and will emphasize diversity of birds, adaptations shown by different groups, and means of identification, particularly of birds found in Missouri. Field projects will focus on techniques for censusing birds, sampling foraging behavior, and studying habitat selection. Indoor periods will cover internal and external anatomy of birds. Slides and field trips to the St. Louis Zoo will be used to survey the diversity of birds worldwide. Three and one-half hours of laboratory per week. Longer (e.g., Saturday) field trips will be made when appropriate.

#### **4422 Entomology (3)**

Prerequisite: Biol 1811 and 1821; 9 additional hours of biology, and upper-division standing. Development,

structure, function, behavior and ecology of insects, including a systematic survey of the orders of Insecta. Three hours of lecture per week.

#### **4423 Entomology Laboratory (2)**

Prerequisite: Biol 4422 (may be taken concurrently). Laboratory to accompany Biol 4422. Studies of the morphology, physiology, and behavior of insects to give a sampling of biological studies of the class Insecta. Formation of a collection of insects, comprising a systematic survey of orders and principal families, will be an integral part of the course and will require additional time beyond the official lab hours. Three and one-half hours of lab per week.

#### **4482 Parasitology (3)**

Prerequisite: Biol 1811, 1821, and 10 additional hours of biology and upper-division standing. Biol 3622 strongly recommended. A broadly based course emphasizing the phylogeny, life history, ecology, and physiology of parasites of medical and veterinary importance. Modern aspects of experimental parasitology, immunoparasitology, and parasite molecular biology will be addressed.

#### **4501 Flowering Plant Families: Phylogeny and Diversification (5)**

Prerequisites: Biol 1811, 1821 and junior standing or consent of instructor. Focusing on the flowering plant families of North America, the aim of the course is to give an understanding of their phylogeny and diversification. Student will also gain an understanding of plant morphology and anatomy, a basis for further developing their knowledge of plants. Three hours of lecture and three to four hours of laboratory per week. Students may need to return to the laboratory at unscheduled times.

#### **4532 Sex and Evolution in the Flowering Plants (3)**

Prerequisites: Biol 1811 or 1821 or equivalent; Biol 3302 or 2501 recommended. The evolution of flowers, and flowering plants, is the result of mutualistic plant-animal interactions. This course explores all aspects of the function of flowers, integrating findings and approaches from ecology, systematics, plant physiology, and animal behavior. flower color, scent, and nectar, deceptive pollination systems, pollen-stigma interactions and incompatibility systems, flowering plant mating systems (including selfing and apomixis), and pollination by insects, vertebrates, wind, and water. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors.

#### **4552 Evolution and Phylogeny of Seed Plants (3)**

Prerequisites: Biol 3302 or 2501 or equivalent. Examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, Cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment or morphological homology are

examined, and wherever possible the evolution of morphological structures is related to their function. Includes introduction to cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biol 4552 and Biol 6552.

#### **4602 Molecular Biology (3)**

Prerequisite: Biol 2012 and 4712. A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in the eukaryotic cells. Three hours of lecture per week. Students may not receive credit for both Biol 4602 and Biol 6602.

#### **4612 Molecular Genetics of Bacteria (3)**

Prerequisite: Biol 2482 and Biol 2012. A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students may not receive credit for both Biol 4612 and Biol 6612.

#### **4614 Biotechnology Laboratory I (4)**

Prerequisite: Biol 2012 or consent of instructor. An introduction to the fundamental concepts that underlie the field of biotechnology. Both the basic principles of molecular biology and hands-on experience with the techniques of the field will be addressed through lectures, discussions, and a series of laboratory exercises. Two hours of lecture and four hours of laboratory per week. Fulfills a laboratory requirement only; may not be used to fulfill the 4000 level or above lecture course requirement for the B.A. or B. S. degree in biology. Students may not receive credit for Biol 4614 and a comparable biotechnology course from another institution.

#### **4615 Biotechnology Laboratory II (4)**

Prerequisite: Biol 4614 and either Biol 4602 or Biol 4612, or consent of instructor. An in-depth look at theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Fulfills a laboratory requirement only; may not be used to fulfill the 4000 level lecture course requirement for the B.A. or B.S. degree in biology. Students may not receive credit for both Biol 4615 and Biol 6615.

#### **4622 Molecular Cell Biology (3)**

Prerequisites: Biol 4602, Biol 3622, and Biol 4712 or consent of instructor. A study of the structural organization and processes of eukaryotic cells. Topics of discussion will

include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture per week. Students may not receive credit for both Biol 4622 and Biol 6622.

#### **4632 Nucleic Acid Structure and Function (3)**

Prerequisite: Biol 2012 and 4712 or equivalent or consent of instructor. Comprehensive view of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interactions, and RNA metabolism. Three hours of lecture per week. Students may not receive credit for both Biol 4632 and 6632.

#### **4642 Plant Molecular Biology and Genetic Engineering (3)**

Prerequisite: Biol 4602 or 4612. Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant-microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture per week. Students may not receive credit for both Biol 4642 and 6642.

#### **4652 Virology (3)**

Prerequisite: Biol 2482 and 2012. A comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture per week. Students may not receive credit for both Biol 4652 and 6652.

#### **4712 Biochemistry (3)**

[Same as Chem 4712]. Prerequisite: Chem 2612 and either Biol 1811 or Chem 2622. Examines the chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Students may not receive credit for both Biol 4712 and Chem 4712.

#### **4713 Techniques in Biochemistry (2)**

Prerequisite: Biol 4712 or Chem 4712 (may be taken concurrently). Laboratory activities introducing fundamental qualitative and quantitative biochemical techniques. Student evaluation will be based on laboratory participation, student laboratory reports, and written examinations. Three and one-half hours of organized laboratory time per week. Students may need to return to the laboratory at unscheduled times to complete some experiments.

#### **4822 Introduction to Neuroscience (3)**

Prerequisite: Biol 3802 or consent of instructor. The study of nervous systems, featuring the cellular bases of initiation and conduction of the impulse, synaptic transmission, and the network integrative function of invertebrate and vertebrate nervous systems. This course



emphasizes the multidisciplinary nature of the neurosciences, including anatomical, physiological and molecular approaches to understanding neural function. Three hours of lecture per week.

**4842 Immunobiology (3)**

Prerequisite: Biol 4712 and Chem 2612. The fundamental principles and concepts of immunology and immunochemistry. Emphasis on the relation of immunological phenomena to biological phenomena and biological problems. Three hours of lecture per week.

**4889 Senior Seminar (2)**

Prerequisite: Senior standing. Required of biology majors. Oral and written presentation by students of selected scientific papers or articles. Students are expected to participate in discussions of oral presentations by other students. May not be taken for graduate credit.

**4905 Research (1-3)**

Prerequisite: Consent of faculty research advisor; generally restricted to junior and senior standing. Research in an area selected by the student in consultation with and under the supervision of a faculty research adviser. Research opportunities are subject to availability. The project normally includes the reading of pertinent literature, laboratory or field experience, and a summary paper. Credit arranged. Course may be repeated for a total of up to 5 credit hours. Any combination of 2 credit hours may be used to meet one laboratory course requirement. No more than 2 credit hours may be applied toward the minimum number of biology course credits for the major in biology.

**4920 Selected Topics (1-10)**

Prerequisite: Junior standing and consent of instructor. Selected topics in biology. The topics will vary each semester. Topics available in the department office. Credit arranged. May be taken more than once for credit.

**4980 Science in the Real World: Microbes in Action (2)**

Prerequisites: Biol 1811 or Chem 1111 or equivalent course, and experience teaching science at the middle school or high school level. A hands-on workshop in microbiology designed for secondary school science teachers interested in introducing microbiology to their students. Includes lectures on basic microbiology, laboratory exercises in microbiology for middle school or high school classroom, discussion sessions, and a session in the computer lab to familiarize teachers with microbiology resources on the Web. Open only to middle school and high school science teachers. Does not count as credit toward degree in biology.

**4985 Curriculum and Methods of Teaching Life Sciences (4)**

[Same as Sec Ed 4985]. Prerequisite: Tch Ed 3310 and a near-major in biology. A study of the scope and sequence of the life science courses in the school curriculum, with

emphasis on the selection and organization of materials and methods of instruction and evaluation. The analysis of teaching/learning and field experience observations in secondary school classrooms will be integrated into classroom activities and discussions. This course must be completed in residence.

**4986 Laboratory in Teaching Life Sciences (2)**

[Same as SecEd 4986]. Prerequisite: Tch Ed 3310. Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biol 4985, SecEd 4985.

**4999 Biology Science Teaching Intern Seminar (3)**

[Same as Sec Ed 4999] Prerequisite: Biol 4985 and 4986. The application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching Sec Ed 4990. Not available for graduate credit.

**5059 Topics in Ecology, Evolution, and Systematics (1)**

Prerequisite: Graduate standing. Presentation and discussion of faculty and student current research projects in behavior, ecology, evolution, and systematics. May be repeated.

**5069 Topics in Cellular and Molecular Biology (1)**

Prerequisite: Graduate standing. Presentation and discussion of student and faculty research projects and/or current research articles in molecular, cellular and developmental biology. May be repeated.

**5079 Topics in Floristic Taxonomy (1)**

Prerequisite: Biol 2501 or equivalent, and graduate standing. Seminar course in systematics of higher plants, arranged in the Cronquist sequence of families, covering morphology, anatomy, palynology, biogeography, chemosystematics, cytology, and other aspects of plant classification and phylogenetics. Given at the Missouri Botanical garden. One hour per week.

**5122 Advanced Tropical Resource Ecology (3)**

Prerequisite: Biol 2102, and either Biol 3302 or Biol 3102 or their equivalent, or consent of the instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biol 3122 and Biol 5122. Three hours of lecture, and one hour of discussion or seminar per week. Offered in odd numbered years.

**5123 Advanced Tropical Resource Ecology Field Studies (2)**

Prerequisite: Biol 5122 (may be taken concurrently). The field component to the lecture and seminar course. Examines the patterns of use and exploitation of resources in the tropics by humans in the context of the theories of

behavioral ecology. Two weeks of intensive field research and lectures in Guyana, South America during the second and third weeks of Summer Session I (trip costs to be borne by student). Students may not receive credit for both Biol 5123 and Biol 3123. Offered in odd numbered years.

### **5192 Community Ecology (3)**

Prerequisite: Graduate standing and either Biol 2102 and 4182 or an equivalent course. Studies of structure and organization of natural communities stressing the abundance and distribution of species, the regulation of species diversity, and the evolution of demographic parameters in populations. Three hours of lectures per week.

### **5312 Theory of Systematics (3)**

Prerequisites: Biol 1811 and 1821 and at least one course beyond introductory level dealing with animal, plant, or microbial diversity (such as Biol 2482, 2501, 2402, 4482, 4501, 4402, or 4422) or consent of instructor. Investigates theory of classification, phylogenetic analysis, systematic biology, and their relation to systematic practice. Covers goals and schools of systematics, characters, and homology, analysis of molecular and morphological data and underlying assumptions, species concepts, classification, naming, and connections between evolutionary biology and systematics. Appropriate for upper-level undergraduates and graduate students in all disciplines, animal, plant, and microbial, as introduction to systematic methods. Three hours of lecture per week.

### **5842 Advanced Immunology (3)**

Prerequisite: Biol 4842. Advanced consideration of techniques of measuring antigen-antibody interaction; immunogenetics as applied to cellular immunity and transplantation; evolution of the immune response. Three hours of lecture per week.

### **5985 Problems in Teaching College Biology (3)**

[Same as Adu Ed 6435]. Prerequisite: Teaching experience, 30 semester hours in biology, and consent of instructor. Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

### **5986 Techniques in Teaching College Biology for Graduate Students (2)**

[Same as Sec Ed 6986]. Prerequisite: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student-teacher interaction. Recommended for all graduate students with teaching assistantships.

### **6102 Advanced Behavioral Ecology (3)**

Prerequisite: Biol 3102 (Biol 2102 recommended). Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture, one hour discussion or seminar per week. Students may not receive credit for both Biol 4102 and 6102.

### **6112 Advanced Evolution of Animal Sociality (3)**

Prerequisite: Biol 2102, or 4182 recommended or consent of instructor. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches of social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture and one hour of discussion per week. Students may not receive credit for both Biol 4112 and Biol 6112.

### **6162 Advanced Evolutionary Ecology (3)**

Prerequisites: Biol 3302 and 4182, or equivalent, or consent of instructor. The course will explore the use of evolutionary theory to interpret life-history adaptations of organisms, family and social interactions, coevolution, and macroevolution. Topics will include the evolution of sex, sexual selection, aging, parent-offspring conflict, evolution of pathogen virulence, artificial selection, and genetic modification of organisms. Students will also analyze data sets using computer software to highlight the application of game theory approaches and phylogenetically based comparative analysis to interpret patterns in nature. Graduate students will write a paper on a topic relevant to the course. Three hours of lecture per week. Students may not receive credit for both Biol 4162 and 6162.

### **6182 Advanced Population Biology (3)**

Prerequisites: Biol 2102 and 2012, (Biol 3302 recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include: demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. A discussion section will focus on mathematical elements of population biology models. Three hours of lecture, and one hour of discussion per week. Students may not receive credit for both Biol 4182 and 6182.

### **6192 Applications of Geographic Information Systems (3)**

Prerequisite: Biol 2102, Biol 4122 or equivalent, and consent of instructor; short course in UNIX operating systems recommended. Geographic Information Systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation, and maintenance of geographically referenced data. This course provides a

foundation in using GIS for a spatial analysis. Examples from a wide range of disciplines are used to emphasize the use of GIS as a tool to support analysis and decision-making. Students will have hands-on use of GIS software using UNIX-based computer workstations. A formal research paper on GIS applications in biological research will be required. Three hours of combined lecture and computer operations per week.

**6212 Theory and Application of Conservation Biology (3)**

Prerequisite: Biol 4182, 5192, or equivalent; or consent of instructor. Prerequisites may be taken concurrently. Advanced analysis of conservation theory with emphasis on conservation of populations, their genetic diversity, and the biodiversity of habitats. Applied aspects of conservation and sustainable development will be illustrated through case studies presented by conservation professionals.

**6222 Advanced Tropical Ecology and Conservation (3)**

Prerequisite: Biol 2102, or 4182, or 5192, or their equivalent. This course will cover research areas in tropical population, community and ecosystem ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and developments of strategies leading to sustained use of nonrenewable resources. A research proposal designed to investigate current topic in tropical ecology will be required. Students may not receive credit for both Biol 4222 and 6222. Three hours of lecture per week.

**6245 Ecological Research in Temperate Zones (3)**

Prerequisite: Graduate standing and consent of instructor. This course will visit several temperate ecosystems with the objectives of learning about the natural history of these areas together with learning how to design projects and conduct field research addressing current ecological theories in a temperate setting. Several faculty members will participate in this course. Temperate sites to be visited will likely include Missouri Ozarks, Great Smokey Mountains, Indiana dunes, and Southern Illinois bottomland and cypress swamp forest. Students will be required to pay costs of travel and of field trips. Students may not receive credit for both Biol 4245 and 6245. Two hours of discussion (during weekday), four-six weekend field trips (leave Friday, return Sunday), and several (2-4) Saturday field trips during the first eight weeks of semester.

**6250 Public Policy of Conservation and Sustainable Development (3)**

[Same as Pol Sci 6452]. Prerequisite: graduate standing in Biology or Political Science and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for

formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of the environmental policy-making in developing and developed economics.

**6299 Internship in Conservation Biology (1-4)**

Prerequisite: Biol 6250 or 6212 and consent of the director of graduate studies in Biology. Internships will consist of a period of study, observation, and on-the-job training at a conservation or environmental agency. Specific placements will be selected according to student's interests and career goals. Internships may vary from 2 weeks to 4 months in duration.

**6552 Advanced Evolution and Phylogeny of Seed Plants (3)**

Prerequisites: Biol 3302 or 2501, or equivalent. Advanced approaches in examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment of morphological homology are examined, and wherever possible the evolution of morphological structures is related to their function. Includes use of cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biol 4552 and Biol 6552.

**6602 Advanced Molecular Biology (3)**

Prerequisite: Biol 2012 and 4712, or consent of instructor. A study of the principles of molecular biology, with emphasis on understanding the genetic regulation of DNA, RNA, and protein synthesis and function in eukaryotic cell. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biol 6602 and Biol 4602.

**6612 Advanced Molecular Genetics of Bacteria (3)**

Prerequisite: Biol 2012 and 2482. A study of the molecular biology of gene replication, transfer, and expression in bacterial cells. Topics include DNA replication, transcription and translation, mutagenesis, DNA repair and recombination, gene transfer, and the regulation of genes and global expression systems. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Student may not receive credit for both Biol 6612 and Biol 4612.

**6615 Advanced Biotechnology Laboratory II (4)**

Prerequisite: Biol 4614 and either Biol 4602 or Biol 4612, or consent of instructor. An in-depth look at the theory and practice of biotechnology. Lectures and discussion will examine the underlying principles, and laboratory exercises will present hands-on experience with current techniques. One hour of lecture and six hours of laboratory per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biol 6615 and Biol 4615.

**6622 Advanced Molecular Cell Biology (3)**

Prerequisite: Biol 4602, Biol 3622, and Biol 4712, or consent of instructor. A study of structural organization and processes of eukaryotic cells. Topics of discussion will include regulation of transcription, gene product processing and transport, organelle biogenesis and function, cytoskeletal structure and function, and cell interactions. Three hours of lecture per week. Students will be required to give an oral presentation and/or write an extra paper on a topic relevant to the course. Students may not receive credit for both Biol 6622 and Biol 4622.

**6632 Advanced Nucleic Acid Structure and Function (3)**

Prerequisites: Biol 2012 and 4712 or equivalent or consent of instructor. Comprehensive view of structural properties of DNA and RNA that promote molecular interactions and biological function. Topics include physical properties of nucleic acids, formation and biological importance of higher order structures, RNA enzymatic activities, nucleic acid-protein interactions, and RNA metabolism. Three hours of lecture and one hour of discussion per week. Students may not receive credit for both Biol 4632 and 6632.

**6642 Advanced Plant Molecular Biology and Genetic Engineering (3)**

Prerequisite: Biol 4602 or 4612. Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture and one hour of seminar per week. Student may not receive credit for both Biol 4642 and Biol 6642.

**6652 Advanced Virology (3)**

Prerequisite: Biol 2482 and 2012. An advanced comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biol 4652 and 6652.

**6699 Graduate Internship in Biotechnology (1-4)**

Prerequisite: Graduate standing and enrollment in graduate Biotechnology Certificate Program. Six credit hours maximum (maximum of eight combined credit hours of Biol 6905 and internship). Internship will consist of period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours the student works each week and in consultation between the intern's supervisor and the instructor. Internship assignments will be commensurate with the education and experience of the student.

**6889 Graduate Seminar (2)**

Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

**6905 Graduate Research in Biology (1-10)**

Research in area selected by student in consultation with faculty members.

**6915 Graduate Research Practicum (1-2)**

Prerequisite: Consent of instructor. This course is designed for graduate students wishing to pursue research experience in an area outside their dissertation topic. The project can be techniques-oriented or focused on a specific research question. The credit hours will depend on the time commitment to the project as decided by the supervisory faculty members.

**6920 Topics in Biology (2-5)**

In-depth studies of selected topics in contemporary biology. May be repeated.

## Department of Chemistry and Biochemistry

### Faculty

**Christopher D. Spilling**, Professor\*, Chairperson  
Ph.D., The University of Technology, Loughborough

**Lawrence Barton**, Professor\*  
Ph.D., University of Liverpool

**James S. Chickos**, Professor\*  
Ph.D., Cornell University

**Joyce Y. Corey**, Professor\*, Director of  
Graduate Studies  
Ph.D., University of Wisconsin

**Wesley R. Harris**, Professor\*  
Ph.D., Texas A. and M. University

**David W. Larsen**, Professor Emeritus\*  
Ph.D., Northwestern University

**Robert W. Murray**, Curators' Professor Emeritus\*  
Ph.D., Yale University

**James J. O'Brien**, Professor\*  
Ph.D., Australian National University

**Valerian T. D'Souza**, Associate Professor\*  
Ph.D., University of Detroit

**Cynthia M. Dupureur**\*, Associate Professor, Ph.D., Ohio  
State University

**David L. Garin**, Associate Professor Emeritus\*  
Ph.D., Iowa State University

**Harold H. Harris**, Associate Professor\*  
Ph.D., Michigan State University

**Jane A. Miller**, Associate Professor Emerita\*  
Ph.D., Tulane University

**Keith J. Stine**, Associate Professor\*  
Ph.D., Massachusetts Institute of Technology

**Rudolph E. K. Winter**, Associate Professor Emeritus\*;  
Ph.D., The Johns Hopkins University

**Zhi Xu**, Associate Professor\*  
Ph.D., University of Pittsburgh

**Alexei V. Demchenko**, Assistant Professor\*,  
Ph.D., Zelinsky Institute for Organic Chemistry, Moscow

**Michael R. Nichols**, Assistant Professor  
Ph.D., Purdue University

**Janet B. Wilking**, Assistant Professor\*  
Ph.D., Washington University

**Chung F. Wong**, Assistant Professor  
Ph.D., University of Chicago

**Joseph D. Dence**, Adjunct Associate Professor  
Ph.D. California Institute of Technology

**Rensheng Luo**, Research Assistant Professor  
Ph.D., Wahan Institute of Physics and Mathematics  
Chinese Academy of Sciences

**Anthony Mannino**, Adjunct Associate Professor  
Ph.D., Ohio State University

**Robert G. Orth**, Adjunct Associate Professor  
Ph.D., Case Western Reserve University

**Nigam P. Rath**, Research Professor  
Ph.D., Oklahoma State University

**John Gutweiler**, Lecturer  
Ph.D., Saint Louis University

### Technical Staff

**Kenneth Owens**, Glassblower  
**Joseph Kramer**, Spectrometrist  
**Mark Regina**, Electronics Technician  
**Donna Kramer**, Coordinator, Laboratory Operations  
**Frank L. May**, Research Investigator  
**Norman Windsor**, Senior Electronics Technician

\*members of Graduate Faculty

### General Information

#### Degrees and Areas of Concentration

The Department of Chemistry and Biochemistry offers courses leading to the following baccalaureate degrees:

B.A. in Chemistry  
B.A. in Chemistry with a Biochemistry Certificate  
B.S. in Chemistry (with a Chemistry or Biochemistry Option)  
B.S. in Education with an emphasis in Chemistry (in cooperation with the College of Education)  
B.A. in Chemistry with teacher certification.

The department is accredited by the American Chemical Society. Students completing the B.S. degree (chemistry or biochemistry option) are certified to the American Chemical Society. The B.S. degree is the professional degree in chemistry, and students who earn the B.S. degree are well prepared for a career in the chemical industry or for graduate work in chemistry. The department provides opportunities for undergraduates to become involved in ongoing research projects and to participate in departmental teaching activities.

The department also offers graduate work leading to the M.S. or Ph.D. degree in chemistry with most graduate courses being scheduled in the evening. A student may earn a M.S. degree with or without a thesis. The non-thesis option provides a convenient way for students who are employed full-time to earn an advanced degree. Research leading to a M.S. thesis or Ph.D. dissertation may be conducted in one of four emphasis areas, namely, inorganic chemistry, organic chemistry, physical chemistry, or biochemistry. The nature of the graduate program allows each student to receive individualized attention from his/her research mentor, and to develop hands-on experience with major instrumentation in the department.

#### Fellowships and Scholarships

The following scholarships, fellowships and awards are available to chemistry majors:

**William and Erma Cooke Chemistry Scholarships** are given annually to outstanding full-time chemistry majors who are at least sophomores and have financial need.

**The Lawrence Barton Scholarship** is given annually to a chemistry major who is enrolled in at least 9 credit hours per semester. Preference is given to juniors and to first generation college students, and to students who demonstrate financial need.

**The Barbara Willis Brown Scholarship for Women in Chemistry** is given to a female student over the age of 24, who is a chemistry major and has completed at least 60 credit hours. The student is expected to work with a faculty member on an undergraduate research project.

**The Eric G. Brunngraber Memorial Scholarship** is given to a chemistry major based on GPA, statement of research interests, and performance in completed course work.

**Aid to Education Scholarships** are given to junior or senior chemistry majors annually. The awardees are selected by the faculty on the basis of merit.

**The M. Thomas Jones Fellowship** is given each semester to the graduate student who is deemed by his/her peers to have presented the best research seminar.

**The Graduate Research Accomplishment Prize** is given annually. The recipient is chosen based on his/her publications, presentations at professional meetings, and seminars given at UMSL.

**Alumni Graduate Research Fellowships** are available for summer study for selected chemistry graduate students. Several undergraduate awards are given each year to outstanding students. The Chemical Rubber Company Introductory Chemistry Award is given to the outstanding student in introductory chemistry, the American Chemical Society Division of Analytical Chemistry Award is given to the outstanding student in analytical chemistry, the American Chemical Society-St. Louis Section, Outstanding Junior Chemistry Major Award is given to the outstanding junior chemistry major, and the outstanding senior receives the Alan F. Berndt Outstanding Senior Award.

#### Departmental Honors

The Department of Chemistry and Biochemistry will award departmental honors to those B.A. and B.S. degree candidates in chemistry with an overall grade point average of 3.2. They must also successfully complete Chem 3905, Chemical Research, and must present an acceptable thesis.

#### Career Outlook

The St. Louis metropolitan area has long been a major center for industrial chemistry, and in the past decade it has become a focus for the establishment of life sciences research and development. A bachelor's degree in chemistry provides a student with the professional training needed to play a part in this ever-changing industry.

A major in chemistry provides excellent preprofessional training in the health sciences, and a double major in chemistry and biology is often chosen by premedical and predoctoral students and those interested in graduate work in biochemistry and biology. A minor in chemistry provides the minimum qualification and training for a position as a laboratory technician in industry, hospital laboratories, etc.

A Master's degree in chemistry is often required for further advancement in the chemical industry, whereas a doctoral degree opens the door to many opportunities, including careers in the academic world, industrial research and development, and in government laboratories. take the 2 elective hours in chemistry on this option.

#### Undergraduate Studies

##### General Education Requirements

Students must satisfy the university and college general education requirements. Courses in chemistry may be used to meet the university's science and mathematics area requirement. The college's foreign language requirement fulfills the departmental requirements for B.A. candidates. B.S. degree candidates are not required to take a foreign language; however, the American Chemical Society (ACS) states that the study of a foreign language is highly recommended, especially for students planning to pursue graduate studies in chemistry.

**Satisfactory/Unsatisfactory Restrictions** Chemistry majors may not take required chemistry, mathematics, or physics courses on a satisfactory/unsatisfactory basis, nor may B.S. degree candidates

#### Degree Requirements

##### Bachelor of Arts in Chemistry

This degree is intended primarily for preprofessional students in health science and related areas, as well as prelaw students interested in patent law. Candidates must complete the following chemistry courses:

1111, Introductory Chemistry I  
1121, Introductory Chemistry II  
2223, Quantitative Analysis  
2612, Organic Chemistry I  
2622, Organic Chemistry II  
2633, Organic Chemistry Laboratory  
3022, Introduction to Chemical Literature  
3312, Physical Chemistry I  
3322, Physical Chemistry II  
3333, Physical Chemistry Laboratory  
3412, Basic Inorganic Chemistry  
4897, Seminar (1 credit)

In addition, candidates must complete one laboratory course chosen from Chem 3643, 4233, 4343, 4433, or 4733.

No more than 45 hours in chemistry may be applied toward the degree. Each chemistry major must present a seminar and pass a comprehensive examination during the senior year. The Department of Chemistry and Biochemistry may require students to pass a tracking test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

### **Bachelor of Arts in Chemistry with a Biochemistry Certificate**

The university offers a certificate program for science majors who are interested in careers in biochemistry. This is an interdisciplinary program that involves additional courses in biochemistry and biology. In addition to the usual requirements for the B.A. degree in chemistry, the student must take the following courses:

#### **Chemistry**

4712, Biochemistry  
4722, Advanced Biochemistry  
4733, Biochemistry Laboratory  
4764, Interdisciplinary Topics in Biochemistry or  
4772, Physical Biochemistry

#### **Biology**

1811, Introductory Biology: From Molecules to Organisms  
2012, Genetics  
3622, Cell Biology  
4602, Molecular Biology or  
4614, Biotechnology Laboratory I

Students may obtain a minor in biology by adding Biol 1821 to the curriculum described above. The Biology department also offers a certificate in biochemistry.

### **Bachelor of Science in Chemistry**

This is the first professional degree in chemistry. It may be taken as a terminal degree by students intending to become professional chemists or for preparation for graduate work in chemistry or biochemistry. Students may choose to specialize in chemistry or biochemistry.

#### **Chemistry Option**

Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following chemistry courses are required:

3643, Advanced Organic Chemistry Laboratory  
4212, Instrumental Analysis  
4233, Laboratory in Instrumental Analysis  
4343, Physical Chemistry Laboratory II  
4412, Inorganic Chemistry I  
4433, Inorganic Chemistry Laboratory  
4712, Biochemistry

Students must also take two elective hours of advanced work in chemistry at the 3000 level or above. Students are

encouraged to take Chem 3905, Chemical Research, to fulfill the advanced elective requirement.

#### **Biochemistry Option**

Candidates must complete the requirements for the B. A. degree in chemistry. In addition, the following chemistry and biology courses are required:

#### **Chemistry**

4212, Instrumental Analysis  
4233, Laboratory in Instrumental Analysis  
4412, Inorganic Chemistry I  
4712, Biochemistry  
4722, Advanced Biochemistry  
4733, Biochemistry Laboratory  
4764, Interdisciplinary Topics in Biochemistry, or  
4772, Physical Biochemistry or  
3 credits of Chemistry 3905: Chemical Research, or 3 credits of Biology 4905: Research.

#### **Biology**

1811, Introductory Biology: From Molecules to Organisms  
2012, Genetics or  
3622, Cell Biology

If either research option is chosen, the project must be in biochemistry and must include a written final report submitted to the Department of Chemistry and Biochemistry.

Fifty-one hours of chemistry courses may be applied toward the degree. Each candidate must present a seminar and pass a comprehensive examination during the senior year.

#### **Related Area Requirements**

#### **Bachelor of Arts and Bachelor of Science in Chemistry**

Candidates for both degrees must also complete:  
**Math 1800**, Analytic Geometry and Calculus I  
**Math 1900**, Analytic Geometry and Calculus II  
**Math 2000**, Analytic Geometry and Calculus III  
**Physics 2111**, Physics: Mechanics and Heat  
**Physics 2112**, Physics: Electricity, Magnetism, and Optics

#### **B.S. degree in Secondary Education with an Emphasis in Chemistry**

All candidates must enroll in a program that includes Levels I, II, and III course work in the College of Education. In addition, students must complete the following Science Core Courses and those listed under Chemistry Endorsement:

#### **Science Core Courses**

**Philosophy 3380**, Philosophy of Science  
**Biology 1811**, Introductory Biology I: From Molecules to Organisms

**Biology 1821**, Introductory Biology II: Organisms and the Environment

**Chemistry 1111**, Introductory Chemistry I

**Chemistry 1121**, Introductory Chemistry II

**Geology 1001**, General Geology

**Atmospheric Science 1001**, Elementary Meteorology

**Biology 1202**, Environmental Biology, or another environmental science

**Physics 2111**, Physics: Mechanics and Heat

**Physics 2112**, Physics: Electricity, Magnetism, and Optics

**Chemistry Endorsement**

**Chemistry 2223**, Quantitative Analysis

**Chemistry 2612**, Organic Chemistry I

**Chemistry 2622**, Organic Chemistry II

**Chemistry 2633**, Organic Chemistry Laboratory

**Chemistry 3312**, Physical Chemistry I

**Chemistry 4712**, Biochemistry

**Chemistry 4802 or Education 3240**, Methods of Teaching Science in Secondary Schools

**Chemistry 4837**, Teaching Intern Seminar

### **Bachelor of Arts in Chemistry with Teacher**

**Certification** Students must complete the B.A. in chemistry requirements, as well as the requirements for teacher certification. (See the College of Education section of this *Bulletin*.)

### **Minor in Chemistry**

#### **Requirements for the Minor**

Students may earn a minor in chemistry by completing the following program. The following five courses are required:

1111, Introductory Chemistry I

1121, Introductory Chemistry II

2223, Quantitative Analysis

2612, Organic Chemistry I

2633, Organic Chemistry Laboratory

One course from the following list must be completed:

2622, Organic Chemistry II

3312, Physical Chemistry I

3412, Basic Inorganic Chemistry

4712, Biochemistry same as Biology 4712

Courses, which are prerequisites to subsequent courses in the minor, may not be taken on a satisfactory/unsatisfactory basis. A GPA of at least 2.0 is required for the courses presented for the minor. At least three courses toward the minor must be completed at UM-St. Louis.

### **Bachelor of Science in Biochemistry and Biotechnology**

The Department of Chemistry and Biochemistry, in cooperation with the Department of Biology, offers a Bachelor of Science degree in Biochemistry and Biotechnology. Information about this degree program may be found at <http://www.umsl.edu/~biotech>.

## **Graduate Studies**

### **Admission Requirements**

Individuals with at least the equivalent of the B.A. degree in chemistry may be admitted to the Graduate School as candidates for the M.S. degree or as precandidates for the Ph.D. degree in chemistry. A student in the M.S. program may request to transfer to the Ph.D. program by petition to the department.

The department admissions committee considers applicants' grade point averages and normally requires above-average performance in all areas of chemistry as well as physics and mathematics, or other evidence of high aptitude for graduate work in chemistry. Applicants' GRE scores, letters of recommendation, and academic programs are also considered. In some cases the committee may require successful completion of undergraduate course work as a condition of enrollment as a regular student.

Students with bachelor's degrees in fields other than chemistry may be admitted to pursue graduate studies in chemistry, but they must make up background deficiencies, usually by taking undergraduate course work.

### **Financial Support**

Teaching assistantships are available to qualified applicants. Research assistantships and fellowships are available for advanced students. For further information, contact the Graduate Studies Committee, Department of Chemistry and Biochemistry.

### **Preliminary Advisement**

Students who have been admitted for graduate work in chemistry will be contacted by the Director of Graduate Studies in order to develop a tentative plan of study which takes into consideration the student's background and interests. Entering students are required to demonstrate proficiency at the undergraduate level in four areas of chemistry (organic, inorganic, physical, and analytical). Proficiency may be demonstrated in one of the following ways:

- Outstanding performance in recent undergraduate course work.
- Satisfactory performance in standardized placement examinations. These examinations are given twice a year, approximately one week before the beginning of the fall and winter semesters.
- Successful completion of assigned course work

The ultimate choice of whether students may enroll in the M.S. or Ph.D. degree programs resides with the chemistry faculty.

### **Distribution Requirement**

All graduate students (M.S. and Ph.D.) must fulfill the distributing requirements as described under "Doctoral Degree Requirements."



## Master's Degree Requirements

### Master of Science in Chemistry

Candidates for the M.S. degree in chemistry must demonstrate proficiency in organic, inorganic, physical, and analytical chemistry within two years of initial enrollment.

A minimum of 30 hours is required, normally including 3 hours in Chem 6897 Chemistry Colloquium. No more than 3 hours in Chem 6897 may be applied toward the required minimum of 30 credit hours.

### Master of Science in Chemistry with Thesis

Students selecting this option must be enrolled full-time for at least two consecutive semesters. During this time, students are expected to enroll in Chem 6905, Graduate Research in Chemistry, and conduct their thesis research. A maximum of 12 hours of Chem 6905 may be applied toward the required 30 hours. At least 9 hours must be at the 5000 level, excluding Chem 6905. A maximum of 9 hours in 3000 level or above courses outside the department may be accepted if students receive prior approval of their advisers and the Director of Graduate Studies. Students are expected to follow all other general requirements of the Graduate School regarding master's degree and thesis requirements.

### Master of Science without Thesis

Unlike the thesis option, students need not be enrolled full-time. Of the required 30 hours, 15 credits must be at the 5000 level. A maximum of 6 credits of Chem 6905, Graduate Research in Chemistry, may be included in place of 4000 level courses. A maximum of 12 hours taken in 3000 level or above courses outside the department may be accepted with prior approval of the Director of Graduate Studies.

### Doctoral Degree Requirements

Incoming doctoral students must demonstrate proficiency in organic, inorganic, physical, and analytical chemistry within one year of initial enrollment. A minimum of 60 hours is required, including research hours.

### Distribution Requirement

Students must take chemistry courses for graduate credit at the 4000 and 5000 levels. Students may choose to concentrate the majority of their coursework in one of four areas (biochemistry, inorganic chemistry, organic chemistry, or physical chemistry). Students must complete at least 6 hours of chemistry coursework in one (or more) sub-disciplines(s) outside of their major emphasis area. The following courses may not be used to fulfill the distribution requirement: Chem. 4212, 4233, 4302, 4343, 4412, and 4433.

### Qualifying Examinations

In addition to the requirements set forth by the Graduate School, each student seeking the Ph.D. degree must

successfully complete a qualifying examination in his/her major area of specialization prior to advancement to candidacy. The format of the qualifying examination depends upon the student's major area of emphasis (biochemistry, inorganic, organic or physical). In general, the qualifying examination consists of either comprehensive written and/or oral examinations, usually administered near the end of the 4<sup>th</sup> semester, or a series of cumulative examinations given eight times a year. In the latter case, a student must pass a minimum of two cumulative examinations per year and eight cumulative examinations before the end of the 6<sup>th</sup> semester. At least six of these cumulative examinations must be in the student's major area of specialization. For more detailed information, contact the Director of Graduate Studies in the Department of Chemistry & Biochemistry.

### Seminar Requirement

Students must present a seminar in their third year and during each subsequent year. The third year seminar may be the defense of the doctoral dissertation proposal. One of the seminars is for the purpose of describing dissertation research. Students must enroll in Chemistry 6897, Chemistry Colloquium, each semester they are in residence.

### Advancement to Candidacy

In addition to general Graduate School requirements for advancement to candidacy, students must complete the following:

1) 21 hours of nondissertation work. **This may not include:**

**Chem 4212**, Instrumental Analysis  
**Chem 4233**, Laboratory in Instrumental Analysis  
**Chem 4302**, Physical Chemistry for the Life Sciences  
**Chem 4343**, Physical Chemistry Laboratory II  
**Chem 4412**, Inorganic Chemistry I  
**Chem 4433**, Inorganic Chemistry Laboratory  
**Chem 6196**, Advanced Reading in Chemistry  
**Chem 6487**, Inorganic Problem Seminar  
**Chem 6687**, Organic Problem Seminar  
**Chem 6787**, Biochemistry Problem Seminar  
**Chem 6812**, Introduction to Graduate Study in Chemistry  
**Chem 6822**, Introduction to Graduate Research in Chemistry

**Chem 6897**, Chemistry Colloquium  
but should include at least six credit hours of coursework outside of their major area of emphasis (see Distribution Requirement)

Courses in areas other than chemistry may be included with prior departmental approval.

- 2) Successfully pass a qualifying examination.
- 3) Present at least one seminar to the department on the dissertation research.
- 4) Participate in the undergraduate academic program as a teaching assistant for at least one semester.
- 5) Be in good standing.

### Dissertation

Four copies of the dissertation must be submitted upon completion of the graduate research problem.

### Probation and Dismissal

Students are dismissed from the Ph.D. program if they fail to pass their qualifying examination or otherwise fail to meet the academic and professional standards set forth by the Graduate School and the Department of Chemistry and Biochemistry.

### Master of Science in Biochemistry and Biotechnology

The Department of Chemistry and Biochemistry, in cooperation with the Department of Biology, offers a Master of Science degree in Biochemistry and Biotechnology. Information about this degree program may be found at <http://www.umsl.edu/~biotech>.

### Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult your department adviser for further information.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

1011, 1082, 1091, 1111, 1121, 1134, 2223, 2612, 2622, 2633, 3022, 3312, 3322, 3333, 3412, 3643, 3814, 3905, 4212, 4233, 4343, 4412, 4433, 4652, 4712, 4722, 4733, 4764, 4772, 4897,

### 1011 Chemistry in the Environment and Everyday Living (3) [MI, MS]

This course examines the role of chemistry in everyday life and in the environment, and is intended for students not pursuing scientific or engineering majors. Chemical principles are introduced to the extent necessary for understanding of issues, but this course does not provide the basis for further technical courses. Two hours of lecture per week; on alternate weeks, one hour of discussion or two hours of laboratory.

### 1052 Chemistry for the Health Professions (4) [MI, MS]

An introduction to general, nuclear, structural organic, organic reactions and biochemistry. This course is designed primarily for students in nursing and related health professions, and should not be taken by students majoring in the physical or biological sciences. Chemistry majors may include neither Chem 1052 nor 1062 in the 120 hours required for graduation. Four hours of lecture per week.

### 1062 Organic and Biochemistry for the Health Professions (2) [MI, MS]

Prerequisites: any college chemistry course. An introduction to organic reactions and biochemistry. Chem 1062 is offered during the second half of the semester. Four hours of lecture per week.

### 1082 General Chemistry I (3) [MI, MS]

Prerequisite: Satisfactory score on math placement test. A broad introductory survey of chemical principles. Chem 1082 plus Chem 1091 are equivalent to Chem 1111. This alternative may be attractive to students who are not mathematically prepared for Chem 1111. Chemistry majors may not include both Chem 1082 and 1111 in the 120 hours required for graduation. Three hours of lecture per week.

### 1091 General Chemistry II (3) [MI, MS]

Prerequisites: Chem 1082 (or equivalent or consent of instructor) and Math 1030 and 1035 (may be taken concurrently). Additional work on the topics of Chem 1082, with emphasis on quantitative material. Introduction to the chemical laboratory. Chem 1082 plus Chem 1091 is equivalent to Chem 1111 for science majors. Chemistry majors who receive credit for Chem 1082 and Chem 1091 may not also include Chem 1011 or Chem 1111 in the 120 hours required for graduation. No student may take both Chem 3 and Chem 1091 for credit. Two hours of lecture per week, three and one-half hours of lab or one hour of discussion on alternate weeks.

### 1111 Introductory Chemistry I (5) [MS]

Prerequisites: Mathematics through college algebra and trigonometry (may be taken concurrently). Presents an introduction to the fundamental laws and theories of chemistry. Laboratory experiments are designed to demonstrate some aspects of qualitative and quantitative analysis and to develop skills in laboratory procedures. Chemistry majors may not include both Chem 1082 and 1111, nor both Chem 1011 and 1111 in the 120 hours required for graduation. Three hours of lecture and one hour of discussion per week; one hour of laboratory-lecture and three hours of laboratory per week.

### 1121 Introductory Chemistry II (5) [MI, MS]

Prerequisite: Chem 1111 or advanced placement. Lecture and laboratory are a continuation of Chem 1111. Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

### 1134 Special Topics in Introductory Chemistry (1-5)

Prerequisite: Consent of instructor. A lecture or laboratory course to assist transfer students in meeting the requirements of Chem 1111 and 1121.

### 2223 Quantitative Analysis (3) [C, MI, MS]

Prerequisite: Chem 1121. Principles and practice of elementary quantitative chemistry. The lecture treats

descriptive statistics with emphasis on small samples; various types of competing equilibria pertaining to acid-base, complexometric and potentiometric titrations; and an introduction to spectrophotometric processes. The laboratory provides exercises in titrimetric, gravimetric, and spectrophotometric techniques. Both portions of the course deal with the analytical chemistry of environmentally-significant problems. Two hours of lecture and four and one-half hours of laboratory weekly.

**2412 Basic Inorganic Chemistry (2) [MI, MS]**

Prerequisites: Chem 1121. Review of principles of atomic structure, covalent and ionic bonding. Properties of the elements and synthesis reactions and bonding aspects of important compounds of main group and transition metal elements. Two hours lecture per week.

**2612 Organic Chemistry I (3) [MS]**

Prerequisite: Chem 1121. An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

**2622 Organic Chemistry II (3) [MI, MS]**

Prerequisite: Chem 2612. A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

**2633 Organic Chemistry Laboratory (2) [C, MS]**

Prerequisite: Chem 2612. An introduction to laboratory techniques and procedures of synthetic organic chemistry including analysis of organic compounds. One hour of lecture and four and one-half hours of laboratory per week.

**3022 Introduction to Chemical Literature (1)**

Prerequisite: Chem 2622 (may be taken concurrently) and Chem 3412. The course will familiarize the student with the literature of chemistry and its use. One hour of lecture per week.

**3302 Physical Chemistry for the Life Sciences (3)**

Prerequisites: Chem 2612 and Math 1800 or Math 1100, and Phys 1012. Principles and applications of physical chemistry appropriate to students pursuing degree programs in the life sciences. Topics will include thermodynamics, equilibria, kinetics, and spectroscopy. This course is intended for undergraduates seeking the B.S. degree in Biochemistry and Biotechnology and does not fulfill the physical chemistry requirement for other Chemistry B.A. and B.S. degree programs.

**3312 Physical Chemistry I (3)**

Prerequisites: Chem 1121 and Math 2000 (may be taken concurrently), and Phys 2111. Principles of physical chemistry, including thermodynamics, theory of gases, phase equilibria, kinetics, crystal structure, spectroscopy, and quantum mechanics. Three hours per week.

**3322 Physical Chemistry II (3)**

Prerequisite: Chem 3312. Continuation of Chem 3312. Three hours of lecture per week.

**3333 Physical Chemistry Laboratory I (2)**

Prerequisite: Chem 2223 and Chem 3312. Experiments designed to illustrate principles introduced in Chem 3312. One hour of lecture and four and one-half hours of laboratory per week.

**3643 Advanced Organic Chemistry Laboratory (2)**

Prerequisites: Chem 2223, Chem 2622, Chem 2633. Chem 3022 may be taken concurrently. Identification of organic compounds by classical and spectroscopic methods; advanced techniques in synthesis and separation of organic compounds. One hour of lecture and four and one-half hours laboratory per week. Not for graduate credit.

**3905 Chemical Research (1-10)**

Prerequisite: Consent of instructor. Independent laboratory and library study, in conjunction with faculty member, of fundamental problems in chemistry. A written report describing the research is required.

**4212 Instrumental Analysis (2)**

Prerequisite: Chem 3322. Principles and applications of modern methods of instrumental analysis for analytical chemistry measurements. Topics will be selected from the areas of electrochemistry, absorption and emission spectroscopy, chromatography, mass spectrometry, surface analysis, and nuclear magnetic resonance. Two hours of lecture per week.

**4233 Laboratory in Instrumental Analysis (2)**

Prerequisites: Chem 4212 and Chem 3333. Experiments designed to illustrate the principles and practices of instrumental analysis, involving the use of modern instrumentation in analytical chemistry applications. One hour of discussion and four and one-half hours of laboratory per week.

**4302 Survey of Physical Chemistry with Applications to the Life Sciences (3)**

Prerequisites: Chem 2612 and Math 1800 or Math 1100, and Phys 1012. Principles of physical chemistry with applications to the life sciences. Topics will include thermodynamics, equilibria, kinetics, and spectroscopy. This course will be taught simultaneously with Chem 3302, but students in 4302 will have additional assignments or projects. No student may receive credit for both Chem 3302 and 4302.

**4343 Physical Chemistry Laboratory II (2)**

Prerequisites: Chem 3322 (may be taken concurrently) and Chem 3333. Experiments designed to illustrate principles introduced in Chem 3322. One hour of lecture and four and one-half hours of laboratory per week. Not for graduate credit.

**4412 Inorganic Chemistry I (3)**

Prerequisites: Chem 3322 (may be taken concurrently) Chem 3412 and Chem 2622. An introduction to the chemistry of the elements, including atomic and molecular structure, acids and bases, the chemistry of the solid state, and main group and transition metal chemistry. Three hours of lecture per week.

**4433 Inorganic Chemistry Laboratory (2)**

Prerequisites: Chem 3333, Chem 4412 and Chem 3643, (Chem 3643 may be taken concurrently). The more sophisticated techniques of physical and analytical chemistry will be used to study inorganic compounds and their reactions. One hour of lecture and four and one-half hours of laboratory per week. Not for graduate credit.

**4652 Spectroscopic Identification of Organic Compounds (3)**

Prerequisite: Chem 3643. An applied approach to the use of spectroscopic techniques in organic chemistry. Topics to include integrated applications of infrared and Raman spectroscopy, nuclear magnetic resonance  $^{13}\text{C}$  and  $^1\text{H}$ , cw and pulsed and mass spectroscopy for the purpose of elucidating the structure of organic compounds. Three hours of lecture per week.

**4712 Biochemistry (3)**

Same as Biol 4712 Prerequisites: Chem 2612 and either Biol 1811 or Chem 2622. Examines the chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Students may not receive credit for both Biol 4712 and Chem 4712.

**4722 Advanced Biochemistry (3)**

Prerequisite: Chem 4712. Selected advanced topics in the chemistry of life processes. Three hours of lecture per week.

**4733 Biochemistry Laboratory (2)**

Prerequisite: Chem 4712 (may be taken concurrently), and Chem 2223. Laboratory study of biochemical processes in cellular and subcellular systems with emphasis on the isolation and purification of proteins (enzymes) and the characterization of catalytic properties. One hour of lecture and three and one-half hours of laboratory per week.

**4764 Interdisciplinary Topics in Biochemistry (3)**

Prerequisites: Chem 4712; Chem 4722 strongly recommended. Includes advanced studies of enzyme mechanisms, the role of metal ions in enzymatic and non-enzymatic processes, and the application of computational chemistry to biological systems. Three hours of lecture per week.

**4772 Physical Biochemistry (3)**

Prerequisite: Chem 3312 or Chem/Bio 4712. Designed to acquaint students with concepts and methods in biophysical chemistry. Topics that will be discussed include protein and DNA structures, forces involved in

protein folding and conformational stability, protein-DNA interactions, methods for characterization and separation of macromolecules, electron transfer, and biological spectroscopy. Three hours of lecture per week.

**4802 Curriculum and Methods of Teaching Physical Sciences (3)**

Prerequisites: Tch Ed 3310 and a near major in the subject matter. A study of the scope and sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

**4814 Special Topics in Chemistry (1-10)**

Prerequisite: Consent of instructor. A reading and seminar course in selected advanced topics.

**4837 Chemistry / Physics Teaching Intern Seminar (1)**

Same as Physics 4833. Prerequisite: Chem 4802 or Physics 4800. A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, Sec Ed 3290. One-hour discussion per week.

**4897 Seminar (1)**

Prerequisites: Chem 3022 and senior standing. Presentation of papers by students, faculty, and invited speakers. Chemistry majors must enroll during the semester in which they intend to graduate. Completion of a comprehensive examination is a course requirement. One hour of lecture and one hour of discussion per week.

**5142 Molecular Spectroscopy (3)**

Prerequisite: Chem 3322. A broad treatment of the interaction of electromagnetic radiation with matter, emphasizing the unity of such interactions. Interpretation of molecular rotational, vibrational and electronic spectra in terms of geometric structure and dynamics. Description and interpretation of physical techniques used to obtain molecular spectra. Three hours of lecture per week.

**5162 Chemical Applications of Group Theory (3)**

Prerequisite: Chem 3322. A brief introduction to the fundamental relationships of group theory and molecular symmetry. Application of group theory to molecular orbital theory, molecular vibrations, and molecular spectra. Three hours of lecture per week.

**5302 Advanced Physical Chemistry (3)**

Prerequisite: Chem 3322. Covers advanced topics in physical chemistry. May include but is not limited to properties of solids and liquids, gas/solid and solid/liquid interfacial chemistry, optical and electron spectroscopy, and chemical dynamics. Three hours of lecture per week.

**5322 Application of Thermodynamics and Reaction Kinetics in Chemistry (3)**

Prerequisite: Chem 3322. Review of equilibrium thermodynamics. Focus is on statistical thermodynamics and reaction kinetics with an emphasis on solution phase chemistry. Three hours of lecture per week.

**5394 Special Topics in Physical Chemistry (1-3)**

Prerequisite: Consent of instructor. Selected topics in physical chemistry. May be taken more than once for credit.

**5412 Typical Element Chemistry (3)**

Prerequisite: Chem 4412 or an equivalent course. Chemistry of the main group elements and their compounds including such topics as electron deficient compounds, acids, bases and nonaqueous solvents, catenation and inorganic polymers, the solid state, organotypical element chemistry and energetics. Three hours of lecture per week.

**5432 Spectroscopic Methods in Inorganic Chemistry (3)**

Prerequisites: Chem 4412 or an equivalent course. Study of modern spectroscopic characterization methods of particular importance to inorganic systems, with emphasis on such techniques as multinuclear NMR spectroscopy, UV/visible and EPR spectroscopy, IR/Raman spectroscopy, and Mossbauer spectroscopy. Application of such methods to questions of structure, bonding and reactivity. Three hours of lecture per week

**5442 Coordination Chemistry (3)**

Prerequisite: Chem 4412 or an equivalent course. Chemistry of the coordination compounds of the transition metals including such topics as kinetics and mechanisms of reaction, stereochemistry, ligand field theory, stability and electronic spectra. Three hours of lecture per week.

**5452 Quantum Mechanical Foundations of Spectroscopy (3)**

Prerequisites: Chem 3322. A review of relevant principles and techniques of quantum mechanics. Focus is on the use of quantum theory and molecular symmetry (group theory) to understanding the structure and interpreting the spectra of atoms and molecules. Three hours of lecture per week.

**5452 Organometallic Chemistry of the Main Group Elements (3)**

Prerequisites: Chem 4412 or an equivalent course. A systematic study of main group element compounds containing carbon-metal or carbon-metalloid bonds. Emphasis will be on preparative methods, structures and reactions of various classes of compounds. Three hours of lecture per week.

**5462 Organometallic Chemistry of the Transition Elements (3)**

Prerequisites: Chem 4412 or an equivalent course. A study of the transition metal compounds containing metal-carbon bonds and related metal-element bonds, including their synthesis, structure and bonding, and reactions. Applications in organic synthesis and catalysis will also be presented. Three hours of lecture per week.

**5494 Special Topics in Inorganic Chemistry (1-3)**

Prerequisite: Consent of instructor. Selected topics in inorganic chemistry. May be taken more than once for credit.

**5602 Advanced Organic Chemistry I - Physical Organic (3)**

Prerequisites: Chem 2622 and 3322 Mechanism and theory of organic chemistry. Topics to include kinetics, transition state theory, reaction intermediates, and stereochemical analysis. Three hours of lecture per week.

**5612 Advanced Organic Chemistry II - Reactions and Synthesis (3)**

Prerequisite: Chem 2622. Examination of a variety of organic transformations typically utilized in organic synthesis. Topics will include carbon-carbon bond formation, pericyclic reactions, oxidation, reduction, and functional group interconversions. Mechanism and stereochemistry will be emphasized. Three hours of lecture per week

**5694 Special Topics in Organic Chemistry (3)**

Prerequisite: Consent of instructor. Advanced topics of special current interest. May be taken more than once for credit. Topics that may be offered include: methods of organic synthesis, organometallics in organic synthesis, topics in bio-organic chemistry, organic thermochemistry, natural products chemistry, stereochemistry, photochemistry, heterocyclic chemistry, medicinal chemistry.

**5794 Special Topics in Biochemistry (1-3)**

Prerequisite: Consent of instructor. Selected topics in biochemistry. May be taken more than once for credit.

**6196 Advanced Reading in Chemistry (1)**

Prerequisite: Admission to the Ph.D. degree program. Reading and examinations in the subdisciplines of chemistry. Enrollment must begin after completion of any course deficiencies.

**6487 Problem Seminar in Inorganic Chemistry (1)**

Prerequisite: Consent of the inorganic chemistry staff. Problems from the current literature, presentations, and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

**6687 Problem Seminar in Organic Chemistry (1)**

Prerequisite: Consent of the organic chemistry staff. Problems from the current literature, presentations, and discussions by faculty, students, and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

**6787 Problem Seminar in Biochemistry (1)**

Prerequisites: Consent of the biochemistry staff. Problems from the current literature, presentations and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

**6812 Introduction to Graduate Study in Chemistry (1)**

Prerequisite: Consent of Graduate Adviser. Topics to be covered include: techniques of teaching of Chemistry in colleges and universities, methods of instruction and evaluation; and responsibilities of the Graduate Teaching Assistant in laboratory instruction; safety in the undergraduate laboratory, safety practices, emergency procedures; selection of research project and thesis adviser.

**6822 Introduction to Graduate Research in Chemistry (1)**

Prerequisites: Consent of Graduate Adviser. Topics include: safety in the research laboratory, safety practices, emergency procedures, hazardous materials, waste disposal, radiation safety; research ethics; chemistry information retrieval, computer assisted information retrieval, types of databases, searching bibliographic data bases.

**6897 Chemistry Colloquium (1)**

Presentation of papers by students, faculty, and invited speakers. One hour per week.

**6905 Graduate Research in Chemistry (1-10)**

## Department of Criminology and Criminal Justice

### Faculty

**Janet L. Lauritsen**, Professor\*, Chairperson  
Ph.D., University of Illinois-Urbana  
**Robert Bursik**, Professor\*  
Ph.D., University of Chicago  
**G. David Curry**, Professor\*  
Ph.D., University of Chicago  
**Scott H. Decker**, Professor\*  
Ph.D., Florida State University  
**Finn Aage Esbensen**,  
E. Des Lee Professor of Youth Crime  
And Violence\*  
Ph.D., University of Colorado  
**Richard Rosenfeld**, Professor\*  
Ph.D., University of Oregon  
**Richard Wright**, Professor\*,  
Ph.D., Cambridge University  
**Eric Baumer**, Associate Professor\*  
Ph.D., State University of New York at Albany  
**David Klinger**, Associate Professor\*  
Ph.D., University of Washington  
**Jody Miller**, Associate Professor\*  
Ph.D., University of Southern California  
**Allen E. Wagner**, Associate Professor Emeritus  
Ph.D., Washington University  
**Rodney Brunson**, Assistant Professor\*  
Ph.D., University of Illinois-Chicago  
**Beth Marie Huebner**, Assistant Professor\*  
Ph.D., Michigan State University  
**Callie Rennison**, Assistant Professor\*  
Ph.D., University of Houston  
**Eric Stewart**, Assistant Professor\*  
Ph.D., Iowa State University  
**Timothy Maher**, Lecturer  
M.A., University of Missouri-St. Louis

\*members of Graduate Faculty

Criminology and criminal justice faculty represent several academic disciplines. By integrating practice with theory, faculty are able to present a comprehensive picture of crime and the justice system. This nexus of theory and application is found most directly in the department's emphasis on understanding policy in criminology and criminal justice. All components of crime and justice are represented in the curriculum including criminal behavior, delinquency, crime prevention, arrest, prosecution, defense, court processing, probation, prison, and parole. A special feature of the program is the cadre of local professionals who supplement the regular faculty.

### General Information

#### Degrees and Areas of Concentration

The department offers courses leading to the Bachelor of Science, the Master of Arts, and Ph.D. in criminology and criminal justice.

#### Cooperative Programs

Faculty of the criminology and criminal justice department hold appointments as fellows in the Center for International Studies and the Institute for Women's and Gender Studies. Workshops, projects, credit courses, and other social services are brought to the criminal justice community.

#### Internships

Majors are strongly encouraged to participate in CCJ 3280 Internship in Criminology and Criminal Justice, during their junior or senior year. The internship affords students the opportunity to gain experience in a criminal justice agency under the joint supervision of agency personnel and criminology and criminal justice faculty.

#### Minor in Criminology and Criminal Justice

The minor gives recognition to those students from other major areas who find that criminology and criminal justice courses fit their academic or professional needs and/or interests.

#### Chair's List

Each semester, faculty members nominate undergraduates who have done outstanding work in one or more of their courses to the department's *Chair's List*. In addition to being nominated by faculty member, the student must meet a cumulative grade-point average threshold for placement on the *Chair's List*. The list is featured on the department's website, the students receive a special letter of recognition from the Chair, and the Dean of Arts and Sciences is notified of their accomplishment.

#### Undergraduate Studies

##### General Education Requirements

Majors must satisfy the university and college general education requirements. Courses used to fulfill the social science or state requirement may not be taken from courses in the major. Foreign language proficiency is not required, although students are encouraged to take foreign language courses. Majors may not take the following courses on a satisfactory/unsatisfactory basis: criminology and criminal justice courses; Soc 3220, Quantitative Techniques in Sociology; or Soc 3230, Research Methods. Additionally, substitutions which have been approved by departmental advisers for these courses may not be taken on a satisfactory/unsatisfactory basis.

### Degree Requirements

Courses used to fulfill the social science or state requirements may not be taken from courses in the major. Students may register for 3000-5000 level courses only after completing Eng 3100 (Advanced Expository Writing).

Students may register for 3000-5000 level courses only after obtaining a signature from the adviser in criminology and criminal justice. All prerequisites must be satisfied prior to enrolling in a course.

CCJ majors may not take course numbers 1100, 2260, or 3345 offered through UM-Independent Studies to fulfill degree requirements in the major.

Bachelor of science in criminology and criminal justice candidates must complete the core curriculum listed below:

### Core Curriculum

The following courses in criminology and criminal justice are required:

- 1100, Introduction to Criminology and Criminal Justice
- 1110, Theories of Crime
- 1130, Criminal Justice Policy
- 1200, Criminal Law
- 2210, Research Methods in Criminology and Criminal Justice
- 2220, Statistical Analysis in Criminology and Criminal Justice
- 4390, Seminar in Criminology and Criminal Justice

One of the following courses in Criminology and Criminal Justice:

- 3305, Comparative Criminology and Criminal Justice
- 3325, Violence Against Women
- 4325, Gender, Crime, and Justice
- 4340, Race, Crime, and Justice

Two courses from the following four:

- 2230, Crime Prevention
- 2240, Policing
- 2260, Corrections
- 2270, Juvenile Justice and Delinquency

Two **additional** courses at the 3000, 4000, or 5000 level:

- 3043, History of Crime and Justice
- 3305, Comparative Criminology and Criminal Justice
- 3310, Computers in Criminal Justice
- 3320, The Death Penalty
- 3325, Violence Against Women
- 3330, White Collar Crime
- 3345, Rights of the Offender
- 4300, Communities and Crime
- 4320, Forms of Criminal Behavior
- 4325, Gender, Crime, and Justice
- 4335, Probation and Parole
- 4340, Race, Crime, and Justice

4350, Victimology

4380, Special Topics in Criminology and Criminal Justice

5515, Ethics in Criminology and Criminal Justice

### Elective Courses

1150, Violence in America

1990, The City

2180, Alcohol, Drugs and Society

2250, Youth Gangs

2265, Capital Punishment

3280, Internship in Criminology and Criminal Justice

3290, Special Readings

### Requirements for the Minor

The minor has been designed to ground students in the basics of criminology and criminal justice.

All minor candidates must take:

1100, Introduction to Criminology and Criminal Justice

The candidate must then select from two of the following three courses:

1110, Theories of Crime

1120, Criminal Law

1130, Criminal Justice Policy

Candidates must then complete 6 hours of criminology and criminal justice course work at the 2000 level or above.

Candidates must also have a cumulative grade point average of 2.0 or better in the minor. None of the courses may be taken on a satisfactory/unsatisfactory (s/u) basis.

### Graduate Studies

#### Master of Arts in Criminology and Criminal Justice

The department offers a Master of Arts degree in Criminology and Criminal Justice, which provides students with advanced theoretical and methodological training for research and management careers in criminal justice.

#### Admission Requirements

The minimum GPA for regular admission to graduate study is 3.0 on a 4-point scale and students are expected to begin their course of study in the Fall semester. Admission is competitive.

#### Degree Requirements

The M.A. in Criminology and Criminal Justice requires the completion of 33 credit hours, at least 21 of which are required to be in courses housed in the Department of Criminology and Criminal Justice. 12 of these hours represent the core of the curriculum. Students may choose between a thesis and nonthesis course of study. Students whose cumulative GPAs fall below 3.0 after 9 or more hours of work will be placed on probation and given one semester to raise their cumulative GPAs to at least the 3.0 threshold.



## Plan of Study

### Required Coursework (21 hours)

5415, Foundations of Criminological Theory (3; core)

6400, Proseminar: Criminology and Criminal Justice (3; core)

6405, Methods (3; core)

6410, Statistics (3; core)

Three additional Criminology and Criminal Justice seminars at the 6000 level (9; non-core)

### Electives (12 hours)

Twelve elective hours of coursework are required; some or all of these credits may be earned in Criminology and Criminal Justice 6000 level seminars not counted toward the 21 hour requirement. Students may take a maximum of two 4000-level courses in partial fulfillment of this requirement but they must have the prior approval of the Graduate Committee. All electives taken outside the College of Arts and Sciences also must receive prior approval of the Graduate Committee.

## Transfer Courses

Transfer courses are evaluated for acceptance on a case-by-case basis subject to the rules and regulations of the Graduate School. A maximum of 11 credit hours earned at other institutions can be credited toward the UMSL M.A. degree in Criminology and Criminal Justice.

## Ph.D. Program in Criminology and Criminal Justice

### Eligibility

Undergraduate applicants must have a baccalaureate degree or expect one by the end of the academic year in which they apply. Applicants must have a grade point average of 3.0 or greater (on a scale of A = 4.0) for the last 60 hours of undergraduate work.

Graduate applicants who have or will have a master's degree must have a grade point average of 3.0 or greater (on a scale of A = 4.0) for their graduate course work.

### Application

To consider an applicant for admission, the Department of Criminology and Criminal Justice must have transcripts, three letters of recommendations, GRE scores and a writing sample. Applicants with master's degrees should include a chapter of their thesis. International students whose native language is not English are required to submit scores from the TOEFL examination.

### Amount of Course Work

Sixty post-baccalaureate hours of graduate work are required for the Ph.D. More than half of these hours must be completed in residence. Twelve credit hours of dissertation research (CCJ 7499) are required. Students may enroll for dissertation credits (CCJ 7499) only when all other degree requirements have been completed.

## Required courses for the Ph.D. are:

5415, Foundations of Criminological Theory

5475, Evaluation Research Methods

6400, Proseminar

6405, Methods

6410, Statistics

6420, Contemporary Criminological Theory

6440, Nature of Crime

6450, Criminal Justice Organization

6465, Qualitative Research Design

6470, Quantitative Research Design

6471, Evaluating Criminal Justice Interventions

6480, Multivariate Statistics

## Students are also required to complete at least 9 hours from the following courses:

5533, Philosophy of Law

5555, Ethical and Legal Issues in Criminal Justice

6430, Law and Social Control

6431, The Nature of Punishment

6432, Criminal Law

6434, Human Rights

6435, Law, Courts, and Public Policy

6436, Comparative Legal Systems

6437, Private Justice

6441, Juvenile Delinquency

6442, Communities and Crime

6443, Violent Crime

6444, Organizational Crime

6445, Property Crime

6446, Sex Crime

6447, Public Order Crime

6448, Victimization

6451, Juvenile Justice Systems

6452, The Police

6453, Adjudication

6454, Corrections

Additional courses beyond the above requirements are taken as elective courses. These courses may be at the 5000 level. Students are also encouraged to take courses outside the Department of Criminology and Criminal Justice.

## Comprehensive Examination

Graduate students in the Ph.D. program do not become recognized as Ph.D. candidates until they have passed the comprehensive examination. The goals of the comprehensive examination are to assess the student's familiarity with substantive literature, theory and methods of criminology and criminal justice and to evaluate the student's intellectual imagination and ability to apply knowledge to broad criminological questions.

The qualifying examination will consist of two parts—the first focusing on crime and criminality and the second on criminal justice. Each will integrate theory and methods into the substantive literature. Part one of the exam (on crime and criminality) will consist of a six-hour examination without

access to notes or external references. Part two (on criminal justice) will be a 48-hour, non-collaborative, take-home examination.

Other information about the qualifying exam is available from the department.

### The Dissertation

The dissertation is required of all Ph.D. candidates and demonstrates the student's scholarly expertise. The dissertation process formally begins when all other requirements of the Ph.D. program have been met. The dissertation committee assists in selecting and developing the research problem and evaluates the student's work on that problem.

### Career Outlook

The orientation of the criminology and criminal justice faculty and of the degree program prepares the graduate to work professionally for local, state, and federal agencies concerned with maintaining public safety by the prevention of crime and apprehension and rehabilitation of offenders. The B.S. in criminology and criminal justice is also advantageous for careers with various social agencies, especially those connected with the juvenile court system, probation and parole, and local police. Many students use the B.S. in criminology and criminal justice as preparation for law school.

The interdisciplinary curricula unify a body of knowledge from criminology, social science, law, public administration, and corrections, and provide the student with an understanding of the assumptions, values, and processes of the system of justice. Many prelaw students choose criminology and criminal justice as an undergraduate major because of the excellent preparation offered for law school. An internship program is offered for college credit. The liaison, supervision, and experience with public agencies that form an integral part of this program help the student arrive at a career decision.

### Course Descriptions

Prerequisites may be waived by consent of the department or instructor.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:

1100, 1200, 1075, 1110, 1120, 1130, 2180, 2210, 2220, 2226, 2230, 2240, 2260, 2270, 3043, 3290, 3305, 3310, 4300, 4320, 4325, 3043, 4335, 4340, 3345, 4350, 4380, 4390, 5515.

The following courses fulfill the Humanities breadth of study requirements: 2252.

### 1075 Crime and Punishment (3)

Same as Soc 1075 and ID1075. An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

### 1100 Introduction to Criminology and Criminal Justice (3)

Introduction to the basic concepts and approaches in the study of criminology and criminal justice. The major components of the criminal justice system are examined. Course fulfills the state requirement.

### 1110 Theories of Crime (3)

Prerequisite: CCJ 1100. Introduction to major theoretical approaches to the study of crime and justice.

### 1120 Criminal Law (3)

Prerequisite: CCJ 1100. Analysis of substantive criminal law, evidence and judicial procedure.

### 1130 Criminal Justice Policy (3)

Prerequisite: CCJ 1100. Introduction to criminal justice policy making, planning, and implementation.

### 1150 Violence in America (3) [SS]

Prerequisites: CCJ 1100 or consent of instructor. Overview of patterns and correlates of violence in America. Emphasis on the variety of forms of violent crime, such as murder, assault, robbery, rape, and gang violence. Includes an examination of violence as a response to lawbreaking.

### 1200 Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS]

Same as ID 1200, and Pol Sci 1200. As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

### 2180 Alcohol, Drugs, and Society (3)

Same as Soc 2180. Prerequisite: Soc 1010 or Psych 1003. This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.

**2210 Research Methods in Criminology and Criminal Justice (3)**

Prerequisite: CCJ 1100. Examination of basic methods of research design, measurement and data collection in criminology and criminal justice.

**2220 Statistical Analysis in Criminology and Criminal Justice (3)**

Prerequisites: CCJ 2210 and the university math requirement. An introduction to techniques of quantitative data analysis. Both descriptive and inferential statistics are applied to problems in criminology and criminal justice.

**2226 Law and the Individual (3)**

Same as PolSci 2260. Prerequisite: PolSci 1100, or 1200, or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policy-making and dispute resolution. Course fulfills the state requirement.

**2230 Crime Prevention (3)**

Prerequisite: CCJ 1100. Examination of situational, social, and legislative approaches to the prevention of crime and delinquency. Emphasis on theories, implementation and consequences of these approaches

**2240 Policing (3)**

Prerequisite: CCJ 1100. Overview of current and historical perspectives on the function of American policing. Emphasis on the management of police organizations and relationships with the community.

**2251 Youth Gangs (3)**

Prerequisites: CCJ 1100 or consent of instructor. This course provides an overview of research and policy concerning youth gangs. Definitional and methodological issues will be examined, along with both qualitative and quantitative research. Topics include: the causes of gangs and gang involvement; crime, victimization, and drug involvement; and variations by race, gender, time period, and geography.

**2252 Philosophical Foundations of Criminal Justice (3)**

Same as Phil 2252. Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from pre-trial detention? How, if at all, can it be justified? Is the death penalty ever justified? When is it morally permissible for juries to acquit defendants who are legally guilty? Is plea bargaining unjust? Why might people be morally obligated to obey.

**2260 Corrections (3)**

Prerequisite: CCJ 1100. Examination of correctional philosophies and practices. Emphasis on the history of correction, the formal and informal organization of correction facilities, inmate rights, and correctional alternatives.

**2265 Capital Punishment (3)**

Prerequisites: CCJ 1100 or consent of instructor. Consideration of various aspects of the death penalty, including an examination of its history, ethics, application, and international setting.

**2270 Juvenile Justice and Delinquency (3)**

Prerequisite: CCJ 1100. Examination of formal and informal responses to juvenile delinquency. Emphasis on theories of delinquency and the decision-making processes of police, court and probation officials.

**3043 History of Crime and Justice (3)**

Same as Hist 3043. Prerequisites: Junior Standing, CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100, or consent of instructor. The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison, and the juvenile court.

**3280 Internship in Criminology and Criminal Justice (3)**

Prerequisite: Junior standing. Internship under faculty supervision in a criminal justice setting. May be repeated once.

**3290 Special Readings (1-6)**

Prerequisite: Consent of instructor. Individualized study, under regular faculty supervision, designed to meet particular educational needs of selected students.

**3305 Comparative Criminology and Criminal Justice (3)**

Prerequisites: CCJ 1120, 1130, 2220 and Eng 3100, or consent of instructor. Analysis of crime and criminal justice systems in selected cultures. Emphasis on the ways in which these cultures define and respond to criminal behavior. Fulfills CCJ diversity requirement.

**3310 Computers in Criminal Justice (3)**

Prerequisites: CCJ 1120, 1130, 2220 and Eng 3100 or consent of instructor. Use of computers, data base systems, and software applications in research and professional practice.

**3320 The Death Penalty (3)**

Prerequisites: CCJ 1100. An examination of the history, application, and attitudes toward the death penalty.

**3325 Violence Against Women (3)**

Prerequisites: Junior Standing, CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100, or consent of instructor. This course examines the nature, extent, causes and consequences of various types of violence against women, including rape,

sexual assault, stalking, and intimate partner violence. Criminal justice policy and practice regarding violence against women are also examined. Fulfills CCJ diversity requirement.

### 3330 White Collar Crime (3)

Prerequisites: Junior Standing, CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100, or consent of instructor. This course examines the physical and financial harm caused by crimes committed by corporations and business employees. Theoretical and empirical perspectives will be examined. Topics include: definitional issues and ethics; public perceptions; social, political and economic impact; and legal decision-making.

### 3345 Rights of the Offender (3)

Prerequisites: CCJ 1120, 1130, 2220 and Eng 3100, or consent of instructor. Analysis of the objectives of criminal law regarding the rights of persons suspected or convicted of crime. Emphasis on rights regarding the police, the court, and in correctional settings.

### 4300 Communities and Crime (3)

Same as Soc 4300. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, or consent of instructor. Analysis of the sources, consequences, and control of crime within communities. Emphasis on social and ecological theories of crime, and on population instability, family structure, and the concentration of poverty as causes of crime.

### 4320 Forms of Criminal Behavior (3)

Same as Soc 4320. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, or consent of instructor. Examination of major types of criminal behavior including violent, property, public order, and organizational offenses. Emphasis on theories of and responses to these crimes.

### 4325 Gender, Crime, and Justice (3)

Same as Soc 4325. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, or consent of instructor. Analysis of the role of gender in crime and in the justice system. Emphasis on gender differences in crime commission, criminal processing, and the employment of women in criminal justice agencies. Fulfills CCJ diversity requirement.

### 4335 Probation and Parole (3)

Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, 2260, and Eng 3100 or consent of instructor. Analysis of alternatives to incarceration and postincarceration supervision. Emphasis on diversion, restitution, and community reintegration.

### 4340 Race, Crime, and Justice (3)

Same as Soc 4340. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, 2260 or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies. Fulfills CCJ diversity requirement.

### 4350 Victimology (3)

Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100 or consent of instructor. Analysis of major perspectives on victimization. Emphasis on patterns of victimization, the role of victims in the generation of crime, and the experience of the victim in the criminal justice system.

### 4380 Special Topics in Criminology and Criminal Justice (3)

Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, and Eng 3100 or consent of instructor. In-depth study of a selected topic in criminology and criminal justice.

### 4390 Seminar in Criminology and Criminal Justice (3)

Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, Eng 3100, and senior standing, or consent of instructor. In this capstone course, students demonstrate the ability to work independently, integrating theory and research in criminology and criminal justice in a major research paper supervised by the instructor.

### 4487 Philosophy of Law (3)

Prerequisite: CCJ 1100, and 3 hours of philosophy or consent of instructor. Same as Phil 4920. An examination of typical problems raised by law, including the basis of legal obligations and rights, relations between law and morality, the logic of legal reasoning, and the justification for punishment. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

### 4650 Forensic Issues in Mental Health (3)

(Same as SW 4650)

This is an intensive issues course, investigating the intersection between the legal system and mental health. Students will explore issues involved in civil and criminal trial proceedings such as insanity defenses, diminished capacity, and competency to stand trial, civil commitment, battered women and rape trauma syndrome, sexual abuse of children, child custody, and domestic violence. In addition, the course will examine the roles of mental health practitioners as forensic evaluators, trial consultants and expert witnesses in a variety of mental health related cases.

### 5415 Foundations of Criminological Theory (3)

Same as Soc 5415. Prerequisite: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

### 5475 Evaluation Research Methods (3)

Same as Psych 5475, Soc 5475, and PPA 6750. Prerequisites: At least one course in Research Design and Statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to

observational, survey, and quasi-experimental methodologies.

**5515 Ethics in Criminology and Criminal Justice (3)**  
Same as Phil 5515. Prerequisites: CCJ 1110, 1120, 1130, 2210, 2220, Phil 2253, 2254, 2256, 4430, 4435, 4438, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

**5531 The Nature of Punishment (3)**  
Same as Phil 5531. Prerequisite: Graduate standing. Or consent of instructor. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

**5533 Philosophy of Law (3)**  
Same as Phil 5533. Prerequisite: Graduate standing or consent of instructor. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

**5555 Ethical and Legal Issues in Criminal Justice (3)**  
Same as Phil 5555. Prerequisite: Graduate standing or consent of instructor. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology, and research and professional ethics.

**6400 Proseminar (3)**  
Prerequisite: Graduate standing. Must be taken in the first semester. A critical examination of theoretical, methodological and policy issues in criminology and criminal justice. Focus is on the nature of crime, policing, pretrial processes, adjudication, and corrections.

**6405 Methods (3)**  
Prerequisites: Graduate standing. Examination of basic methods for research design and data collection. Topics include participant observation and interviewing, survey research, aggregate data analysis, and experimental design.

**6410 Statistical Applications in Criminology and Criminal Justice (3)**  
Prerequisites: CCJ 6405. Examination of elementary principles of quantitative analysis and their application to crime and justice problems. Topics include univariate, bivariate and multivariate procedures for discrete and continuous data, and a comprehensive introduction to ordinary least squares regression.

**6420 Contemporary Criminological Theory (3)**  
Prerequisite: CCJ 5415. Examination of contemporary explanations of crime and criminal justice. Theories covered include strain, control, cultural, labeling, conflict, as well as

more recent attempts at theoretical integration and multidisciplinary integration.

**6422 Law, Courts, and Public Policy (3)**  
Same as Pol Sci 6422. Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

**6430 Law and Social Control (3)**  
Same as Soc 5461. Prerequisites: Graduate standing and consent of instructor. Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

**6434 Human Rights (3)**  
Prerequisite: Graduate standing or consent of instructor. Examination of human rights from historical and cross cultural perspectives. Topics include capital and corporal punishment, political prisoners, rights of the accused, and rights of those imprisoned.

**6435 Gender, Crime and Criminal Justice (3)**  
Prerequisite: Graduate Standing. This course provides an analysis of theories of crime, crime processing and gender. Topics examined include the role of gender in criminal offending and victimization. The impact of gender on criminal/juvenile justice system processing and treatment will be addressed.

**6436 Comparative Legal Systems (3)**  
Prerequisite: Graduate standing or consent of instructor. Examination of crime and criminal justice systems in world perspective.

**6437 Private Justice (3)**  
Prerequisite: Graduate standing or consent of instructor. Examination of the private sector's impact on formal criminal and juvenile justice systems, as well as the development of private security and informal justice systems. Financial incentives, moral and legal issues are explored.

**6440 Nature of Crime (3)**  
Prerequisite: Graduate standing or consent of instructor. Examination of patterns and correlates of crime at the individual, situational, and aggregate levels. Topics include definitions of crime, offending typologies, and criminal careers.

**6441 Juvenile Delinquency (3)**  
Prerequisite: Graduate standing or consent of instructor. Examination of youth crime and juvenile offenders. Topics

include definitions of juvenile crime, and theories of juvenile crime causation in the United States

#### **6442 Communities and Crime (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of the trends and sources of crime and social disorder across communities. The course emphasizes relationships among crime, fear of crime, neighborhood change, neighborhood responses to crime, and public policies.

#### **6443 Violent Crime (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of the sources and patterns of violent offending across time and space. Topics include conceptions and typologies of violent crimes and offenders, victim-offender relationships, and efforts to predict and control violent offending.

#### **6444 Organizational Crime (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of crime by and within groups. Focuses on the types of criminal behavior known as organized crime, white collar crime, and political corruption.

#### **6445 Property Crime (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of the sources and patterns of property offending across time and space. Topics include conceptions and typologies of property crimes and offenders, victim-offender relationships, and efforts to predict and control property offending.

#### **6446 Sex Crime (3)**

Prerequisite: Graduate standing and consent of instructor. Examination of consensual and non-consensual sexual offending. Topics include historical development of laws regulating sexual conduct, controversies surrounding the application of these laws, and the nature and distribution of sexual offenses.

#### **6447 Public Order Crime (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of the nature of, prevalence of, and efforts to control public order crimes such as gambling, illicit drug use, prostitution, vagrancy, and disorderly conduct. The function of public order crimes as a means to control disruptive or threatening persons and groups is emphasized.

#### **6448 Victimization (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of the risks and consequences of crime for its victims. Issues considered include victim-offender relationships, characteristics of victims, the nature of the injuries they experience and criminal justice procedures that involve them.

#### **6450 Criminal Justice Process and Policy (3)**

Prerequisite: Graduate standing. An analysis of criminal justice as a network of decisions and complex organizations. Topics include sources of criminal justice policy, policy agendas, implementation and evaluation.

#### **6451 Juvenile Justice Systems (3)**

Prerequisite: Graduate standing. An examination of the historical evolution of juvenile justice and the processes by which specific behaviors are identified as delinquent. Informal responses to delinquency also are explored.

#### **6452 The Police (3)**

Prerequisite: Graduate standing or consent of instructor. Historical, social and political analysis of policing in America. Examination of federal, state, county, and municipal agencies.

#### **6453 Adjudication (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of the objectives, institutions and processes involved in the adjudication of offenders. Topics address the structure and function of the judicial system and principal court actors.

#### **6454 Corrections (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of the history, forms, and functions of correctional philosophies, institutions, programs, and policies. Topics include the structure and functions of prisons and jails, community corrections, intermediate sanctions, and the growth of correctional control in modern society.

#### **6465 Qualitative Research Design (3)**

Prerequisite: Graduate standing. Examination of participant observation and informant and respondent interviewing. Topics include gaining access, sampling, data collection and analysis, and legal and ethical concerns.

#### **6470 Quantitative Research Design (3)**

Prerequisite: Graduate standing or consent of instructor. Examination of experimental, longitudinal, and cross-sectional designs. Sources of data, sampling procedures, operational definitions, and issues of reliability are also discussed.

#### **6471 Evaluating Criminal Justice Interventions (3)**

Prerequisites: CCJ 6405 and CCJ 6410. This course examines a broad range of interventions designed to prevent crime or improve some aspect of the criminal justice system. The validity, reliability, and feasibility of differing intervention designs are addressed. Several major criminal justice evaluations are discussed.

#### **6480 Multivariate Statistics in Criminology (3)**

Prerequisite: CCJ 6405 and CCJ 6470. Introduction to the general linear model with applications to multivariate problems in criminal justice and criminology. Topics include advanced ordinary least squares, modeling, time

series analysis, simultaneous equations, and analysis of limited dependent variables.

**6485 Directed Readings/Research in Criminology and Criminal Justice (1-6)**

Prerequisite: Consent of Instructor. Directed reading and research, under faculty supervision, designed to meet particular educational needs of selected students.

**6495 Internship in Criminology and Criminal Justice (3)**

Prerequisite: Graduate standing or consent of instructor. Supervised placements with criminal justice agencies. Designed primarily for students with limited field experience.

**6498 M.A. Thesis Research (1-6)**

Prerequisites: Graduate standing and consent of instructor.

**6500 Professional Proseminar: Criminology & Criminal Justice (3)**

Prerequisite: Graduate Standing. (Must be taken in the first semester.) A critical examination of theoretical, methodological, and policy issues confronting criminal justice professionals. Focus is on nature of crime, policing, corrections and community supervision.

**6505 Research Methods for Criminal Justice Professionals (3)**

Prerequisites: Graduate Standing. Examination of basic and applied methods for research design and data collection. Topics include participant observation and interviewing, surveys, aggregate data analysis, and program evaluation.

**6510 Applied Statistics in Criminology & Criminal Justice (3)**

Prerequisites: CCJ 4505. Examination of elementary principles of quantitative analysis and their application to criminal justice settings. Topics include univariate, bivariate, and multivariate procedures for discrete and continuous data routinely used by criminal justice professionals.

**7499 Ph.D. Dissertation Research (1-6)**

Prerequisite: Graduate standing or consent of instructor. To be arranged.

**Department of Economics****Faculty**

**David C. Rose**, Professor\*, and Chairperson  
Ph.D., University of Virginia

**Sharon G. Levin**, Research Professor\*  
Ph.D., University of Michigan

**Thomas R. Ireland**, Professor Emeritus  
Ph.D., University of Virginia

**Joseph P. McKenna**, Professor Emeritus  
Ph.D., Harvard University

**William E. Mitchell**, Professor Emeritus  
Ph.D., Duke University

**Donald Phares**, Professor Emeritus  
Ph.D., Syracuse University

**Susan K. Feigenbaum**, Professor\*  
Ph.D., University of Wisconsin

**Robert L. Sorensen**, Professor\*  
and Director of Undergraduate Studies  
Ph.D., Virginia Polytechnic Institute

**Lawrence H. White**, Professor\*; Friedrich A. Hayek  
Professor in Economic History  
Ph.D., University of California, Los Angeles

**Anne Winkler**, Professor\*  
Economics and Public Policy Administration  
Ph.D., University of Illinois at Urbana-Champaign

**Sel Dibooglu**, Associate Professor\*  
Ph.D., Iowa State University

**Clinton A. Greene**, Associate Professor\*  
Ph.D., University of California-Davis

**Donald J. Kridel**, Associate Professor\*, and  
Director of Graduate Studies  
Ph.D., University of Arizona

**Herbert D. Werner**, Associate Professor Emeritus  
Ph.D., University of California-Berkeley

**Lea-Rachel Kosnik**, Assistant Professor  
Ph.D., University of California, Los Angeles

**William H. Rogers**, Assistant Professor  
Ph.D., Colorado State University

**Michael T. Allison**, Senior Lecturer  
A.B.D., University of Virginia

**Kathleen Phares**, Senior Lecturer Emeritus  
M.A., University of Missouri-St. Louis

**Brian Speicher**, Senior Lecturer  
A.B.D., Washington University

**Mary Suiter**, Lecturer, and  
Director for the Center for Entrepreneurship  
And Economic Education  
M.A., University of Delaware

\*members of Graduate Faculty

**General Information****Degrees and Areas of Concentration**

Several degree programs are offered by the economics department. The B.A. in economics provides a flexible liberal arts orientation for students. The B.S. in economics places more emphasis upon developing the analytical and quantitative skills used in analysis. Both degrees can be tailored to meet the career interests of the student.

The economics faculty considers research an integral part of good teaching. Research projects in recent years have dealt with energy, public choice, industrial organization, nonlinear modeling, property rights, wage discrimination, urban economic development, health economics and aging, economics of science, economics of gender, poverty and welfare, and government regulations.

The economics department also offers courses at the undergraduate level in geography.

A graduate program offers work leading to the M.A. degree in economics in preparation for careers in teaching, research, government, and industry. The program includes course work in macroeconomic theory, urban, international, industrial, and quantitative economics; and research methodology. The program can accommodate prospective full-time students as well as those who wish to study part-time solely in the evening. Classes are small, and student-faculty interaction is encouraged.

The economics department cooperates with the College of Business Administration and the Master's in Public Policy Administration program.

**Departmental Honors**

A student may earn departmental honors with a GPA of 3.6 in economics and the recommendation of the department.

**Minor in Economics**

A minor in economics is also available. See the following section for requirements.

**Undergraduate Studies****General Education Requirements**

All undergraduate economics majors must meet the university and college general education requirements. Candidates for the B.A. degree may take any foreign language to meet this requirement. Candidates for the B.S. degree take mathematics and quantitative courses instead of the foreign language requirement. Courses in economics may be used to meet the university social sciences requirement.

Education majors specializing in economics must fulfill the requirements for the bachelor of arts degree. These majors are responsible for obtaining an adviser in the Department of Economics.



All prerequisites for economics courses must be completed with a C- or better.

### **Satisfactory/unsatisfactory Option**

Courses outside the major field and Econ 1001, Principles of Microeconomics, and Econ 1002, Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory basis.

### **Degree Requirements**

#### **Bachelor of Arts in Economics**

Candidates for the B.A. degree must take at least 33, but no more than 45, hours in economics. At least 27 hours must be above the 2000 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:

- 1001, Principles of Microeconomics
- 1002, Principles of Macroeconomics
- 3001, Intermediate Economic Theory: Microeconomics
- 3002, Intermediate Economic Theory: Macroeconomics
- 3100, Economic Statistics
- 3200, Money, Banking, and Monetary Theory
- 3800, History of Economic Thought

#### **Bachelor of Science in Economics**

Candidates for the B.S. degree must complete at least 36, but no more than 45, hours in economics. At least 30 hours must be at or above the 2000 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:

- 1001, Principles of Microeconomics
- 1002, Principles of Macroeconomics
- 3001, Intermediate Economic Theory: Microeconomics
- 3002, Intermediate Economic Theory: Macroeconomics
- 3100, Economic Statistics
- 3200, Money, Banking, and Monetary Theory
- 4100, Introduction to Econometrics
- Math 1800, Analytic Geometry and Calculus I, or
- Math 1100, Basic Calculus

#### **Also required are two of the following:**

- 4030, Managerial Economics
- 4040, Analysis of Business Cycles
- 4110, Applied Econometrics
- 4120, Time Series Econometrics for Economics and Finance
- 4130, Econometric and Time Series Forecasting
- 4150, Mathematical Economics
- 4160, Geospatial Economic Analysis
- or any mathematics course numbered 1900 or above (with consent of adviser)

#### **Complementary Areas of Study**

The department encourages all majors to develop breadth in related disciplines. Course work and minors are available in a number of areas such as business administration, computer science, statistics, and political science. Students should check with their advisers for recommendations concerning courses in these areas. The department suggests the

following supplemental course work for students interested in pursuing doctoral-level graduate work in economics or careers in general business. It also encourages all students to obtain work experience by enrolling in the Internship in Applied Economics (Econ 4990).

#### **Graduate School Preparation:**

It is recommended that students considering doctoral-level graduate work in economics also take:

- Math 1900, Analytical Geometry and Calculus II
- Math 2000, Analytical Geometry and Calculus III
- Math 2450, Linear Algebra
- Math 4200, Mathematical Statistics

#### **General Business Preparation:**

It is recommended that students interested in pursuing careers in business also take:

- BA 2400, Fundamentals of Financial Accounting
- BA 2410, Managerial Accounting
- BA 2900, Legal Environment of Business
- BA 3500, Financial Management
- BA 3700, Basic Marketing

**Requirements for the Minor.** Candidates for a minor in economics must take a minimum of 18 hours in economics. At least 12 hours must be at or above the 2000 level. Econ 3100, Economic Statistics, cannot be counted towards the economics minor if the student has also taken Math 1310, Math 1320, Math 1105, or the equivalent.

#### **The following courses are required:**

- 1001, Principles of Microeconomics
- 1002, Principles of Macroeconomics
- 3001, Intermediate Economic Theory: Microeconomics

It is also recommended that students take Econ 3002, Intermediate Economic Theory: Macroeconomics

A GPA of 2.0 or better is required for courses presented for the minor. The satisfactory/unsatisfactory (s/u) option may be applied to Econ 1001 and 1002 only.

#### **Graduate Studies**

##### **Two-Three B.S./M.A. Dual Degree Program in Economics**

The 2+3 B.S./M.A. in Economics is designed to allow selected students – transfer and native – to complete the requirements for both degrees in five years of full-time study (where full time is defined as 15 credit hours each semester or 30 credit hours per calendar year). The accelerated nature of this program requires the student to take up to 12 hours of approved 4000, and above level dual-listed courses in the senior year, which will also be applied towards the Master's degree requirements. The total number of credit hours required to complete the B.S. + M.A. dual program will equal 138 graded semester credit hours.

**Admission Requirements:** Applicants will have completed at least sixty (60) graded semester credit hours of course work which will include all the general education requirements as well as college algebra or a higher level mathematics course, introductory microeconomics and macroeconomics. A minimum G.P.A. of 3.0 is also required. Applicants must be nominated by a full time regular economics faculty member. Applications will be considered during and after the semester in which the student completes 60 undergraduate credit hours.

**Provisional Status:** Students who are accepted into the program will be admitted provisionally. During the third-year of full-time study (the first year of on-campus study for transfer students arriving with an associates degree from a 2-year college), the student will concentrate on course work required for the B.S. degree in economics. This will normally include completion of Econ 3200, 3001, 3002, 3100; at least 6 hours of economics electives; course work in mathematics; and electives in related areas. Provisional status will be lifted when 30 hours of approved semester credit hours are completed with a GPA of 3.0 or higher.

**Dual Enrollment:** During the fourth and fifth years of study, students will be allowed to dual enroll in both undergraduate and graduate courses with the consent of their advisor. To complete the remaining requirements for the B.S. degree, the student will normally enroll in: Econ 4100; three additional electives in economics of which two must be selected from Econ 4150, 4040, 4030, 4110, 4120, or 4130; up to three 5000 or 6000 level courses in economics; and additional hours of undergraduate course work to complete a total of 120 credit hours. (Not more than 50 hours of economics course work may be counted towards the major.) Of the hours approved taken at the 4000-6000 or above level in economics, up to 12 hours will be counted towards the 30-hour minimum (after all prerequisites have been met) required for the Masters degree. Note: Neither Econ 4100 or 4150 will be counted toward the 30 hour minimum. After the student has completed the first 120 hours required for the undergraduate degree, the final year of study will normally require completion of 18 hours of additional courses at the 5000 level and above. These must include Econ 5140, 5001, 5002, and 5100. The Director of Graduate Studies must approve all courses for the dual degree. A maximum of 6 hours (of the 30 required for the M.A.) may be taken at the 4000 level.

**Awarding of Degree:** The B.S./M.A. degrees will be awarded when all requirements for the M.A. degree have been completed. Students who officially withdraw from the "2 + 3" Dual Degree Program in Economics and who have successfully completed all of the requirements for the B.S. degree will be awarded the B.S. degree.

#### **Master of Arts in Economics**

The Department of Economics offers a Master of Arts in Economics with two options: general economics and business economics.

#### **Admission Requirements**

An undergraduate major in economics is not required for acceptance into the program. Application for admission may be submitted at any time, although class work formally begins in late August, mid-January, and mid-June. Candidates must meet the general admission requirements of the Graduate School, submit GRE scores (Advanced Economics optional), and submit two letters of recommendation from persons qualified to judge the candidate's potential for success in the program.

The admissions decision is based on the applicant's academic transcript, GRE scores, letters of recommendation, and a personal narrative on the application form.

**Departmental Honors** A student may earn departmental honors with a GPA of 3.75 in all required courses for the M.A. degree and the recommendation of the department.

#### **Degree Requirements**

Candidates for the M.A. in economics must complete a core curriculum that provides training in the fundamental areas of economic theory, quantitative methods, and communication skills. Students then select either the general economics or business economics option.

#### **Required Core Courses**

The following courses or their equivalents are required for the M.A. in Economics. Students with previous education in economics or business may waive some of these courses.

**Econ 4150**, Mathematical Economics

**BA 5001**, Managerial Economic Analysis

**BA 5002**, Analysis of National Economic Environment

**MS/IS 5300**, Statistical Analysis for Management Decisions

**Econ 5140**, Seminar in Economic Research

**Econ 5001**, Microeconomic Analysis

**Econ 5002**, Macroeconomic Analysis

**Econ 5100**, Econometric Theory and Methods

#### **Electives**

Candidates must complete at least 18 hours of electives. A maximum of 6 hours may be taken at the 4000 level with the approval of the graduate coordinator, students may take up to 9 hours of course work outside the Department of Economics.

#### **Dual M.B.A./M.A. in Economics**

For as few as 15 hours of additional course work in economics, a Master of Arts in Economics may be obtained along with your Master of Business Administration (M.B.A.) degree. Once accepted into the M.B.A. Program, you need only complete an on-page application form to gain admittance to the Economics program as well. Fulltime students can easily complete the M.A. degree in a year's time, while part-time students can be accommodated over a longer time period. All courses are available during the evening. The following course of study is recommended for

dual degree-seekers. It is assumed that students have already completed at least one course in calculus.

I) Core requirements – 12 hours

Econ 5140, Seminar in Economic Research (or BA 5100 Managerial Communications)

Econ 5001, Microeconomic Analysis

Econ 5002, Macroeconomic Analysis

Econ 5100, Econometric Theory and Methods

II) Electives – 18 hours

Twelve hours of graduate-level business electives (excluding BA 5000, BA 5001, and BA 5002, IS 6800 and LOM 5300) to be incorporated from your M.B.A. degree program. Six additional graduate hours in economics, three hours of which may be at the 4000 level.

Applicants need not have an undergraduate degree in economics. However, students are expected to have taken, either at the baccalaureate or M.B.A. level: Intermediate Microeconomics (Econ 3001 or BA 5001), Intermediate Macroeconomics (Econ 3002 or BA 5002), Mathematical Economics (Econ 4150), Money and Banking (Econ 3200), Statistical Analysis for Management Decisions (LOM 5300) and Introductory Econometrics (Econ 4100). Students that do not have these courses will take these courses first; credits earned in these courses do not count towards the hours required for the M.A.

Students must take at least 30 hours to complete the M.A. in Economics degree-core requirements (I) and electives (II) – and these courses must be completed within a period of six years.

### **Certificate in Forensic Economics**

The Certificate in Forensic Economics is a program of study designed for individuals who wish to supplement previous graduate studies with training in the theory and application of forensic economics. The program is aimed at individuals who wish to prepare economic reports and offer expert economic testimony for selected areas of litigation. The entrance requirement is a master's degree in such areas as actuarial science, business administration, finance, economics, or public policy. An applicant must have had prior course work, or its equivalent, in: Intermediate Microeconomics, Intermediate Macroeconomics, and Statistics. Course work in labor economics and law and economics is recommended but not required. Individuals admitted to this certificate program will be nonmatriculating graduate students.

### **Requirements**

The certificate requires a minimum of 18 hours of course work in forensic economics. Students must complete:

**Econ 5650**, Law and Forensic Economics

**Econ 5660**, Labor Economics for Forensic Economics

**Econ 5670**, Assessment of Damages in Personal Injury and Wrongful Death

**Econ 5680**, Statistical Research in Forensic Economic Analysis

**Econ 5690**, Writing Reports and Papers on Forensic Economics

**Econ 5695**, Internship in Forensic Economics

### **Graduate Certificate in Management Economics**

A Graduate Certificate in Managerial Economics is a program of study designed for individuals who wish to supplement previous graduate studies with advanced training in applied economic analysis. The entrance requirement is a master's degree in such areas as business administration, finance, or public policy administration. Individuals admitted to this certificate program will be nonmatriculating graduate students.

### **Requirements**

The certificate requires a minimum of 18 hours of course work in economics. Students must complete:

**Business 5001**, Microeconomic Analysis

**Economics 4100**, Introduction to Econometrics

**Economics 4030**, Managerial Economics

and any two of the following:

**Economics 4040**, Analysis of Business Cycles

**Economics 5020**, Economics of Contracts and Organization

**Economics 5110**, Applied Econometrics

**Economics 5130**, Business and Economics Forecasting

**Economics 6600**, Structure and Performance of United States Industry

In addition, the student is required to take an elective (any economics course numbered 5000 or higher). Students with previous experience in economics may be able to substitute for courses previously completed, however, 18 credit hours are required for the Certificate.

### **Career Outlook**

Economics is a language that provides the individual with a concise and logical way to study a wide range of problems and issues. It provides the flexibility for adapting to our ever-changing society, and it is also useful in everyday life. Thus, the economics major is excellent preparation for launching many careers. Economics graduates with a B.A. or B.S. degree pursue careers in banking, industry, and government. They use their training in economics as a foundation for a variety of jobs in management, personnel, sales, and marketing. Others continue their study of economics in graduate schools, earning M.A. and Ph.D. degrees. An undergraduate major in economics also provides a strong background for work on an M.B.A. or law degree. Economics is also important for careers in politics, journalism, and public and private service in foreign countries. Career planning materials are available in the Economics Resource Center, 452 SSB. For additional information, call the Director of Graduate Studies at (314) 516-5553.

**Course Descriptions**

Courses in this section are grouped as follows: Economics, Geography, and Home Economics.

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:

1000, 1001, 1002, 1003, 2010, 2410, 2610, 2800, 3001, 3002, 3052, 3100, 3200, 3300, 3301, 3310, 3320, 3400, 3500, 3501, 3510, 3600, 3620, 3630, 3650, 3700, 3710, 3750, 3800, 3900, 4030, 4040, 4100, 4110, 4130, 4140, 4150, 4160, 4210, 4550, 4610, 4980, 4990, 5110  
GEOGRAPHY: 1001, 1002, 2900, 3900

**Economics****1000 Introduction to the American Economy (3) [V, SS]**

Introduction to economic analysis and problems through an examination of the development and operations of the American economy; study of its evolution, institutions, and principal problems. Econ 1000 does not substitute for Econ 1001 or 1002. Students who have already completed Econ 1001 or 1002 may not take Econ 1000 for credit.

**1001 Principles of Microeconomics (3) [V, SS]**

Prerequisite: Mathematics 1030. Introduction to the determinants of household demand, production and cost, and market prices. Applies the principles of individual decision-making behavior to understanding goods, services, and resource markets.

**1002 Principles of Macroeconomics (3) [SS]**

Prerequisite: Econ 1001. Introduction to the determination of levels of and changes in aggregate income, output, employment, and prices. Applies economic principles of choice to the formulation and achievement of public policies that affect national employment, income distribution, and economic growth.

**1003 Microeconomics in the News: A Virtual Classroom (1)**

Prerequisites: Econ 1000 or Econ 1001 or equivalent (may be taken concurrently). This course uses a virtual chatroom to host one hour of discussion weekly about current news events with microeconomic content. News articles will focus on business, public policy, and individual choices that can be understood within a microeconomics framework. Chatroom can be accessed from any location—on or off-campus—within Internet access.

**1004 Macroeconomics in the News: A Virtual Classroom (1)**

Prerequisites: Econ 1002 or equivalent (may be taken currently). This course uses a virtual chatroom to host one hour of discussion, weekly, about current news events with macroeconomic content. News articles will focus on macroeconomic phenomena – e.g., interest rates, the global economy, the Federal Reserve and public policy decisions – that can be understood within a macroeconomics framework. Chatroom can be accessed from any location – on or off – campus – with Internet access.

**1500 Entertainment Economics: The Movie Industry (3) [SS]**

This survey course examines the interrelationships between economics and the movie industry. It explores the impact of economic factors on the production, distribution and exhibition of movies, focusing on the rise and fall of the studio system, role of technological change in the evolution of cinematography and the movie marketplace, financing and market segmentation, globalization and changing industrial structure within which films are produced. To the extent that movies reflect and contribute to popular economic perspectives, this course also evaluates the soundness of the movie industry's depiction of a variety of economic doctrines. Classes will consist of lecture, discussion, and brief film screenings. This course does not count towards the hours required for an Economic major.

**1510 Entertainment Economics: The popular Music Industry (3) [SS]**

This survey course examines the interrelationship between economics and the music industry. It explores the impact of economics factors on the production, distribution of music, payola, and the rise and fall of the independent labels, the role of technological change in the evolution of music industry, globalization and changing industrial structure within which CDs are produced. To the extent that music reflects and contributes to popular economics perspectives, this course also evaluates the soundness of the music industry's depiction of a variety of economic doctrines. Classes will consist of lecture, discussion, and brief listening sessions. This course does not count towards the hours required for an Economics major.

**2010 The Business Firm: History, Theory, and Policy (3) [V, SS]**

Prerequisites: Econ 1000 or 1001 or consent of instructor. This course presents a history of development of modern business firms and examines the evolution of the economic theory of the firm. Special attention paid to the role that firms play in fostering social and economic development. Objective of course is to provide students with deeper understanding of firms so that they can make better policy decisions as owners, managers, lawmakers, regulators, and voters.

**2410 Work, Families, and Public Policy (3)**

Prerequisite: Econ 1000 or 1001. This course compares the economic behavior of women and men in both the labor market and the household. Topics include: the family as an economic (production) unit, gender differences in labor force participation, occupations and earnings; the effectiveness of human capital theory and labor market discrimination in explaining the male-female wage gap; remedies for reducing the wage gap; family structure and economic well-being; and alternative policies to alleviate poverty.

**2610 The Economics of Professional Sports (3) [V, SS]**

Prerequisite: Econ 1000 or equivalent or consent of instructor. This course will survey the economic organization of professional sports team industries and the relationship of sports teams to their employees, fans, and governments. Economic issues relating to salaries and labor disputes, monopoly practices, cartels and pricing, team location decisions, and public subsidies for professional sports teams will be analyzed.

**2650 Law and Economics (3)**

Prerequisite: Econ 1001. Analysis of the economic role of property rights and contracts in the private for-profit and not-for-profit sectors of the economy. Considers economic incentives to form organizations as one alternative and to form contracts as another. Considers the economic efficiency of the common law and judicial systems in use in the United States.

**2800 History of American Economic Development (3) [MI, SS]**

Prerequisites: Econ 1000 or 1001 or consent of instructor. Same as Hist 2800. Uses economic concepts to explain historical developments in American economy, beginning with hunter-gatherers who crossed the Bering land bridge around 12,000 B.C. Main topics include Native American economies, European exploration and conquest, colonial economies, indentured servitude, American Revolution, U.S. Constitution, westward expansion, transportation, Industrial Revolution, state banking and free banking, slavery, Civil War, post-bellum agriculture, rise of big business and antitrust, banking panics, Federal Reserve Act, First and Second World Wars, New Deal, and growth of government in postwar economy.

**3001 Intermediate Economic Theory: Microeconomics (3)**

Prerequisites: Econ 1001 and 1002. Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

**3002 Intermediate Economic Theory: Macroeconomics (3)**

Prerequisites: Econ 1001, 1002; Econ 3200 is recommended. Study of national income, expenditure, and the forces determining the level of economic activity. Special emphasis on the theory of income determination and its application to public policy.

**3052 Microeconomics for the School Curriculum (1-3)**

Prerequisite: Junior standing. Analysis of market forces, with emphasis on business firms, households, and productive-factor markets, price determination, and resource allocation. Special reference to topics included in elementary and secondary school social science curricula. Econ 3052 may not be used by economics majors to meet degree requirements.

**3055 Economics Issues for the School Curriculum (3)**

Prerequisites: Junior standing and consent of instructor. An analysis of selected economic issues appropriate to instruction in secondary and elementary schools. May be taken more than once for credit, provided the topic of the course is different each time. May not normally be used by economics majors to meet degree requirements. This course does not fulfill the undergraduate economics requirement for education majors.

**3100 Economic Statistics (3)**

Prerequisites: Math 1030, Econ 1001, and Econ 1002. Introduction to economic data sources, data interpretation and statistical inference as used in economic analysis. Emphasizes the testing of economic hypotheses and the development and estimation of economic models. Introduces the use of statistical software used in economics.

**3150 Quantitative Methods and Modeling in Economics, Business and the Social Sciences (3)**

Prerequisites: Math 1030; Econ 1001 or junior standing. This course focuses on the application of mathematical techniques to model building. The course reviews various mathematical techniques and shows students how they can be used for describing various social and business phenomena. Specific examples from the business, economics, criminology and other social sciences will be employed to reinforce the mathematical tools and concepts discussed. Students who have previously completed Econ 4150 or Math 1800 or Math 1100 may not take this course for credit.

**3200 Money, Banking, and Monetary Theory (3)**

Prerequisites: Econ 1001 and 1002. Factors influencing bank reserves and the money supply. Ability of the Federal Reserve System and the Treasury to control these factors. Introduction to monetary theory; integration of monetary phenomena with national income theory. Analysis of current policy issues.

**3300 International Economic Analysis (3)**

Prerequisite: Econ 1001. Introduction to the theories of international trade and factor movements including determinants of trade, the effects of trade on sectors and on overall economic performance, trade restrictions, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

**3301 International Finance (3)**

Prerequisite: Econ 1002. Introduction to international monetary systems; foreign exchange markets; financing of international transactions; the international position of the dollar.

**3310 Comparative Economic Systems (3)**

Prerequisite: Econ 1001, or 1002. Introduction to the comparative study of economic organization, growth, and welfare in different types of national economies such as the United States, the United Kingdom, France, Germany, Sweden, Japan, the republics of the former Soviet bloc, and China.

**3320 Economic Development (3)**

Prerequisites: Econ 1001 and 1002. Survey of economic growth as applied to developed and underdeveloped countries. Analysis of development policies with emphasis on case studies. Case studies may include the United States, Western Europe, or Latin America.

**3400 Labor Economics (3)**

Prerequisite: Econ 1001. Examines the labor market in the economy. Considers the theories of labor supply, labor demand, and market determination of wages. Other topics include noncompetitive markets, internal labor markets, the theory of human capital, compensating wage differentials, labor market discrimination, unions and collective bargaining, unemployment, and poverty and the distribution of income.

**3500 Public Finance: Expenditures (3)**

Prerequisite: Econ 1001. Analysis of public goods and externalities, models of collective choice, elements of benefit-cost analysis, the theory of bureaucracy, governments as agents in markets.

**3501 Political Finance: Revenues (3)**

Prerequisite: Econ 1001. Analysis of the economic role of governments, subsidies and taxes in the federal system, criteria for tax evaluation, the nature of tax legislation, private decision making under differing tax institutions, and government borrowing.

**3600 Industrial Organization (3)**

Prerequisite: Econ 1001. A theoretical and empirical analysis of the actions of firms under alternative forms of market organization. The role of economics of scale, product differentiation, mergers, and advertising in affecting industry structure, and the impact of the resulting industry structure on pricing, output, promotion, and technology decisions of firms.

**3620 Business and Government (3)**

Prerequisite: Econ 1001. Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines, and competition considered.

**3630 Government Regulation and Antitrust Policy (3)**

Prerequisite: Econ 1001. Evaluation of the use of antitrust policy and government regulatory agencies to improve the performance of industrial markets. Course will include discussion of antitrust cases and analysis of the economic impact of deregulatory initiatives in the airline, trucking, railroad, and telecommunications industries.

**3700 Urban and Regional Economics (3)**

Prerequisites: Econ 1001 and 1002. A survey of factors affecting the location of economic activity, industrial diversity, determinants of urban growth, the role of urban public economy, and the management of the urban environment.

**3710 Planning Processes in the Urban Economy (3)**

Prerequisites: Econ 1001 and junior standing. Economic techniques and criteria used in planning and evaluating programs and projects for the urban economy.

**3750 The Political Economy of Health Care (3)**

Prerequisite: Econ 1001. The course provides an economic perspective on the working of the health care market, focusing on the effects of government regulation, tax policy, and entitlement programs. There will be a detailed review of existing U.S. health care financing programs (e.g., Medicare, Medicaid), as well as financing systems of other developed countries. Health care policy will be evaluated according to its impact on quality, cost, and access to medical care and, ultimately, the overall health status of our population.

**3800 History of Economic Thought (3)**

Prerequisites: Econ 1001 and 1002. The evolution of economic thought from the ancients through post-Keynesian theory.

**3900 Selected Topics in Economics (3)**

Prerequisites: Econ 1001 and 1002. Analysis of a selected economic topic. The topic selected will vary from semester to semester. This course may be taken for credit more than once as long as the topic discussed in each semester is different.

**4030 Managerial Economics (3)**

Prerequisite: Econ 3001 or equivalent; Math 1800 or 1100 recommended. Application of microeconomic theory to decision-making process in the business firm. Topics include pricing and profit strategy, cost analysis, decision making under uncertainty, technology, innovation, and productivity growth, and the structure and organization of firms. Problem-solving and case-study approach used.

**4040 Analysis of Business Cycles (3)**

Prerequisites: Econ 3200; 3002; 3100. This course focuses on the empirical regularities in macroeconomics commonly referred to as the business cycle. It examines the variability and co-movements of aggregate economic variables and explores alternative theoretical explanations of these phenomena.

#### **4100 Introduction to Econometrics (4)**

Prerequisites: Econ 1001 and 1002; Econ 3100 Math 1800 or Math 1100; or consent of instructor. An introduction to quantitative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed. Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

#### **4110 Applied Econometrics (4)**

Prerequisite: Econ 4100 or equivalent. Concepts, techniques, and advanced applications of econometrics. Emphasis on developing a critical understanding of the appropriateness and limitations of a variety of state-of-the-art techniques used to model economic or political processes. Topics will include joint tests of hypotheses, estimation of lagged effects, models of qualitative choice, simultaneous systems, and outlier diagnostics. This course includes laboratory work in quantitative economic analysis.

#### **4120 Time Series Econometrics for Economics and Finance (4)**

Prerequisites: Econ 4100 or equivalent and a solid foundation in statistics. Introduction to application of econometric methods to time-series data. Emphasis on model specification as it applies to macroeconomic or financial data. Topics include: Stationary and non-stationary time-series, seasonality, random walks, unit roots, Dickey-Fuller tests, cointegration, ARCH/GARCH models, and general to specific modeling (ADLs). Specific applications to macro-economics, international economics and/or financial markets.

#### **4130 Econometric and Time Series Forecasting (4)**

Prerequisite: Econ 4100 or equivalent. Alternative forecasting methodologies for economic time series will be analyzed and discussed. The focus of the course will be: (1) the development of time-series (ARIMA) models and their application to forecasting; (2) the use of standard econometric models for forecasting; and (3) evaluation and comparison of these methods and the conditions under which each is the appropriate methodology. This course includes laboratory work in quantitative economic analysis.

#### **4150 Mathematical Economics (3)**

Prerequisites: Math 1800 or 1100, Econ 3001, or BA 5000 or 5001. This course uses calculus and other mathematical tools to analyze economic phenomena. In addition to exploring techniques used to solve unconstrained and constrained optimization problems, the course also examines how matrix algebra is used in economic modeling. This course allows students to mathematically analyze economic models which receive graphical treatment in lower level courses.

#### **4160 Geospatial Economic Analysis (3)**

Prerequisites: Junior standing. Econ 1001 and 1002 or consent of instructor. Analysis of geospatial socioeconomic data using geographic information systems (GIS) software.

Emphasis will be on how to create maps to clearly present and analysis information; how geospatial analysis can be integrated into research projects and presentations; and how geospatial data can be identified and located to shed light on economic research questions.

#### **4170 Fundamentals of Cost-Benefit Analysis**

Prerequisites: Econ 3001 or equivalent. The purpose of this course is to provide a systemic and rigorous way of thinking about the measurement of benefits and costs when evaluating public projects, programs or regulations. Cost-benefit analysis has wide application, including: environmental resource use, highway construction projects, safety regulations, taxation of cigarettes, and investment in higher education. Given the prevalence of cost-benefit analysis in government budgetary processes, this course will develop critical appraisal skills to evaluate the appropriateness of these analyses.

#### **4210 Financial Markets and Institutions (3)**

Prerequisite: Econ 3200. Demand, supply, and flow of funds in the macrofinancial system, including money, capital, futures, and foreign exchange markets. Examines types and historical development of domestic and international financial intermediaries operating within these markets, decision-making within individual intermediaries, their regulatory environment, and how their portfolio decisions affect flows in the financial system.

#### **4510 Public Finance: State and Local (3)**

Prerequisites: Econ 1001 and 1002 and junior standing. A study of expenditure, taxation, and financial administration of state and local governments, with emphasis on problems of current interest. Special attention given to research methods, as well as financial relations between various levels of government.

#### **4550 Natural Resource Economics (3)**

Prerequisite: Econ 1001, or consent of instructor, junior standing. The relationship between human activity and the world's natural resources requires choices. This course uses an economics perspective to study these choices. This perspective uses the view of the environment as an asset for its starting point. Issues concerning the optimal and sustainable use of natural resources are examined in this context. Special emphasis is given to potential policy responses to environmental problems.

#### **4610 Economics of Nonmarket Decision Making (3)**

Prerequisites: Econ 1001 or consent of instructor; junior standing. Application of economic theory and methodology to study of nonmarket decision making. Introduction to economic models of the judiciary, bureaucracies, interest groups, regulatory agencies, legislative and executive branches of government, and private nonprofit charitable organizations. Impact of voting rules and agenda manipulation on collective outcomes will be explored.

**4900 Advanced Topics in Economic Analysis (3)**

Prerequisites: Econ 3001 or 3002 or consent of instructor. Study of a specific topic in Economics that may vary from semester to semester. May be taken for credit more than once if the topics are different.

**4980 Special Readings (1-6)**

Prerequisites: Consent of instructor; grade point of 3.0 or higher in economics. Unscheduled, independent directed readings on topics mutually acceptable to student and instructor. Maximum credit limited to six hours

**4990 Internship in Applied Economics (2-6)**

Prerequisites: Junior standing, Econ 3001, and consent of instructor. Independent study involving work with appropriate private firm or public agency. Maximum of 6 hours may be earned, only 3 of which may be applied to economics major.

**5001 Microeconomic Analysis (3)**

Prerequisites: Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 4150. Survey of microeconomic comparative statistics. Detailed examination of demand and supply, product, and factor markets. Partial equilibrium in competitive, imperfectly competitive, and monopolistic markets.

**5002 Macroeconomic Analysis (3)**

Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 4150. Aggregate economic theory, including analysis of the determinants of income, output, employment, and prices. Employment and price-level effects of consumer and investment demand, the money supply and interest rates, and government policies.

**5010 Microeconomics for Policy Analysis (3)**

Prerequisites: Graduate Student Standing. Same as PPA 6080. This course introduces microeconomic analysis of consumers, firms, and government, with an emphasis on policy applications. It assumes no prior training in economics and is appropriate for graduate students in public policy administration, nonprofit management, political science, gerontology, criminology and criminal justice, and other related fields. This course may not be used by economics students to meet M. A. degree requirements.

**5020 Economics of Contracts and Organization (3)**

Prerequisites: Econ 3001 or BA 5001 or 5000. Considers issues in the coordination of human resources in the production of goods and services, either through individual contracting or through various forms of organizations. Organization is explained as a nexus of contractual relationships within a cooperative production unit, whether that unit is governmental, in private commerce, or has a nonprofit orientation-or some mix of the three basic modes. Emphasizes the roles of transactions costs, bounded rationality, monitoring individual performance in team production, opportunism, basic principles of insurance, and other incentive compatibility issues.

**5051 Macroeconomics for the School Curriculum (1-3)**

Prerequisite: Junior standing. Analysis of forces affecting the national economy, with emphasis on income determination, employment, money and banking, and international trade and finance. Special reference to topics included in elementary and secondary school social science curricula. Econ 5051 may not be used by economics majors to meet degree requirements.

**5052 Microeconomics for the School Curriculum (1-3)**

Prerequisite: Bachelor's degree from an accredited institution or consent of instructor. Analysis of market forces, with emphasis on business firms, households, productive factor markets, price determination and resource allocations. Special reference to topics included in the elementary and secondary school social science curricula.

**5055 Economic Issues for the School Curriculum (1-3)**

Prerequisites: Junior standing and consent of instructor. An analysis of selected economic issues appropriate to instruction in secondary and elementary schools. May be taken more than once for credit, provided the topic of the course is different each time. May not normally be used by economics majors to meet degree requirements.

**5100 Econometric Theory and Methods (3)**

Prerequisites: Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 4150; Econ 4100 or LOM 5300; Math 2450 or equivalent. A rigorous review of statistical models and methods relevant to the estimation and testing of economic relationships. Emphasis on the theoretical underpinnings of techniques commonly used for single and multiple equation estimation and hypothesis testing. Topics include ordinary and generalized least squares, robust regression, and simultaneous equations estimation.

**5110 Topics in Applied Econometrics (3)**

Prerequisites: Econ 4100, or Econ 5100 or LOM 5300; Math 2450 or equivalent. Concepts and application of advanced econometric techniques. Students will develop a thorough understanding of the appropriateness and application of a variety of state-of-the-art techniques. Topics will include specification tests, polynomial distributed lags, discrete choice, pooled time-series cross-section, simultaneous equations and outlier detection.

**5120 Advanced Topics in Time Series Econometrics (3)**

Prerequisites: Econ 4100 or equivalent and a solid foundation in statistics. Application of econometric methods to time-series data. Emphasis on model specification as it applies to macroeconomic or financial data. Advanced Topics include: Stationary and non-stationary time-series, seasonality, random walks, unit roots, Dickey-Fuller tests, cointegration, ARCH/GARCH models, and general to specific modeling (ADLs). Specific applications to macroeconomics, international economics and/or financial markets.



**5130 Business and Economic Forecasting (3)**

Prerequisites: Econ 3001 or BA 5001, Econ 3002 or BA 5002, Econ 4150, Econ 4100 or MS/IS 5300. This course develops the alternative techniques which are used to forecast economic time series. Each forecasting technique will be evaluated in terms of its theoretical soundness and predictive track record. Students will also learn to use these techniques to differentiate among competing economic models.

**5140 Seminar in Economic Research (3)**

Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 3002 or BA 5002. Research methods applied to economics. Develops efficiency and skill in conducting research and communicating the results with written reports and oral presentations. This course must be taken within the first year of study after completion of the prerequisites.

**5200 Monetary Theory and Policy (3)**

Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 3002 or BA 5002; Econ 4150. An examination of how monetary policy has affected the economy in the past and how it can improve economic performance in the future. Topics include: the origins of money, money supply, money demand, the determinants of real and nominal interest rates, the term structure of interest rates, the impact of discretionary monetary policy on the domestic economy and foreign exchange markets, and the domestic economy and foreign exchange markets, and the relationship between monetary policy and federal government deficits.

**5210 Financial Markets (3)**

Prerequisites: Econ 3200; Econ 3001 or BA 5001; Econ 3002. Demand, supply, and flow of funds in allocating credit and distributing risk in the macrofinancial system. The saving investment process, the rationale for financial markets, and the role of financial intermediaries are studied within the framework of the flow of funds accounts. Special attention is given to the operation of money, capital, futures, and foreign financial markets and the impact of public policy on the structure and performance of financial markets.

**5300 International Trade (3)**

Prerequisite: Econ 3001 or BA 5001. Survey of the modern theories of international trade and their applications including factor endowments and other, trade restrictions, foreign investment, trade and economic development, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

**5301 International Monetary Analysis (3)**

Prerequisite: Econ 3200, Econ 3002 or BA 5002. Application of macroeconomic theory to the international monetary system. Topics include the balance of payments, exchange rates, international linkages, world inflation, capital flows, and the gold standard.

**5500 Public Sector Microeconomics (3)**

Prerequisite: Econ 3001 or BA 5001, or PPA 6080. Same as PPA 6210. Application of tools of intermediate microeconomics to address public sector issues. Special emphasis is placed on critically analyzing current public policy debates using the models developed. Topics covered include: cases in which competitive market fails to allocate resources efficiently (e.g., externalities and public goods), importance of property rights, incentive effects of the tax and transfer system, and the fundamentals of cost-benefit analysis.

**5600 Structure and Performance of United States Industry (3)**

Prerequisites: Econ 3001 or BA 5001; Econ 4150. An analysis of the functioning of business firms under alternative market arrangements. Topics include: the theory and measurement of monopoly power and the role of economies of scale, product differentiation, and entry conditions in affecting this power; the impact of market power on the price-setting behavior, advertising and promotional strategies, and technological innovation of firms; the role of government policy in promoting or preventing competition among firms.

**5630 Economics of Telecommunications (3)**

Prerequisites: Econ 3001, BA 5000 or BA 5001 and Econ 4150. Application of economic theory and techniques to the telecommunications industry. Topics include demand theory for telephone access and use, consumer surplus models for subscription choice, nonlinear pricing strategies including pure and mixed bundling and multi-part tariffs, the incentives of the firm under various regulatory regimes, a comparison of rate-of-return regulation and incentive (price cap) regulation, and the impact of carrier-of-last-resort responsibilities.

**5650 Law and Forensic Economics (3)**

Prerequisites: Econ 3001, 3002, 3100, or equivalent, or consent of instructor. Reviews issues of law that dictate conditions under which forensic economic analysis is admissible. Topics include introduction to common law, federal and state court systems, statutory basis for wrongful death damages, "make, differences by class of litigation, determination of whole" principle, efficient deterrence and efficient compensation relevant law, legal implications of "preferred jury instructions," standards for admissibility of economic expertise.

**5660 Labor Economics for Forensic Economists (3)**

Prerequisites: Econ 3001, 3002, 3100, or equivalent; or consent of instructor. Focuses on areas of labor economics of special importance in forensic economic analysis. Topics include human capital as a recoverable asset, age-earnings cycles, variations in age-earnings cycles, earning capacity versus expected earnings, theories of family and family bargaining, theory of discrimination and tests for presence of discrimination.

**5670 Assessment of Damages in Personal Injury and Wrongful Death (3)**

Prerequisites: Econ 3001, 3002, 3100, or equivalent; or consent of instructor. Reviews methodologies for standard damage categories in forensic economic analysis. Topics include methods for establishing base earnings, use of age-earnings profile data, discount rates, net discount rates and stability of relationship between wage growth and discount rates, analysis of fringe benefit packages, concepts and measurement of nonmarket family services, hedonic damage controversy, analysis of personal consumption/personal maintenance for wrongful death cases.

**5680 Statistical Research in Forensic Economic Analysis (3)** Prerequisites: Econ 3001, 3002, 3100, or equivalent; or consent of instructor. Review of relevant statistical techniques, data sources, and reliability factors. Since factual information about individual tort victims is often limited in forensic economic assessment, this course deals extensively with issues of inference that must be made with little data. Also addresses issues of scientific admissibility and Internet as a potential source of relevant data.

**5690 Writing Reports and Papers in Forensic Economics (3)**

Prerequisites: Econ 3001, 3002, 3100, or equivalent; or consent of instructor. A professional writing course in which students are expected to prepare both a report suitable for litigation and a paper written in publication format for a professional journal or law review. Some student papers will be publishable in specialized journals, legal publications, and law reviews.

**5695 Internship in Forensic Economics (3)**

Prerequisites: Econ 3001, 3002, 3100 or equivalent; or consent of instructor. Internship with litigation division in law or accounting practice, or with forensic consulting firm. Internship activities and products will be monitored largely through Internet interaction between student and faculty.

**5700 The Political Economy of Metropolitan Areas (3)**

Prerequisites: Regular graduate student status and consent of graduate student coordinator. This course deals with both the public and private sector issues that affect our nation's metropolitan areas. It focuses on policy implications for economic development, government finance (especially at the state and local of specific topical areas such as local education, level) and intergovernmental relations. It also covers the economics transportation, financing adequate urban services, governmental structure and financial organization, infrastructure needs.

**5720 Real Property Economics (3)**

Prerequisites: Econ 3001 & 4200 or equivalent. This course will apply economic theory to analyze the real estate market's micro and macro characteristics. Public policy impacting both the residential and commercial property markets will be discussed using models developed in the course. Topics include price and location theory, growth and

growth patterns, urban sprawl, migration, regulation of land and capital, provision of public goods, and non-market valuation modeling. Hands-on applications of various non-market property valuations will be incorporated in the course.

**5750 The Political Economy of Health Care (3)**

Prerequisite: Econ 3001 or BA 5000 or consent of instructor. This course investigates the impact of government policy on health care provision and financing, focusing on the effect of entitlement programs, tax policy, and government regulation. Applying standard economics techniques, students will analyze incentives facing the decision makers in the health care system and ways in which they are altered by government policy. Attention will also be given to rationales for government intervention and roles of interest groups in the formulation of U.S. health care policy. The course will provide a detailed review of specific federal and state government financing programs, primarily focusing on Medicare and Medicaid, and will include discussion of the economic aspects of current health finance reform proposals.

**5760 Health Economics (3)**

Prerequisites: Econ 3001 or BA 5001. This course applies microeconomic theory and statistical techniques to understand decision making in health care markets. The effects of government policies on the health care choices of consumers and providers are identified and quantified; attention is given to federal and state entitlement programs, regulations, tax policies and antitrust enforcement. The role of insurance as a risk-sharing device is explored, along with its implications for pricing and health care utilization.

**5900 Advanced Topics in Economic Analysis (3)**

Prerequisite: Consent of the instructor. Study of a specific economics topic, which may vary from semester to semester. May be taken more than once if the topic is different.

**5980 Directed Readings (1-6)**

Prerequisite: Consent of instructor. Independent study through readings, reports, research projects, and conferences.

**6400 Labor Economics: Theory and Public Policy (3)**

Prerequisite: Econ 3001 or BA 5001. This course examines labor supply, labor demand, and market determination of wages. Topics covered include the effect of technological change on employment, trends in labor force participation, the impact of government taxes and transfers on labor supply, poverty, and its economic consequences, the human capital model and its implications for investment in education and on-the-job training, and theories of economic discrimination and empirical measurement issues. Throughout the course, current public policy debates are examined using the theoretical models developed.

## **Geography**

### **1001 Introduction to Geography (3) [MI, SS]**

Prerequisite: None. An introduction to geography as a social science. The identification and explanation of order in the human landscape. A survey of the social, political, economic, and psychological factors which influence geographic patterns.

### **1002 World Regions (3)**

Prerequisite: None. Survey of the major regions of the world. Designed to give the student an awareness of the character of each of these major regions through the interrelationships of the various attributes of place. Each semester the geographic perspective will be applied in greater depth to one significant country such as Afghanistan, Iraq, or North Korea.

### **2900 Special Readings in Geography (3)**

Prerequisite: Consent of instructor. This course will provide a more in-depth analysis of the various factors which influence geographic patterns. The topic selected will vary from semester to semester. This course may be taken for credit more than once as long as the topic discussed in each semester is different.

### **3900 Advanced Topics in Geography (3)**

Prerequisites: Junior standing or consent of instructor. Analysis of selected geography topics. The topics selected will vary from semester to semester. This course may be taken for credit more than once as long as the topics discussed in each semester are different.

## **Home Economics**

### **1110 Nutrition in Health (3)**

A study of dietary nutrients essential for health, proper selection of foods to provide them, and current issues affecting them.

**Department of English****Faculty**

**Barbara A. Kachur**, Professor\*  
Ph.D., The Ohio State University  
Chairperson

**David Carkeet**, Professor Emeritus\*  
Ph.D., Indiana University

**Joseph Carroll**, Professor\*  
Ph.D., University of California-Berkeley

**Sylvia J. Cook**, Professor\*  
Ph.D., University of Michigan

**Charles Dougherty**, Professor Emeritus  
Ph.D., University of Toronto

**Howard Schwartz**, Professor\*  
M.A., Washington University

**James E. Tierney**, Professor Emeritus  
Ph.D., New York University

**Peter Wolfe**, Professor, Curators' Professor\*  
Ph.D., University of Wisconsin

**Jane Zeni**, Professor\*  
Ed.D., University of Missouri-St. Louis

**Deborah Aldrich-Watson**, Associate Professor\*  
Ph.D., Columbia University

**Richard M. Cook**, Associate Professor\*  
Ph.D., University of Michigan

**Sally Barr Ebest**, Associate Professor\*  
Ph.D., Indiana University

**Kathy Gentile**, Associate Professor\*  
Ph.D., University of Oregon

**Francis Grady**, Associate Professor\*  
Ph.D., University of California-Berkeley

**Bruce L. Liles**, Associate Professor Emeritus  
Ph.D., Stanford University

**Steven Schreiner**, Associate Professor\*  
Ph.D., Wayne State University

**Nanora Sweet**, Associate Professor\*  
Ph.D., University of Michigan

**Eamonn Wall**, Jefferson Smurfit Professor  
of Irish Studies and Professor  
Ph.D., City University of New York

**Jane Williamson**, Associate Professor Emerita  
Ph.D., Bryn Mawr College

**Ruth Ellen Kocher**, Associate Professor  
Ph.D., Arizona State University

**Mary Troy**, Associate Professor\*  
M.F.A., University of Arkansas

**John Dalton**, Assistant Professor  
M.F.A., University of Iowa

**Tivoli Majors**, Assistant Professor\*  
Ph.D., University of Texas at Austin

**Nancy Robb Singer**, Assistant Professor  
M. Ed., University of Missouri-Columbia

**Dennis Bohnenkamp**, Senior Lecturer  
M.A., University of Missouri-Columbia

**Ellie Chapman**, Senior Lecturer Emerita  
M.A., Murray State University

**Susan Grant**, Senior Lecturer  
M.A., Southern Illinois University-Edwardsville

**Nancy Gleason**, Senior Lecturer  
M.A., University of Missouri-St. Louis

**Judy Gurley**, Senior Lecturer Emerita  
M.A., University of Arkansas

**William Klein**, Senior Lecturer  
Ph.D., Michigan Technological University

**Judith Linville**, Senior Lecturer  
M.A., University of Arkansas

**Jennifer MacKenzie**, Senior Lecturer  
M.A., Purdue University

**Terence Martin**, Senior Lecturer Emeritus  
Ph.D., Southern Illinois University-Carbondale

**William Mayhan**, Senior Lecturer  
Ph.D., Washington University

**Scott McKelvie**, Senior Lecturer  
M.A., University of Missouri-St. Louis

**Lyman Peters**, Lecturer  
M.A., University of Missouri-St. Louis

**David Rota**, Senior Lecturer  
Ph.D., Southern Illinois University-Carbondale

**Barbara Van Voorden**, Senior Lecturer  
M.A., Washington University

**Lynn Staley**, Lecturer  
Ph.D., St. Louis University

\*members of Graduate Faculty

**General Information****Degrees and Areas of Concentration**

The English department offers or participates in offering the B.A. in English, the B.A. in English with certification for secondary teaching, and the B.S. in secondary education with an emphasis area in English. The department also offers a minor in English. Additionally, students with any major in the university may earn a Certificate in Writing so that they may demonstrate evidence of training in creative, journalistic, or technical writing.

The department has a graduate program leading to the master of arts degree. Students may pursue a literature track where they acquire a broad coverage in British and American writers or a writing track where half of the course work deals with composition and writing theory. The department also offers the master of fine arts in creative writing, in which half of the courses are writing workshops and independent writing projects.

**Departmental Honors**

Candidates for departmental honors in English must achieve a 3.2 average in English at graduation and complete an undergraduate or graduate seminar in English, the final paper for which must be acceptable to the instructor as an honors thesis.

## Undergraduate Studies

### General Education Requirements

English courses may be used to meet the university's humanities requirement, **except** the following:

- 1100, Freshman Composition
- 1110, Freshman Composition for International Students
- 2120, Topics in Writing
- 2810, Traditional Grammar
- 3090, Practical Criticism: Writing About Literature
- 3100, Advanced Expository Writing
- 3110, Advanced Expository Writing for International Students
- 3120, Business Writing
- 3130, Technical Writing
- 3140, News Writing
- 3150, Feature Writing
- 3160, Writing in the Sciences
- 3180, Reporting
- 3600, The Curriculum and Methods of Teaching English
- 4000, Writing in the Professions
- 4860, Editing
- 4870, Advanced Business and Technical Writing
- 4880, Writing for Teachers
- 4890, Independent Writing Project

The college's foreign language requirement may be met in any language.

### Satisfactory/Unsatisfactory Option

A maximum of 6 satisfactory/unsatisfactory hours may be taken in the department. Majors must complete at least 18 graded (i.e., not satisfactory/unsatisfactory) hours in English courses at the 3000 level or above with a grade point of 2.0 or better in these courses.

English majors may take any English course on a satisfactory/unsatisfactory basis except the following:

- 1100, Freshman Composition
- 1110, Freshman Composition for International Students
- 3090, Practical Criticism: Writing About Literature
- 3100, Advanced Expository Writing
- 3110, Advanced Expository Writing for International Students
- 3120, Business Writing
- 3130, Technical Writing
- 3140, News Writing
- 3150, Feature Writing
- 3160, Writing in the Sciences
- 3180, Reporting
- 3600, The Curriculum and Methods of Teaching English
- 4000, Writing in the Professions
- 4860, Editing
- 4870, Advanced Business Writing
- 4880, Writing for Teachers
- 4890, Independent Writing Project

## Degree Requirements

### Bachelor of Arts in English

English majors must complete at least 36, but no more than 45, hours in English exclusive of Engl 1100, Freshman Composition; Engl 1110, Freshman Composition for International Students; and Engl 3090, Practical Criticism: Writing About Literature.

#### 1) Students majoring in English must take:

- 2310, English Literature I
- 2320, English Literature II
- 2710, American Literature I
- 2720, American Literature II
- 2810, Traditional Grammar--or test out

2) English 3090, Practical Criticism: Writing About Literature. (For English majors, this course is a prerequisite or corequisite for 4000-level courses in English.)

3) Students must also complete one course from five of the following 10 areas:

#### Area 1 Medieval English

- 4250, Old English Literature
- 4260, Chaucer
- 4270, Medieval English Literature

#### Area 2 Shakespeare

- 4370, Shakespeare: Tragedies and Romances
- 4380, Shakespeare: Comedies and Histories

#### Area 3 The Renaissance

- 4320, Elizabethan Poetry and Prose
- 4340, Early Seventeenth-Century Poetry and Prose
- 4350, Milton
- 4360, Tudor and Stuart Drama

#### Area 4 Restoration and Eighteenth-Century English

- 4410, Restoration and Eighteenth-Century Drama
- 4420, Age of Dryden and Pope
- 4440, Age of Johnson
- 4450, The Eighteenth-Century English Novel

#### Area 5 Nineteenth-Century English

- 4510, Early Romantic Poetry and Prose
- 4520, Later Romantic Poetry and Prose
- 4540, The Nineteenth-Century English Novel
- 4560, Prose and Poetry of the Victorian Period
- 4580, Literature of the Late Nineteenth and Early Twentieth Centuries

#### Area 6 Nineteenth-Century American

- 4610, Selected Major American Writers I
- 4620, Selected Major American Writers II
- 4630, African American Literature Prior to 1900
- 4640, American Fiction to World War I

**Area 7 Twentieth-Century English/American**

- 4650, Modern American Fiction  
4660, African American Literature Since 1900  
4740, Poetry Since World War II  
4750, Modern British Fiction  
4760, Modern Drama  
4770, Modern Poetry

**Area 8 Literary Criticism**

- 4000, History of Literary Criticism  
4030, Contemporary Critical Theory  
4050, Forms and Modes of Poetry  
4070, The Two Cultures: Literature and Sciences  
4080, Narrative, Cognition, and Emotion

**Area 9 Special Topics**

- 4060, Adolescent Literature  
4900, Seminar  
4910, Studies in African/African American Literature, Criticism, and Diaspora  
4920, Major Works of European Fiction  
4930, Studies in Women and Literature  
4940, Special Topics in Jewish Literature  
4950, Special Topics in Literature  
4960, Ethnic Literatures

**Area 10 Linguistics**

- 4800, Linguistics  
4810, English Grammar  
4820, History of the English Language

Work in 2000-level courses provides background in literary history and forms, as well as the means for discussing literary issues, on paper and orally. Thus, the department requires Eng 2310 or consent of the instructor as a prerequisite for all courses in Areas 1-4 and Eng 2320 or consent of the instructor as a prerequisite for all courses in Areas 5 and 7, except American literature courses. Eng 2710 or consent of the instructor is a prerequisite for all courses in Area 6, and both Eng 2710 and Eng 2720 or consent of the instructor are prerequisites for Eng 4650. All survey courses (Eng 2310, 2320, 2710, and 2720) must be taken before the major has completed 90 hours toward a degree.

Students majoring in English must complete a minimum of 12 graded hours in English courses at the 4000 level or above in residence with a grade point average of 2.0 or better in these courses or students must receive special consent of the department.

Students should consult with faculty advisers to determine which upper-level courses best satisfy their major needs and interests.

**Bachelor of Arts in English with Certification for Secondary Education**

All candidates for certification to teach English must enroll in a program in the College of Education involving Level I, Level II, and Level III coursework plus student teaching. See

the Division of Teaching and Learning in this *Bulletin* for information.

In addition to the requirements for the B.A. in English, students must meet the following requirements for secondary certification:

1) Two courses in American literature. This requirement may be met by courses counted for the major.

a American literature must include a unit or course in the literature of ethnic groups.

b American literature must include a unit or course in literature for adolescents.

2) Twelve hours in composition and rhetoric:

Eng 1100, Freshman Composition, may be counted.

Eng 3090, Practical Criticism: Writing About Literature, is required.

Eng 4880/Sec Ed 4880, Writing For Teachers, is required. Recommended courses include creative writing, journalism, and business writing.

3) English language requirements

a. Eng 2810, Traditional Grammar

Students with sufficient background may gain exemption from the Eng 2810 requirement by passing the English-Education Test of Basic Grammar. This test may be taken only twice. Certification candidates must pass Eng 28.0 or the Test of Basic Grammar before applying for student teaching.

b. Eng 4810, English Grammar

c. Eng 4800, Linguistics, or Eng 4820, History of the English Language

4) Eng 3600, The Curriculum and Methods of Teaching English. Prerequisite: Completion of Level II courses and a near major in English. Must be taken concurrently with professional internship, and before student teaching.

5) Eng 3700, English Student Teaching Seminar, must be taken concurrently with Sec Ed. 3290, Secondary School Student Teaching.

6) Candidates for certification in Missouri must have a 2.5 cumulative GPA, computed from the beginning of freshman year and including all colleges attended. They also need a minimum GPA of 2.5 in their English courses. All grades in professional education and in required English courses must be C- or better.

**Bachelor of Science in Secondary Education with an Emphasis Area in English**

All candidates for certification to teach English must enroll in a program in the College of Education involving Level I, Level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this *Bulletin* for information.

The required courses in English and professional education are the same as those for the B.A. with certification for secondary education. However, students fulfill the general education requirements of the College of Education rather than those of the College of Arts and Sciences. For example, students seeking the B.S. in Education are not required to study a foreign language.

#### **Certification to Teach Secondary Speech and Drama**

All candidates for certification to teach Speech and Drama must enroll in a program in the College of Education involving Level I, Level II, and Level III coursework plus student teaching. See the Division of Teaching and Learning in this Bulletin for information.

In addition, undergraduates who wish to be certified to teach Speech and Drama must meet the requirements for a major in Communication as well as requirements set by the Theatre faculty.

#### **Minor in English**

A student may minor in English by taking at least 18 hours of English courses exclusive of Basic Writing, Eng 1100, Freshman Composition, and Eng 1110, Freshman Composition for International Students. Eng 3090 is required, and 12 of the 18 hours must be in literature courses, 9 of which must be in courses at the 3000 or 4000 level.

Every student taking a minor in English must consult with an adviser in the English department to ensure a coherent program of studies. The GPA in courses for the minor must be 2.0 or better. Nine of the 18 hours must be taken in residence at UM-St. Louis. No more than 3 hours taken on a satisfactory/unsatisfactory basis may be counted toward the 18-hour minimum.

#### **Certificate Program in Writing**

A student may receive the Certificate in Writing by completing a total of 18 hours in writing courses chosen from the following list. The GPA in courses for the certificate must be 2.0 or better, and 12 of the 18 hours must be taken at UM-St. Louis. Courses may not be taken on a satisfactory/unsatisfactory basis.

**Comm 2212**, Broadcast Writing and Reporting  
**Comm 2217**, Script Writing for Business and Industry  
**English 2030**, Poetry Writing  
**English 2040**, Short Story Writing  
**English 2050**, Play Writing  
**English 2060**, Introduction to the Writing of Poetry and Fiction  
**English 2080, or Comm 1108**, Advertising Copywriting  
**English 2120**, Topics in Writing  
**English 3030**, Intermediate Poetry Writing  
**English 3040**, Intermediate Fiction Writing  
**English 3090**, Practical Criticism: Writing About Literature  
**English 3100**, Advanced Expository Writing  
**English 3110**, Advanced Expository Writing for International Students  
**English 3120**, Business Writing

**English 3130**, Technical Writing  
**English 3140 or Comm 3214**, News Writing

**English 3150**, Feature Writing  
**English 3160**, Writing in the Sciences  
**English 3180**, Reporting  
**English 3280 or Comm 2228**, Writing for Public Relations  
**English 4130**, Advanced Poetry Writing  
**English 4140**, Advanced Fiction Writing  
**English 4160**, Special Topics in Writing  
**English 4850**, Topics in Teaching Writing  
**English 4860**, Editing  
**English 4870**, Advanced Business and Technical Writing  
**English 4880**, Writing for Teachers  
**English 4890**, Independent Writing Project (This course is required. It is to be taken as the last course a student will take in the program, and it is to be used to generate an extensive final project or internship.)  
**English 4985**, Editing Litmag  
**Honors 3100**, Writing the City

#### **Technical Writing Emphasis**

The technical writing emphasis provides a more career-specific strategy for students enrolled in the Writing Certificate program. The technical writing emphasis is composed of **three required** courses:

**3130**, Technical Writing  
**4860**, Editing  
**4870**, Advanced Business and Technical Writing **or**  
**4890**, Independent Writing Project

In addition, students take **three electives** for a total of 18 hours chosen from the following:

#### **Business Administration**

**1800**, Computers and Computer Information  
**3100**, Contemporary Business Communication  
**Communication**

**1065**, Introduction to Information Technology  
**Computer Science**

**1250**, Introduction to Computer Science (Prerequisite: Math 1030, College Algebra)

#### **English**

**3120**, Business Writing  
**3140**, News Writing  
**3150**, Feature Writing  
**3160**, Writing in the Sciences  
**3280**, Public Relations Writing  
**4870**, Advanced Business and Technical Writing (if **4890** is taken as requirement)  
**4890**, Independent Writing Project (if **4870** is taken as requirement)

#### **Graduate Studies**

#### **Admission Requirements**

A candidate should have a bachelor's degree, with at least 18 hours in English courses. Normally only students with a

grade point average of at least 3.0 in undergraduate English courses and with an overall undergraduate average of 2.75 will be considered.

The graduate coordinator of the English Department with the advice of the graduate committee will use the undergraduate record and the scores of the GRE general test as the basis for a decision. We welcome letters of recommendation from the applicant's former English instructors, but they are not required. Applications to the MA in English are considered at all times. However, because spaces in graduate courses are limited, it is strongly advised that prospective students submit their applications well before the semester begins in order to gain admission into their appropriate classes.

### Teaching Assistantships

A number of teaching assistantships are available for qualified applicants. In addition to the undergraduate record and the scores on the GRE general test, applications should include two letters of recommendation from former English instructors. Applications should be submitted to the graduate coordinator of the English department no later than March 15 preceding the academic year for which the appointment is desired.

### Degree Requirements

#### Master of Arts in English

In addition to the Graduate School requirements, students must complete at least 36 hours, 27 hours of which must be in 5000-level courses. Nine hours may be taken in 4000-level courses approved by the department and Graduate School.

At the outset of the program, students in both the literature and writing theory tracks must take English 5000, Introduction to Graduate Study in English, which focuses upon bibliography, research methods, and literary criticism. Students must receive graduate credit for English 5000.

Students who choose a literature track must also take at least one course in each of the following six areas:

**Area 1,** British literature before 1660

**Area 2,** British literature between 1660 and 1900

**Area 3,** Twentieth-century literature (British, American, post-colonial, or in translation)

**Area 4,** American literature

**Area 5,** Theories of writing, criticism, language, and/or culture

**Area 6,** Literature in translation, study of a particular literary genre, or a course in another relevant discipline.

Students who choose the composition track must take 18 hours in literature courses (including Eng 5000 and 18 hours in composition courses (including Eng 5840). The literature courses should provide broad coverage, rather than a narrow focus on a particular genre or historical period. If students choose the thesis option (6 hours) they will take 15 hours in literature and 15 hours in composition.

### Thesis Option

Students in literature or writing theory may elect the thesis option, which requires a total of 6 hours of thesis credit. The thesis should demonstrate original thought and substantial research and may be a critical study of literary works, a theoretical exploration of issues related to literature or writing, or a descriptive assessment of fieldwork related to writing and pedagogy. The thesis must be approved and assigned a grade by a thesis committee. The student will select a major professor who, after consulting with the chair and the graduate coordinator, will select two other members of the committee.

Further information may be found in *The Master of Arts in English*, available from the English department.

### Master of Fine Arts in Creative Writing

The application process is identical to that for the master of arts degree, with these exceptions: there is one annual deadline for all applications, Feb. 15; a writing sample is required (15-20 poems or 20-40 pages of fiction); the GRE test is required only if the applicant seeks financial aid or a teaching assistantship.

In addition to the Graduate School requirements, students must complete at least 39 hours, 30 of which must be in 5000-level courses. Nine hours may be taken in 4000-level courses approved by the department and Graduate School. Students will specialize in one genre, poetry or fiction. They must complete the following course work: (a) 18-21 hours in creative writing courses: 15 hours of workshops (at least one course outside the genre), and 3-6 hours of English 6010; (b) 15 hours of courses in literature, language, writing theory or literary journal editing offered by the department; (c) 3-6 hours of electives; another workshop or literature/language/writing theory/literary journal editing course or a relevant offering in another discipline. Students may not take a 4000-level writing course in their genre for graduate credit. At least two of the writing workshops and English 6010 must be taken at UM-St. Louis. Complete information may be found in *The Master of Fine Arts in Creative Writing*, available from the English department.

### Graduate Certificate in the Teaching of Writing. Gateway Writing Project.

Jointly housed in the Division of Teaching and Learning and the Department of English, this Graduate Certificate prepares teachers at all levels (K-12, college, adult) to improve their students' performance in writing. The program also emphasizes using writing as a means to promote learning in all content areas. All courses provide opportunities for teachers to write, revise, share feedback, and reflect on their own writing development. Based on the National Writing Project's core belief that teachers of writing must themselves be writers, the Graduate Certificate in the Teaching of Writing brings together sound pedagogy, composition theory, and writing practice.



The Certificate is an 18-hour program through the Gateway Writing Project (GWP); it may also be coordinated with other graduate programs. Certificate courses may be applicable to the M.A. in English with emphasis in composition or to various M.Ed. programs. The GWP Certificate is especially appropriate for post-master's candidates who wish to pursue a specialization in teaching writing. The Graduate Certificate in the Teaching of Writing requires a 12 semester-hour core of courses developed by the Gateway Writing Project: The GWP invitational institute (6 hrs), a designated "topics" course (3 hrs.), and an exit course (3 hrs.). The Certificate requires a minimum of 12 semester hours at the 5000 level or above. Electives (6 hrs.) may be chosen from approved offerings in English or Education.

#### Admission:

Applicants must be admitted to Graduate School and be selected by the faculty admissions committee for the Gateway Writing Project's Certificate in the Teaching of Writing. The committee will review candidates on the basis of an interview, an application essay, and supporting documentation. Criteria include experience teaching writing at any level and academic record, especially in writing and the teaching of writing.

#### Prerequisites:

- Eng/SecEd 4880, "Writing for Teachers" or an equivalent course in teaching writing
- Coursework or competency in basic computer application.

#### Required Core Courses (12 semester hours)

- Eng4850/TchEd 5850, Topics in the Teaching of Writing (designated topics, 3 sem. hrs.)
- Eng 5880/SecEd 6880( future TchEd 6880, Gateway Writing Project (Invitational Institute, 6 sem. hrs.)
- TchEd. 6890, Seminar in Professional Writing for Teachers (exit course, 3 sem. hrs)

Electives (6 sem. hrs.)

Electives may be chosen from other Gateway Writing Project offerings OR from courses offered by the appropriate academic department with advisor's approval. These electives must include at least one more 5000 level course.

#### Suggested electives applicable to an MA in English with writing emphasis:

- Eng. 5800, Modern Linguistics
- Eng. 5840, Theories of Writing
- Eng. 5860, Writing/Reading Theory
- Eng. 5870, Composition Research
- Eng, 5890, Teaching College Writing

#### Suggested electives applicable to an M.Ed. in Elementary or Secondary Education

- El. Ed. 4387, Lang. & Literacy Needs of Diverse Children
- El. Ed. 6430, Problems in Teaching Language Arts

- Sec. Ed. 6430, Problems in Teaching English in Sec. School
- El. Ed. 6432, Research in Language Arts
- El. Ed. 6482, Problems & Research in Elementary Reading
- Ed. REM 6714, Action Research

Courses in adult and higher education may also be appropriate. For complete information, see *The Gateway Writing Project's Graduate Certificate in Teaching Writing*, available from the English Department, from the Division of Teaching and Learning, and from the GWP Director via Continuing Education & Outreach.

#### Career Outlook

In addition to traditional employment as teachers at the primary, secondary, and community-college levels, recent UM-St. Louis graduates in English are working in journalism, editing, advertising, public relations, and other fields that place a premium upon creation and interpretation of the written word. Numerous recent English majors have successfully entered law school.

#### Course Descriptions

Courses in this section are grouped as follows: Composition; Language; Literature; and Special Offerings.

**English 1100** Composition, or its equivalent, is a general prerequisite for all English courses numbered 2310 and above. This, and other specific prerequisites, may be waived by consent of the department. **English 3100** Advanced Expository Writing, its equivalent or consent of the instructor is a general prerequisite for all literature courses numbered 3000 and above for non-English majors.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin:

COMPOSITION: 2030, 2040, 2050, 2060, 3030, 3040, 4020, 4130, 4140. LANGUAGE: 4800, 4810, 4820. LITERATURE: 1120, 1130, 1140, 1150, 1160, 1170, 1200, 1700, 1710, 2200, 2230, 2240, 2250, 2280, 2310, 2320, 2330, 2340, 2350, 2710, 2720, 3250, 3800, 4060, 4000, 4070, 4080, 4250, 4920, 4260, 4270, 4030, 4050, 4320, 4340, 4350, 4360, 4370, 4380, 4410, 4420, 4440, 4450, 4510, 4520, 4540, 4560, 4580, 4610, 4620, 4640, 4650, 4750, 4770, 4760, 4740, 4930, 4940, 4950. SPECIAL OFFERINGS: 3500, 4885, 4888, 4900.

**Writing Courses:****1100 Freshman Composition (3) [C]**

Teaches critical reading and thinking skills and emphasizes writing as a process. Enhances writing skills through a sequence of increasingly focus on problems of invention, organization, development, and revision in essay writing. Fulfills the campus complex writing assignments. Class discussion and small-group workshops freshman writing requirement. Does not count toward the major in English.

**1110 Freshman Composition for International Students (3) [C]**

Prerequisite: Essay proficiency test or a TOFEL score of 500 or above. Theory and practice of writing expository American prose. Special attention is given to verb tenses, idioms, articles, and syntax. Does not count toward the major in English. This course substitutes for English 1100 in all university requirements.

**2030 Introduction to the Writing of Poetry (3) [C,H]**

Prerequisite: Engl 1100 or equivalent. An introduction to the writing of poetry and an exploration of contemporary poems as models for the writer. Students who have taken Engl 2060 may not take Eng 2030 for credit. The course counts toward the Certificate in Writing.

**2040 Introduction to the Writing of Fiction (3) [C,H]**

Prerequisite: Engl 1100 or equivalent. An introduction to the writing of fiction and an exploration of contemporary short stories as models for the writer. Students who have taken Engl 2060 may not take Engl 2050 for credit. The course counts toward the Certificate in Writing.

**2050 Introduction to the Writing of Plays (3) [C,H]**

Prerequisite: Engl 1100 or equivalent. An introduction to the writing of plays and an exploration of contemporary plays as models for the writer. The course counts toward the Certificate in Writing.

**2060 Introduction to the Writing of Poetry and Fiction (3)**

Prerequisites: Engl 1100 or equivalent. An introduction to the writing of poetry and fiction and an exploration of contemporary poems and short stories as models for the writer. Students who have taken Engl 2030 or 2040 may not take Engl 2060 for credit. The course counts toward the Certificate in Writing.

**2080 Advertising Copywriting (3)**

[Same as MS 1108] To give students a hands-on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting. The course counts toward the Certificate in Writing

**2120 Topics in Writing (3) [C,H]**

Prerequisite: Engl 1100 or equivalent. This course will introduce the student to writing in specific areas. The department will announce topics and course content in the

*Schedule*. Possible topics are Argumentation, Reading and Writing About Public Affairs, Sports Reporting and Writing, and Writing About Science. A student may repeat the course once when topics are different. The course counts toward the Certificate in Writing.

**3030 Intermediate Poetry Writing (3)**

Prerequisites: Engl 2030 or 2060 or the equivalent or consent of instructor. Workshop in poetry writing. The course counts toward the Certificate in Writing.

**3040 Intermediate Fiction Writing (3)**

Prerequisites: Engl 2040 or 2060 or the equivalent or consent of instructor. Workshop in fiction writing. The course counts toward the Certificate in Writing.

**3090 Practical Criticism: Writing About Literature (3)**

Prerequisites: Engl 1100 or equivalent and junior standing. The course acquaints students with the techniques and terminology of literary criticism and trains them in the rudiments of writing about literature. Students compose eight to ten practical, critical essays on drama, poetry, fiction, and nonfictional prose. Explication of particular texts is emphasized. A longer critical paper incorporating secondary sources and introducing students to basic methods and resources for research is assigned. The course is required of English majors but is open to all qualified students. Course does not count toward the major in English. May not be taken on satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

**3100 Advanced Expository Writing (3)**

Prerequisites: Engl 1100 or equivalent (3-6 hours). This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for academic and professional settings. The course includes complex readings, focuses on persuasion and argumentation, expands upon students' research and documentation skills, and requires research in university libraries. This course fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on a satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

**3110 Advanced Expository Writing for International Students (3)**

Prerequisite: Engl 1110 or equivalent. This course will develop the student's style and critical-analytical abilities in contemporary American English writing. The course will also offer an introduction to formal research and documentation methods for preparing papers in a variety of fields. Additional emphasis will be placed on improving the student's reading abilities, both in comprehension and vocabulary. Course satisfies the junior-level communicative skills requirement. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

### **3120 Business Writing (3)**

Prerequisites: Engl 1100 or equivalent (3-6 hours) This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for business and professional settings. Writing assignments may include business correspondence, reports, resumes, proposals, analyses, feasibility studies, and articles for in-house publications. The course emphasizes clarity, conciseness, organization, format, style, tone, and mechanical correctness; expands upon students' research and documentation skills; and requires research in university libraries. Fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on a satisfactory/unsatisfactory basis. The course counts toward the Certificate in Writing.

### **3130 Technical Writing (3)**

Prerequisites: Engl 1100 or equivalent (3-6 hours). The major elements of industrial technical writing. Writing assignments include technical definitions, abstracts and summaries, mechanism descriptions, instructions, process analyses, technical reports and proposals. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course includes an introduction to research methods and documentation. All readings are selected from industrial material. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

### **3140 News Writing (3)**

Same as Comm 3214 Prerequisite: Engl 1100 or equivalent. An introduction to news writing and reporting. Course covers basic components of news, reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed. The course counts toward the Certificate in Writing.

### **3150 Feature Writing (3)**

Prerequisite: Engl 1100 or equivalent. Study of free-lance and staff-written magazine or newspaper feature articles. Emphasis on relationship between types of publication and article content, research methods, and writing style. Frequent short assignments--journal entries, interviews, library projects, article critiques, and market reports--lead to production of full-length feature articles. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

### **3160 Writing in the Sciences (3)**

Prerequisite: Engl 1100 or equivalent (3-6 hours). Designed to teach students how to write effectively in the sciences. Writing assignments include short reports, proposals and a major project. Students are encouraged to select projects that will reflect work in a science course which may include a

research or analytical report, a formal proposal or a procedures/ instructions manual. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course will include an introduction to research methods and documentation. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option. The course counts toward the Certificate in Writing.

### **3180 Reporting (3)**

Prerequisite: Engl 3140 or equivalent. Theory and practice of reporting news for publication in the print media. Includes one classroom session and one field assignment weekly. Stories must be filed within deadline limits. Writing emphasis is on clarity, conciseness, and accuracy. The course counts toward the Certificate in Writing.

### **3280 Public Relations Writing (3)**

Same as Comm 2228 Prerequisite: Engl 3140 or equivalent. An introduction to the process of planning, producing, and evaluating written public relations messages. Writing assignments include media releases, letters, memos, position papers, background papers, brochures, and reports and proposals. The course counts toward the Certificate in Writing.

### **4130 Advanced Poetry Writing (3)**

Prerequisite: Engl 3100 or equivalent; Engl 2030 or 3030 or consent of instructor; recommended prerequisite: 2330. Advanced workshop in poetry writing. The course counts toward the Certificate in Writing.

### **4140 Advanced Fiction Writing (3)**

Prerequisite: Engl 3100 or equivalent; Engl 2040 or equivalent or consent of instructor. Advanced workshop in fiction writing. The course counts toward the Certificate in Writing.

### **4160 Special Topics in Writing (3)**

Prerequisites: Engl 3100 or equivalent. Special topics in writing that are not covered in other 3000-level English courses. Since the topics of Engl 4160 may change each semester, the course may be repeated for credit if the topics area substantially different and consent of the instructor is given. The course counts toward the Certificate in Writing.

### **4850 Topics in the Teaching of Writing (3)**

[Same as Edu 5850]. Prerequisites: Engl 3100 or equivalent. Special topics in the practice of and pedagogy of writing designed for in-service teachers. Topics may include writing at specific grade levels, writing/reading workshops, writing in urban settings, writing across the curriculum, action research, new technology, classroom and district-level assessment. May be repeated once for credit if topics differ. The course counts toward the Certificate in Writing.

**4860 Editing (3)**

Prerequisites: Engl 3100 or equivalent as judged by instructor; Engl 2810 or 4810. Introduction to language and processes of editing. Includes copy editing, study of style manuals, and overview of production process. The course counts toward the Certificate in Writing.

**4870 Advanced Business and Technical Writing (3)**

Prerequisite: Engl 3100 or its equivalent as judged by instructor. An advanced, project-oriented course to produce substantial, multifaceted business and technical writing projects. These might include reports, manuals, proposals, Web projects, computer documentation, or other advanced written assignments. These projects demonstrate the ability to handle complex assignments requiring initiative, independent work, and professional-level writing skills. The course counts toward the Certificate in Writing.

**4880 Writing for Teachers (3)**

[Same as Sec Ed 4880]. Designed for prospective as well as in-service teachers, the course includes: (1) writing - short papers to be shared in workshop groups; (2) reading - current theory and research on writing and the implications for teachers; (3) teaching- classroom activities that foster growth in writing. The course counts toward the Certificate in Writing.

**4890 Independent Writing Project (3)**

Prerequisite: Engl 3100 or its equivalent as judged by instructor. Course limited to students who are completing their certificates in writing. May be taken concurrently with the final course in the certificate sequence. Students work either individually or with an instructor to complete an extensive creative writing project or an internship.

**4985 Editing *Litmag* (3)**

Prerequisites: Engl 3100 or equivalent and at least two creative writing courses. Course is primarily for students nearing the end of their certificates in writing. Students in this course create *Litmag*, the UM-St. Louis student literary magazine. Students will call for submissions; they will read and select work to be published; and they will produce the magazine, dealing with issues like format, budget, proofreading, print run, advertising, distribution, and publicity. The course is offered only in the spring and culminates with the publication of *Litmag* in late April.

**5100 Graduate Workshop in Poetry (3)**

Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the poetry written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original poetry throughout the course. May be repeated for maximum graduate credit of fifteen hours.

**5110 Graduate Workshop in Fiction (3)**

Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the fiction (short stories or chapters of a novel) written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

**5120 Graduate Workshop in Poetry and Fiction (3)**

Prerequisite: Open to students in the MFA program and to others with consent of the instructor. Consists of a writing workshop in which the poetry and fiction written by the students enrolled in the course are discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original poetry and/or fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

**5130 Graduate Workshop in the Novel (3)**

Prerequisite: Consent of the instructor, based on submission of sample of novel manuscript. A writing workshop in which a novel written by the student is discussed and analyzed by the instructor and members of the class. Students must have a complete novel manuscript (50,000 words minimum) ready for discussion by the beginning of class. May be repeated for maximum graduate credit of fifteen (15) hours.

**5140 Graduate Workshop in Nonfiction (3)**

Prerequisites: Open to students in the MFA program and to others with permission of the instructor. A variable-topics writing workshop focusing on one or more of the following forms: personal essay, memoir, travel writing, literary journalism, biography, or other types of literary nonfiction. May be repeated for maximum graduate credit of fifteen (15) hours.

**5170 Techniques, Methods, and Effects in Fiction Writing (3)**

Prerequisites: Open to students in the MFA program and to others with consent of the instructor. This course analyzes the technical choices made by important contemporary fiction writers in the area of point of view, tone, setting, form, and plot structure, and it examines the effects of those choices. Close consideration is given to fictional techniques that contribute to a story's characterization, tension, interest, reliability, drama, irony, and humor. The course is primarily for creative writers.

**5190 Literary Journal Editing (3)**

Prerequisite: Open to students in the MFA program who have had at least two graduate writing workshops and to others with permission of the instructor. In this course students serve as the first readers of all submissions to the university's literary magazine, *Natural Bridge*. Students will read and evaluate poems, short stories, and essays and recommend a body of work to the editorial board of the magazine. The editorial board will then consider the class

consensus in its final selection of material for publication. In addition to this primary task of editorial selection, students will also be involved in the production of an issue of the magazine. May be repeated for maximum graduate credit of nine hours.

### **5200 MFA Readings (3)**

Prerequisites: Open to students in the MFA program and to others with consent of the instructor. This is an independent readings course. In consultation with an MFA faculty member, students choose works from the MFA Reading List and read them with the goal of broadening and sharpening their technical skills as writers. Students ordinarily choose works in one genre: poetry, the short story, or the novel. Each week the student reads and reports on at least one work. The course may be taken only once.

### **5840 Theories of Writing (3)**

An analysis of major modern theories in composition

### **5850 Studies in Composition (3)**

The study of special topics in composition. Topics may include history of composition, psychology of writing, reader-response theory, etc.

### **5860 Writing/Reading Theory (3)**

The parallel evolution of reading and writing theory and pedagogy. Topics include the influence of psycho-linguistics and reader-response theory and the link between reading and writing theory and instruction.

### **5870 Composition Research (3)**

Students analyze and conduct research in composition. Course work teaches students to evaluate methodologies and implications, and to analyze data and to design research.

### **5890 Teaching College Writing (3)**

Provides the opportunity for practical application of composition theory with an emphasis on improving teaching skills. Strongly recommended for graduate teaching assistants.

### **6010 Final Writing Project (3-6)**

Prerequisite: Successful completion of 15 hours in graduate creative writing courses or permission from instructor. An independent writing tutorial taken by students after they have completed all other creative writing course work. Completion of the project requires a substantial body of original poetry or fiction. May be repeated for maximum graduate credit of six (6) hours.

### **6880 Gateway Writing Project (3-6)**

Same as TchEd 6880. An intensive course in the writing process and the writing curriculum, designed for experienced teachers. Readings of current theory and research will be related to participants' experiences as writers and as teachers. Topics may vary. May be repeated for credit. No more than six hours may be applied toward the M.Ed. Counts toward the Graduate Certificate in Teaching Writing.

## **Language Courses:**

### **2810 Traditional Grammar (3) [C]**

An introduction to the terms and concepts of traditional grammar, beginning with the parts of speech and moving to more complex structures such as participles, gerunds, and clauses. The course also deals with the conventions of formal usage and punctuation.

### **4800 Linguistics (3)**

Prerequisite: Engl 3100; majors, Engl 3090. A survey of linguistics with emphasis on what the field reveals about the English language. Topics include the sounds of language, grammar, writing systems, language acquisition, language in society, language history, dialects, and usage.

### **4810 English Grammar (3)**

Prerequisite: Engl 3100; majors, Engl 3090; Engl 2810 or passing grade on English-Education Test of Basic Grammar. A study of modern English grammar from the perspectives of traditional, structural, and transformational grammar.

### **4820 History of the English Language (3)**

Prerequisite: Prerequisites: Engl 3100 or equivalent. A historical survey of the English language from its Indo-European roots through Old and Middle English to the present. Topics include changes in sound, meaning, and grammar, as well as developments in American English, including regional and social dialects.

### **5800 Modern Linguistics (3)**

A study of selected topics in the structure of the English language, combining readings in current linguistics publications with original research.

## **Literature Courses:**

### **1120 Literary Types (3) [C,V,H]**

The student is introduced to the various literary types, including poetry, drama, fiction, and the essay.

### **1130 Topics in Literature (3) [C,H]**

Introduces the student to selected literary topics and/or genres. Each semester the department will announce topics and course content. Topics such as alienation, justice, and the absurd, and genres such as science fiction and contemporary drama are typical possibilities.

### **1150 Images of the Elderly in Film (3)**

[Same as Ger 1115]. Analysis of the portrayal of older adults in various films. Class discussions focus on the style and thematic content of the film, as well as intergenerational relationships.

### **1160 Images of Age in Literature (3)**

[Same as Ger 1116]. Reading and discussion of literature that portrays aging and old age in various settings. Emphasis is on contemporary novels, but poetry and drama such as King Lear are read as well. Discussion and short essays enable

consideration of how literature helps in the study of aging and also how the process of aging can be a creative force within literature.

**1170 American Literary Masterpieces (3)**

An introduction to major themes and works in American literature from the nineteenth century to the present. Selected works from Hawthorne, Poe, Melville, Whitman, Twain, James, Frost, Hemingway, Faulkner, O'Connor, Plath, and Bellow.

**1200 Myth (3) [C,V,H]**

The nature of myth, with some consideration of the various theories used to account for its origins. An examination of central mythic motifs, images, and characters. While some attention will be given to comparing the mythologies of different cultures, the emphasis will be on reading Classical Greek and Roman mythology.

**1700 African-American Literature (3) [C,H]**

A survey of prose, poetry, and drama by black Americans from the period of enslavement through the Harlem Renaissance to the present.

**1710 Native American Literature (3) [C,CD,H]**

Surveys the literature of American Indians from its oral tradition of myth, legend, song, and oratory through its modern forms. The course satisfies the ethnic literature requirement for Missouri state certification in Secondary Education.

**2200 Classical Literature in Translation (3) [C,V,H]**

The civilization of ancient Greece and Rome as reflected by their major creative writers in some of their principal works: the epics of Homer and Vergil; the plays of Aeschylus, Sophocles, Euripides, Aristophanes, Plautus, Terence, and Seneca; the lyrics of Sappho and Catullus; the satire of Petronius; and Ovid's rendering of the classical myths.

**2230 Jewish Literature (3) [C,H]**

Examines the traditional Jewish literature of the Bible and later legends found in the Talmud and Midrash and also considers later phases of Jewish literature, both sacred and secular. These include medieval folklore and Hasidic tales.

**2240 Literature of the New Testament (3) [C,H]**

A comprehensive understanding of the New Testament, its literary background, and significance for Western civilization.

**2250 Literature of the Old Testament (3) [C,H]**

Prerequisite: Sophomore standing or consent of instructor. A comprehensive understanding of the Old Testament, its literary background, and significance for Western civilization.

**2280 The Contemporary World in Literature (3) [V,H,CD]**

Selected world literature since the second World War from the Middle East, Europe, Latin America, Africa, India, and Asia with emphasis on non-European literatures. This course excludes literature from the United States and England.

**2310 English Literature I (3) [C,H]**

The eighteenth century. Reading and analysis of representative development of English literature from the Middle Ages through the works of selected major writers.

**2320 English Literature II (3) [C,H]**

The development of English literature during the nineteenth and twentieth centuries. Reading and analysis of representative works of selected major writers.

**2330 Introduction to Poetry (3) [C,H]**

A close study of poems, with special emphasis on the varieties of poetic forms, and the means of interpretation and evaluation. The works studied will be primarily English and American, and from at least three different centuries.

**2340 Introduction to Drama (3) [V,H]**

A close study of major dramatic works in various modes, to introduce the student to the forms and techniques of dramatic literature. The works studied will be primarily English and American, and from at least three different centuries.

**2350 Introduction to Fiction (3) [C,H]**

A close study of major prose fiction, with particular attention to the varieties of fictional forms and techniques. The works studied will be primarily English and American, and from at least three different centuries.

**2710 American Literature I (3) [C,H]**

Representative selections from American authors from the middle of the seventeenth century to the middle of the nineteenth century.

**2720 American Literature II (3) [C,H]**

Representative selections from American authors from the middle of the nineteenth century to the present. Fulfills the requirement for Missouri Teacher Certification of a unit in literature of American ethnic groups" and a unit in American literature for adolescents."

**3800 Topics in Women and Literature (3)**

An examination of the role of women in literature, either as figures in literary works or as writers. Specific topics to vary from semester to semester. Since the topics of Engl 3800 may change each semester, the course may be repeated for credit if the topics are substantially different.

**4000 History of Literary Criticism (3)**

Historical survey of the principles of literary criticism from Plato to the present.

**4030 Contemporary Critical Theory (3)**

This course is to acquaint students with a range of critical methodologies that have gained currency since the 1960s. The kinds of criticism considered include formalist (New Critical, Russian, and Aristotelian), structuralist, post-structuralist, Marxist, reader-response, psycho-sexual, and feminist.

**4050 Forms and Modes of Poetry (3)**

Prerequisite: Engl 3090 prerequisite or corequisite. An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and masterpieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g. Yeats, McKay, Bogan, Auden).

**4060 Adolescent Literature (3)**

The course will expose students to the large variety of quality adolescent literature available for reading and study in middle and high school classes. It will also examine the relevance of a variety of issues to the reading and teaching of adolescent literature, among them: reader response, theory and practice; multiculturalism; literacy; the relation of adolescent literature to "classic literature"; the role of adolescent literature in interdisciplinary studies; adolescent literature as an incentive to extracurricular reading.

**4070 The Two Cultures: Literature and Science (3)**

Prerequisite: Engl 2320; Engl 3090, may be taken concurrently. Surveys the history of the debate about the relations between literature and science, beginning with the exchange between Arnold and Huxley in the Victorian period, continuing through the debate between Leavis and Snow at mid-century, and concluding with current controversies and with current efforts at interdisciplinary synthesis.

**4080 Narrative, Cognition, and Emotion (3)**

Prerequisite: Engl 2320; Engl 3090, prerequisite or corequisite. Examines narrative theory in the light of recent research into cognitive organization and the structure of the emotions. Traditional and contemporary theories of narrative--of realism, symbolism, point of view, tone, and genre--are developed through recent findings in empirical science. A variety of stories and novels are used as test cases for theoretical propositions.

**4250 Old English Literature (3)**

Prerequisite: Engl 3100; or, for majors, Engl 3090 prerequisite or corequisite and Engl 2310 prerequisite or permission of instructor. An introduction to the literary culture of Anglo-Saxon England through study of the Old English language and close reading of a diverse group of Old English texts from the eighth to eleventh centuries.

**4260 Chaucer (3)**

Concentrates on the poetry of Geoffrey Chaucer, including the *Canterbury Tales*, early poetic works, and the *Troilus*

and *Criseyde*. All readings are in the original Middle English.

**4270 Medieval English Literature (3)**

A survey of old and middle English literature from Beowulf to Malory's *Morte d'Arthur*, exclusive of Chaucer. All works are read in modern English translations.

**4320 Elizabethan Poetry and Prose (3)**

Spenser, Sidney, Wyatt, and other poets of the later sixteenth century. The origin and development of prose fiction.

**4340 Early Seventeenth-Century Poetry and Prose (3)**

Donne, Jonson, Marvell, Bacon, and other poets and essayists of the Metaphysical, Cavalier, and Baroque schools, exclusive of Milton.

**4350 Milton (3)**

All the minor poems and the three longer poems with some attention to the major prose; Milton and his relation to the politics, theology, and literature of the seventeenth century.

**4360 Tudor and Stuart Drama (3)**

A survey of the dramatic writings of the period from the interludes of John Heywood to the closing of the theaters in 1642, with particular attention to the plays of Marlowe, Jonson, Webster, and Ford. Though Shakespeare will not be studied in this course, connections between his works and those of his contemporaries will be discussed.

**4370 Shakespeare: Tragedies and Romances (3)**

The development of Shakespeare's concept of tragedy and tragicomedy from *Titus Andronicus* to *The Tempest*. The plays will be related to the social and literary milieu of the period.

**4380 Shakespeare: Comedies and Histories (3)**

Shakespeare's early work for the theater with some attention to the sonnets and longer poems. An historical background for a study of all the plays, including discussions of Elizabethan society, the world of the stage, and Shakespeare's biography.

**4410 Restoration and Eighteenth-Century Drama (3)**

The principal tragedies and comedies from Dryden to Sheridan, including the plays of Congreve, Farquhar, Rowe, Gay, Fielding, and Goldsmith, among others.

**4420 Age of Dryden and Pope (3)**

The beginnings of English neoclassic literature in the Restoration and its development through the first half of the eighteenth century, focusing on Dryden, Swift, and Pope.

**4440 Age of Johnson (3)**

The breakdown of the neoclassic spirit and the introduction of the "new" poetry and novel. Consideration of Fielding, Johnson, Thompson, Young, Goldsmith, Sheridan, and others.

**4450 The Eighteenth-Century English Novel (3)**

The origins and early development of the English novel, from Defoe to Jane Austen.

**4510 Early Romantic Poetry and Prose (3)**

The English romantic movement with special emphasis on the early writers--Blake, Wordsworth, and Coleridge. Additional readings in selected prose writers and minor poets.

**4520 Later Romantic Poetry and Prose (3)**

The English romantic movement with special emphasis on the later writers--Byron, Shelley, and Keats. Additional readings in selected prose writers and minor poets.

**4540 The Nineteenth-Century English Novel (3)**

Novels of the Romantic and Victorian Periods, from Austen to George Eliot.

**4560 Prose and Poetry of the Victorian Period (3)**

Critical readings of selections from Tennyson, Browning, Arnold, and others, in addition to selections from the major prose writing.

**4580 Literature of the Late Nineteenth and Early Twentieth Centuries (3)**

Literature of the period between 1870 and the First World War, including works by writers such as Hardy, Conrad, James, Wilde, Stevenson, Shaw, Jefferies, and Wells.

**4610 Selected Major American Writers I (3)**

American literature of the nineteenth century: Emerson, Thoreau, Hawthorne, Melville, Whitman, and others.

**4620 Selected Major American Writers II (3)**

American literature of the late nineteenth and early twentieth centuries: James, Twain, Stephen Crane, Dreiser, and others.

**4630 African American Literature Prior to 1900 (3)**

Prerequisites: (Majors) Engl 3090, (Non-majors) Engl 3100 or consent of instructor. An examination of the roots of the African American literary tradition with emphasis on 19<sup>th</sup> century texts, primarily rhetoric and oratory by African Americans, though more contemporary work and other "forms" may be included. Study will focus on captivity/slave narratives, autobiography, sermons, poetry, prose, antebellum and post-bellum essays, speeches, spirituals and other relevant materials.

**4640 American Fiction to World War I (3)**

Development of the novel and short story in America.

**4650 Modern American Fiction (3)**

The novel and short story in America since World War I. There may be some attention to British and continental influences.

**4660 African American Literature Since 1900 (3)**

Prerequisites: (Majors) Engl 3090 (Non-majors) Engl 3100 or consent of instructor. This course examines the literary work of African Americans, focusing on fiction, poetry, short stories and essays written after 1900 expressing the major cultural, literary and thematic concerns of African Americans writing in the twentieth century, though some pertinent 19<sup>th</sup> century works may be included. Students will become familiar with "movements" in African American literature, such as protest literature, the Black Arts Movement, and the emergence of African American women's writing among others.

**4740 Poetry Since World War II (3)**

Reading and analysis of contemporary poetry.

**4750 Modern British Fiction (3)**

Critical reading and analysis of British fiction of the twentieth century. There may be some attention to American and continental influences.

**4760 Modern Drama (3)**

British, American, and European drama of the last one hundred years: the well-made play, the problem play, verse drama, new definitions of tragedy, the angry theater, theater of the absurd.

**4770 Modern Poetry (3)**

Critical reading and analysis of poetry of the late nineteenth and early twentieth centuries: Yeats, Eliot, Frost, Williams, and others.

**4910 Studies in African/African American Literature, Criticism, and Diaspora (3)**

Prerequisites: (Majors) Engl 3090, (Non-majors) Engl 3100 or consent of Instructor.

This course focuses on the study of select topics of African and African American Literature and Criticism and Black Diaspora texts. Topics from semester to semester may vary and include such concentration areas as the Literature of Civil Rights, African American Memoir, Trans-Atlantic Black Literature, Captivity and Freedom Narratives, Diaspora Studies, The African American Folk Aesthetic, Poetry of the Black Aesthetes, Theories of Race and Class, and Black Feminist Writing, among others.

**4920 Major Works of European Fiction (3)**

Prerequisites: Two college courses in literature. The development of the European novel in the nineteenth and twentieth centuries. Representative works of writers such as Balzac, Flaubert, Dostoevsky, Tolstoy, Kafka, and Proust, read in translation.

**4930 Studies in Women and Literature (3)**

The course examines feminist critical approaches to literature, the appropriation or transformation of literary genres by women writers, or the writings of women during a particular historical period. Specific topics vary from



semester to semester. The course may be repeated for credit if topics are substantially different.

**4940 Special Topics in Jewish Literature (3)**

Intensive readings, critical discussion, and writing on topics relating to Jewish literature. Topics to be announced. This course may be repeated for credit if the topics are substantially different.

**4950 Special Topics in Literature (3)**

Special topics in literature that are not covered in other 4000-level English courses. Since the topics of English 4950 may change each semester, the courses may be repeated for credit if the topics are substantially different.

**4960 Ethnic Literatures (3)**

Prerequisites: Engl 3100 or for English Major, Engl 2320, Engl 2720, and Engl 3090, or permission of instructor. This course will examine the literary work of Ethnic Writing with a special focus on the function of identity in literature. Students will read work arranged either as a collection of various ethnic writers or as subject-specific groups, such as Women Writers of Color, Irish/Irish American Writers, West Indian Writers in the US, South African Writers, etc. Students will come to understand the socio-historic relevance of literary movements as well as significant events such as the Great Northern Migration, Eugenics, World Wars I and II, etc. in order to understand how representative American and World Literature has become more culturally diverse and inclusive in the 20<sup>th</sup> century.

**5000 Introduction to Graduate Study in English (3)**

A course designed to prepare students for the professional study of English. The course will both familiarize students with basic bibliographic tools and scholarly methods and introduce them to issues that are of current critical interest to those engaged in the advanced study of literature. These issues include gender, textuality, reader-response, multiculturalism, feminism, psychoanalysis, cultural studies, literary history and the relationship of literature to philosophy, history and science. Must be taken within the first twelve hours of graduate study.

**5030 Literary Criticism (3)**

An examination of selected theories of literature.

**5040 Feminist Critical Theory (3)**

Prerequisite: Graduate standing and consent of instructor. A consideration of feminist critical theory as a means of reassessing literary texts and our cultural heritage. After exploring the roots of feminist criticism, the seminar will examine Anglo-American and continental debates on theories of language, writing and representation. In providing an interdisciplinary context the course will consider studies in psychology, anthropology, history, and philosophy/theology which have influenced and enriched feminist approaches to literature.

**5150 Magical Realism Workshop (3)**

Prerequisites: Open to student in the MFA Program and other graduate students with consent of instructor. Half of this course will be a study of the classic texts of magical realism and the other half will be a fiction workshop in which the members of the class will write in this imaginative and symbolic genre. Non-MFA students will write a critical study of magical realism.

**5180 Form and Theory of Poetry (3)**

Prerequisites: Open to students in the MFA Program and other graduate students with consent of instructor. This course explores various aspects of traditional and contemporary poetry. The student will gain an understanding of formal poetry-rhyme and meter-as well as of traditional types of poetry, for example, the lyric and the narrative. Throughout the course, an emphasis will be maintained on free verse and a greater understanding of its practice. Students will read selectively in the poetry, theory, and critical approaches of various periods, for example, the romantic and the modern, and within various movements, such as the symbolist or confessional.

**5250 Studies in Middle English Literature (3)**

Special topics in English literature before 1500.

**5300 Renaissance Literature (3)**

Special topics in English literature from 1500 to 1660.

**5400 Eighteenth-Century Literature (3)**

Studies in Augustan poetry and prose, including drama and fiction, with emphasis on background and major figures.

**5500 Nineteenth-Century Literature (3)**

Special topics in English romanticism, in Victorian life and thought, and in the development of the novel and of poetry between 1797 and 1914.

**5600 American Literature Before 1900 (3)**

Selected American writers or topics from the Colonial period to 1900.

**5650 Critical Studies in African American Texts (3)**

This course will examine the critical and literary work of African Americans and Afro-Caribbeans. It will focus on fiction, poetry, short stories and essays expressing the major cultural, literary and thematic concerns of African American writing in the latter part of the twentieth century. Students will become familiar with "movements" in African American literature such as protest literature, the Black Arts Movement, and/or the emergence of African American Women's writing, among others. Students will utilize current scholarship, theory, and criticism as a means to investigate and study primary texts in the course.

**5700 Twentieth-Century American Literature (3)**

Selected American writers or topics from 1900 to the present.

**5750 Twentieth-Century British Literature (3)**

Selected British and Commonwealth writers of the twentieth century.

**5910 Studies in Poetry (3)**

Study of a few selected British and American poets.

**5920 Studies in Fiction (3)**

Study of a few selected British and American novelists and short story writers.

**5930 Studies in Drama (3)**

Study of a few selected British and American dramatists.

**5950 Seminar in Special Topics (1-3)**

Special topics which are not covered in other graduate-level English courses.

**5970 Independent Reading (1-3)**

Directed study in areas of English for which courses are not available.

**6000 Thesis (6)**

Prerequisite: 3.5 graduate G.P.A. Thesis research and writing on a selected topic in English studies.

**Special Offerings****3500 Special Studies (1-3)**

Prerequisites: A course in the area of proposed work and consent of instructor. Individual work, with conferences adjusted to needs of the student. May not be used to meet specific English department distribution and language requirements. May be repeated for a maximum total of three hours credit.

**4885 The Curriculum and Methods of Teaching English (3)**

Prerequisites: Tch Ed 3310 and a near major in the subject area. (Same as Sec Ed 4885). A study of the scope and sequence of the English courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. The course prepares students for reflective teaching by relating course readings to field experiences and theory to practice. To be taken prior to student teaching and concurrently with Secondary Education Professional Internship, Sec. Ed 4989. This course must be completed in residence. Not available for graduate credit.

**4888 English Teaching Seminar (2)**

Prerequisites: Sec Ed 4885/Engl. 4885 and a near major in the subject area. Same as Sec Ed 4888. A seminar in the integration of English curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary Student Teaching, Sec. Ed 4990. Not available for graduate credit.

**4900 Seminar (3)**

Prerequisite: Consent of instructor. Intensive reading, critical discussion, and writing on topics to be announced each semester. Since the topics of Engl 4900 may change each semester, the course may be repeated for credit if the topics are substantially different. Enrollment limited to twelve students.

## Department of Foreign Languages and Literatures

### Faculty

**Rolf R. Mueller**, Assistant Professor, German, Chairperson  
Ph.D., University of Kansas

**Roland A. Champagne**, Professor Emeritus\*, French,  
Ph.D., Ohio State University

**Lorna V. Williams**, Professor\*, Spanish  
Ph.D., Indiana University

**Jeanne Morgan Zarucchi**, Professor\*, French and Art  
History  
Ph.D., Harvard University

**Marcus Allen**, Associate Professor Emeritus\*, French  
Ph.D., University of Pittsburgh

**Albert J. Camigliano**, Associate Professor Emeritus,  
German  
Ph.D., University of Wisconsin

**Ingeborg M. Goessl**, Assistant Professor Emerita\*, German  
Ph.D., University of Kansas

**Maite Núñez-Betelu**, Assistant Professor, Spanish  
Ph.D., University of Missouri-Columbia

**Sheridan Wigginton**, Assistant Professor,  
Spanish and Education  
Ph.D., University of Missouri-Columbia

**Deborah Baldini**, Senior Lecturer, Spanish  
Ph.D., University of Missouri-St. Louis

**Anne-Sophie Blank**, Senior Lecturer, French  
M.A., Washington University

**Margaret B. Phillips**, Senior Lecturer, Latin  
Ph.D., Saint Louis University

**Susana Walter**, Senior Lecturer, Spanish  
M.A., Washington University

**Zayda Arrillaga**, Lecturer, Spanish  
M.A., Harvard University

**Maria Teresa Balogh**, Lecturer, Spanish  
M.A., Southern Illinois University, Carbondale

**Martha Caeiro**, Senior Lecturer, Spanish  
M.A., Washington University

**Donna Cays**, Lecturer, Spanish  
M.A., Saint Louis University

**Elizabeth Eckelkamp**, Lecturer, Japanese  
M.A., Washington University

**Elizabeth Landers**, Lecturer, French  
M.A., Washington University

**Xingbo Li**, Lecturer, Chinese  
Ph.D., University of Texas, Austin

**Nancy Mayer**, Lecturer, ESL  
M.A.T., Webster University

**Denise Mussman**, Senior Lecturer, ESL  
M.A., University of Illinois-Chicago

**Vassiliki Rapti**, Lecturer, Modern Greek Studies  
M.A., University of Missouri-St. Louis

**Kimberley Sallee**, Lecturer, Spanish  
M.A., University of New Mexico

**Sandra Trapani**, Senior Lecturer, French  
M.A., University of Missouri-Columbia

**Susan Yoder-Kreger**, Lecturer, Spanish  
M.A., University of Virginia, Charlottesville

\*members of Graduate Faculty

### General Information

#### Degrees and Areas of Concentration

The Department of Foreign Languages and Literatures offers course work in French and Spanish, leading to the B.A. degree, and a field of concentration in each of these languages for students seeking the B.S. degree in education. In addition, the department offers lower-level courses in English as a Second Language, German, Modern Greek, Japanese, and Latin.

A minor in French, German, or Spanish may also be earned in the department. For details, see specific requirements for the minor, which appears later in this section.

The department maintains a library where books, journals, magazines, and other foreign language realia are available to students, and a language resource center with audiovisual and computer materials.

#### Cooperative Study

Courses in other languages are available to UM-St. Louis students through Washington University, Saint Louis University, Harris-Stowe State College, and SIU-Edwardsville. For information, consult the UM-St. Louis registrar's office.

#### Study Abroad

Language students who have been at the University of Missouri-St. Louis at least one semester and have studied the language at least one year may receive credits for formal study abroad during the summer. Prior consent of the department must be obtained for summer courses abroad, and the student must present a transcript for evaluation.

Exchange programs are available with several universities in foreign countries. For information, contact the study abroad office.

#### Alumni Scholarship

Qualified junior and senior language majors may apply for the Foreign Language Alumni Scholarship, which is renewable each semester on a competitive basis. For information, contact the department.

#### Community College Scholarship

Qualified community college students may apply for the Foreign Language Community College Scholarship to be applied for educational fees toward the enrollment in third semester or higher courses in French, German, or Spanish. This scholarship must be used within one semester of the award. For information, contact the department.

#### German Scholarships

Students of German may apply for UM-St. Louis Summer Abroad scholarships that will partially finance their summer studies abroad. For information, contact the department.

**Departmental Honors** Candidates for departmental honors in French or Spanish must meet the following requirements:

- 1) Achieve a GPA of 3.5 in the major for all hours attempted beyond the first two semesters. (Language Courses 1001 and 1002.
- 2) Maintain an overall GPA of 3.0.
- 3) Successfully complete an honors thesis or project.

### Undergraduate Studies

#### General Education Requirements

Each language major must satisfy the general education requirements of the university and the general education requirements of the College of Arts and Sciences.

#### Satisfactory/Unsatisfactory Option

Students who have fulfilled the language requirement (13 hours: Language Courses 1001, 1002, and 2101) may enroll in a second language on a satisfactory/ unsatisfactory basis.

#### Specific Requirements or Restrictions

Students entering with no high school language units must enroll in Language 1001 or may enroll in Language 2115. Language 2115 (a, b, and c) is the intensive study of a language and will satisfy the foreign language requirement. 2115a, 2115b, and 2115c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better, to satisfy the foreign language requirement.

A grade of D in a Language 1001 course is a passing grade but not an entrance grade for a Language 1002 course. A grade of D in a Language 1002 course is a passing grade but not an entrance grade for a Language 2101 course or its equivalent. A grade of D in a Language 2101 course fulfills the language requirement, but is not an entrance grade for a higher-level course.

Demonstration of a high level of proficiency may reduce the number of hours required for the major. Native speakers of a foreign language should consult with the department concerning appropriate placement.

Students may not take for credit an elementary course if they have already completed a higher-level course for which the elementary course, or its equivalent, is a prerequisite.

#### Degree Requirements

Students electing to major in the department must have completed the 1002 course in the language selected with a grade of C- or better. Any major who receives a grade of D in any course required for the major must repeat that course. No course required for the major may be taken on a satisfactory/ unsatisfactory (s/u) basis.

#### Bachelor of Arts

All students seeking a B.A. in a foreign language must meet the departmental requirement of a minimum of 33 hours

(excluding Language 1001 and 1002). The maximum number of hours that may be taken in the major is 45 (including Language 1001 and 1002). In addition, students seeking the B.A. in a foreign language who desire a teaching certificate must also take Course 3264 (same as SEC ED 3274), Curriculum and Methods of Teaching Foreign Languages, Course 4364 (same as SEC ED 4374), Foreign Language Teaching Seminar, and fulfill the professional secondary education requirements of the College of Education.

#### Bachelor of Science in Education

Those students seeking the B.S.Ed. degree, with a concentration in a foreign language, are required to complete 30 hours of work (excluding credit for Language 1001 and 1002, of which 12 hours must be on the 4000 level. Students working toward a degree in elementary education, with related work in a foreign language, should consult the College of Education concerning their program.

#### Transfer Students

Transfer students majoring in one of the foreign languages must complete at UM-St. Louis a minimum of 12 graded hours in language courses at the 3000 level or above with a grade point average of 2.0 or better in these courses.

#### Native Speakers

Native speakers must complete at least two courses at the 3200 level and four courses at the 4300 level to obtain a major in their native language.

#### Specific Requirements for the Major

##### French

Each major in French must complete the following courses:

- 2101, Intermediate French Language and Culture, or the equivalent
  - 2102, Intermediate French Language and Culture II
  - 2180, Readings in French
  - 3200, Advanced Grammar
  - 3211, Contemporary French Civilization
  - 3280, French Literature I: Middle Ages to Eighteenth Century
  - 3281, French Literature II: Nineteenth and Twentieth Centuries
- and four courses at the 4000-level.

The following courses are also strongly recommended:

- German 2110, Masterpieces of German Literature in Translation
- Spanish 2110, Spanish Literature in Translation
- History 4351, Contemporary France: Since 1870

##### Spanish

Each major in Spanish must complete the following courses:

**2101, Intermediate Spanish Language and Culture, or 2105, Commercial Spanish, or the equivalent**

**Two of the following three:**

2171, Spanish Conversation and Pronunciation  
2172, Spanish Composition  
2180, Readings in Spanish

3200, Syntax of the Spanish Language  
3210, Hispanic Culture and Civilization: Spain, or  
3211, Hispanic Culture and Civilization: Spanish America  
3280, Introduction to Hispanic Literature: Spain  
3281, Introduction to Hispanic Literature: Spanish America

**and four courses at the 4000-level, one of which must be:  
4399, Seminar on Hispanic Literature**

The following courses are also strongly recommended:

**French 2110, Modern French Literature in Translation, or  
2150, European Literature in Translation: Special Topics**  
**German 2110, Masterpieces of German Literature in  
Translation**  
**History 4355, History of Spain**  
**History 4371, History of Latin America: to  
1808**  
**History 4372, History of Latin America: Since  
1808**  
**PolSci 3253, Political Systems of South  
America**  
**PolSci 3254, Political Systems of Mexico, Central America,  
and the Caribbean**

**Specific Requirements for the Minor**

A minor in French, German, or Spanish requires the completion of four courses in the language beyond the basic foundation sequence (Language 1001, Language 1002, and Language 2101). Transfer students must complete at least two courses for the minor at UM-St. Louis. All courses must be passed with a grade of C- or better.

**French**

2102, Intermediate French Language and Culture II  
2180, Readings in French  
**Plus two French courses on the 3000-level or above.**

**German**

2170, Composition and Conversation  
2180, Readings in German  
**Plus two German courses on the 3000-level or above.**

**Spanish**

**Two of the three**  
2171, Conversation and Pronunciation  
2172, Composition  
2180, Readings in Spanish  
**Plus two Spanish courses on the 3000-level or above.**

Students pursuing a graduate degree in secondary education may select an emphasis area in French, German, or Spanish. These required eighteen hours may be selected from 3000 and 4000 level courses in these languages.

**Certificate in Foreign Language and Study Abroad**

Students seeking the certificate must complete language courses at UM-St. Louis and abroad. The Center for International Studies and the Department of Foreign Languages and Literatures cooperate in offering the Certificate.

**1) Foreign language study at UM-St. Louis**

Students must select one of the following languages and complete the required courses at UM-St. Louis. Total: 6 credit hours.

**A. French**

French 2102, Intermediate French Language and Culture II  
French 2180, Readings in French

**B. German**

German 2170, Composition and Conversation  
German 2180, Readings in German

**C. Spanish**

Spanish 2172, Spanish Composition  
Spanish 2180, Readings in Spanish

**2) Foreign language study abroad**

Students must complete two additional three credit hour courses, in language or literature, taught in the same target language selected above, at a foreign university that is affiliated with the UM-St. Louis Study Abroad Program, towards the goal of increasing competence in the target language. Total: 6 credit hours. All courses must be approved by the Department of Foreign Languages and Literatures.

Students should consult the study abroad advisor in the Center for International Studies to select a site for their study abroad experience. Then, students should consult their advisor in the Department of Foreign Languages and Literatures to select appropriate courses.

**Minor in Applied Spanish**

An applied minor in Spanish may be earned by completing five courses in Spanish beginning with Spanish 2101 or its equivalent. These courses need to be completed with a C- or better. Transfer students must complete at least two courses for the Applied Minor at UM-St. Louis. After Spanish 2101, students must complete the following courses in Spanish:

2171, Conversation and Pronunciation  
2172, Composition

One of the following courses:

3200, Syntax, of the Spanish Language  
3210, Hispanic Culture and Civilization: Spain

**3211, Hispanic Culture and Civilization: Spanish America**  
**3271, Advanced Spanish Conversation**  
Plus  
**3275, Practicum in Spanish**

### Career Outlook

Graduates with a foreign language degree may elect to enter the fields of teaching, business, journalism, communications, or government, or to pursue advanced degrees in their specialty. It is especially recommended that students consider a double major or another discipline and a language. A language then becomes an asset that makes graduates more adaptable to the demands of international communication in their second major discipline and hence more competitive and marketable upon completion of the B.A. degree.

### Course Descriptions

Prerequisites may be waived by consent of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin

FRENCH: 2101, 2102, 2110, 2150, 2180, 3211, 3280, 3281, 4331, 4341, 4342, 4353, 4354, 4362, 4365, 4371, 4375, 4390. GERMAN: 2101, 2110, 2150, 2180, 3201, 3202, 3210, 4311, 4315, 4320, 4345, 4397, 4398, 4399.  
ANCIENT GREEK: 2101. MODERN GREEK: 2101.  
JAPANESE: 2101. LATIN: 2101. SPANISH: 2101, 2110, 2111, 2150, 2180, 3210, 3211, 3280, 3281, 4310, 4315, 4320, 4321, 4325, 4330, 4331, 4335, 4340, 4345, 4351, 4360, 4399.

#### 2111 Love in the Western World (3)

This course will examine concepts of love in western literary traditions. Its main focus will be concepts of love from Greek and Roman antiquity and Christianity, and the ways that these concepts have shaped modern ideas of love. Emphasis on language and culture is also important in interpreting the texts.

#### 3264 Curriculum and Methods of Teaching Foreign Languages (3)

Same as Sec Ed 4274. Prerequisites: Teacher Educ 3310 and passing the departmental language skills test. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of foreign languages. To be taken prior to student teaching. This course must be completed in residence.

#### 4300 Language Acquisition and Analysis (3)

The nature of human language, including language universals, sounds and sound patterns, word formation, and language processing. Students will be acquainted with first and second language acquisition, and will analyze data from various languages. Recommended for teachers of English and foreign languages.

#### 4364 Foreign Language Teaching Seminar (2)

Same as Sec Ed 4374. Prerequisite: Concurrent enrollment in Sec Ed 3290 or consent of instructor. A practicum course in the teaching of foreign languages. Review and explanation of drills, dialogues, and a variety of classroom techniques, oral and written. A continuation of FLL 3264, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with Sec Ed 3290, Student Teaching.

#### 4399 Standards-Based Foreign Language Instruction (3)

Prerequisites: Teacher certification and one year teaching experience. Designed to provide in-service foreign language teachers with the background to enable them to design instructional units, which incorporate the standards for foreign language learning. May be applied toward the Master's in Secondary Education with an emphasis in foreign language teaching.

#### 5464 Issues in Foreign Language Methodology (3)

Prerequisite: Foreign language education certification and teaching experience. Designed for secondary foreign language teachers, this course addresses recent developments in approaches and methods in the teaching of foreign languages. Emphasis is on curriculum design, teaching strategies, and evaluation. This course may be repeated for credit provided that the topic is different each time.

### Chinese

#### 1001 Chinese I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese and upon the acquisition of the fundamentals of grammar and syntax.

#### 1002 Chinese II (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese. Continuation of the acquisition of the fundamentals of grammar and syntax.

#### 2101 Intermediate Chinese I (5)

Prerequisite: Chinese II or equivalent. Grammar review and continued development of language skills.

#### 2102 Intermediate Chinese II (5)

Prerequisite: Chin 2101 or equivalent. Continuation of Chin 2101.

#### 2190 Special Readings (1-3)

Prerequisite: Chin 2102 or consent of the department. Independent study through readings, reports, and conferences.

## English as a Second Language

### 3201 ESL Listening and Speaking Skills (3)

Prerequisite: Minimum TOEFL score of 450 or placement by examination. This course is for international students. They gain skills in conversational level listening and speaking. Students improve comprehensive and discrete listening skills, conversation in various situations, strategies and pronunciation. In addition, students will practice these skills and learn about American culture by participating in local field trips. This course does not count toward a degree.

### 3203 Intermediate ESL Reading and Writing (3)

Prerequisite: Minimum TOEFL score of 450 or placement by examination. In this course international students develop fluency in their reading and writing skills in American English. This course consists of reading a variety of types of written texts, vocabulary building, organization in writing from the paragraph to essay, techniques for generating ideas, grammar use and editing. This course does not count toward a degree.

### 3205 Intermediate ESL Grammar (3)

Prerequisite: Minimum TOEFL score of 450 or placement by examination. A course for international students who have already studied Basic English grammar. The content covers intensive study of verb tenses; their forms, meanings an integrated use; and other grammatical structures. This course does not count toward a degree.

### 4301 Advanced ESL Conversation and Pronunciation (3)

Prerequisite: Minimum TOEFL score of 500. Designed for non-native speakers who need to improve their fluency and pronunciation in American English. Conversation strategies, oral presentations and extensive practice to reduce accent are included. This course does not count toward a degree.

### 4302 Advanced ESL Listening and Note-taking (3)

Prerequisite: Successful completion of ESL 3201, minimum TOEFL score of 500 or placement by examination. Listening and note-taking skills are developed through practice. Students learn to recognize the organization and emphasis of class lectures. Strategies include vocabulary building, test taking, and participation in class discussions. This course does not count toward a degree.

### 4303 Advanced ESL Reading and Writing (3)

Prerequisite: Successful completion of ESL 3203, minimum TOEFL score of 500 or placement by examination. To prepare students for English 1100 or English 3210, writing skills include organization of essays, rhetorical forms and their structure works, revision of ideas, research techniques, grammar use and editing. For reading development, students read articles and a novel, practice reading strategies and learn how to summarize articles. This course does not count toward a degree.

### 4305 Advanced ESL Grammar (3)

Prerequisites: Minimum TOEFL score of 500. This course is for ESL students who need review and applied practice of English grammar for oral and written work. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

### 4307 Advanced Pronunciation and Accent Reduction (3)

Prerequisites: ESL 4301, placement or consent of instructor. Designed for non-native speakers who have fluency in speaking English but need to reduce their accent to be better understood and feel confident expressing ideas. Course includes review and practice of the pronunciation of the consonants and vowels in American English; accent reduction, achieved through extensive practice of the stress, rhythm and intonation patterns; speaking skills through presentations. This course does not count toward a degree.

### 4390 Special Readings (1-3)

Prerequisites: Consent of instructor. Independent study through readings, reports and conferences.

### 5400 International Teaching Assistant Seminar (1-3)

Prerequisites: Consent of department. Focus is on presentation skills, strategies to facilitate communication, and cultural differences in education. Students develop effective teaching skills through class presentations. Not applicable to graduate degree program.

## French

### 1001 French I (5)

Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

### 1002 French II (5)

Prerequisite: French 1001 or equivalent. Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

### 2101 Intermediate French Language and Culture I (3)

Prerequisite: Fre 1002 or equivalent. Students will advance their understanding of Francophone cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

### 2102 Intermediate French Language and Culture II (3), [C, H]

Prerequisite: French 2101 or equivalent. Emphasis will be placed on the study of French and Francophone culture and the continued development of language skills through meaningful communicative interaction.

**2110 Modern French Literature in Translation (3)**

Prerequisite: Sophomore standing. Reading and discussion of selected works in French literature from modern period, in English translation. No credit toward major in French.

**2111 Francophone Culture (3)**

Prerequisites: French 1002 or equivalent and permission of instructor. Analyses and discussions of cultural issues in the French-speaking world through the critical reading of representative texts.

**2115A, 2115B, 2115C Intensive French (15)**

Prerequisites: Aptitude test and permission of department. An intensive study of French 2115a, 2115b, 2115c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Sciences.

**2150 European Literature in Translation: Special Topics (3)**

Major figures, works, or movements in the literature of Europe and their relevance to our own age. The department announces topic in advance. Does not count toward major in French.

**2160 French Phonetics (3)**

Prerequisite: Fre 2101 or consent of instructor. An analytic and practical study of French pronunciation. Emphasis is placed upon the articulation and practice of contemporary French sounds.

**2180 Readings in French (3), [C, H]**

Prerequisite: Fre 2170 or equivalent. Development of language skills through reading and discussion of literary texts.

**2190 Special Readings in French (1-3)**

Prerequisites: Fre 2101 and consent of the department. Independent study on mutually acceptable topics through readings, reports, and conferences.

**3200 Advanced Grammar (3)**

Prerequisite: Fre 2170 or equivalent. Problems in grammatical analysis.

**3205 Commercial French (3)**

Prerequisite: Fre 2170 or equivalent. Introduction to French business language with emphasis on technical vocabulary and correct French usage in business affairs.

**3211 Contemporary French Culture (3)**

Prerequisite: Fre 2180 and 3200 or equivalent. Aspects of contemporary French culture, studied through a variety of authentic cultural materials and readings of fiction and nonfiction. All readings and class work are in French.

**3271 Intermediate French Conversation (3)**

Prerequisites: Fre 2170 or consent of department. Emphasis will be placed upon the further development of oral skills in French.

**3280 French Literature I: Middle Ages to Eighteenth Century (3)**

Prerequisite: Fre 2180 and 3200 or equivalent. Designed to acquaint the student with the development of French literature from the Middle Ages to the eighteenth century. Critical reading of representative texts.

**3281 French Literature II: Nineteenth and Twentieth Centuries (3)**

Prerequisite: Fre 2180 and 3200 or equivalent. Designed to acquaint the student with the development of French literature from the nineteenth century to the present. Critical reading of representative texts.

**3290 Special Readings (1-3)**

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

**4300 Syntax and Stylistics (3)**

Prerequisite: Fre 3200 or equivalent. Advanced theoretical and practical study of modern French syntax. Analysis of French prose style.

**4311 Special Topics in French Culture (3)**

Prerequisite: Junior standing or Fre 3280 or 3281 for French majors. Selected topics in French culture. This course may be repeated for credit provided the topic is different each time.

**4331 Medieval and Renaissance Literature (3)**

Prerequisite: Fre 3280 or 3281. A study of the development of French literature from the Middle Ages to the end of the sixteenth century. Texts for reading and discussion will include medieval romances, lyric poetry, and works of humanist philosophy.

**4341 Seventeenth-Century French Theater and Poetry (3)**

Prerequisite: Fre 3280 or 3281. Critical reading and analysis of French Classical Age theater and poetry, including works by Corneille, Moliere, Racine, and La Fontaine.

**4342 Seventeenth-Century French Prose (3)**

Prerequisite: Fre 3280 or 3281. A study of moralists and social commentators in the age of Louis XIV, with critical reading and analysis of texts by Pascal, La Rochefoucauld, and others.

**4353 Eighteenth-Century French Literature (3)**

Prerequisite: Fre 3280 or 3281. The philosophic movement. Selected readings of the eighteenth century, including Montesquieu, Voltaire, Diderot, and Rousseau.



**4354 Eighteenth-Century French Theater and Novel (3)**

Prerequisite: Fre 3280 or 3281. Critical reading and discussion of representative novels and plays of the eighteenth century.

**4362 Nineteenth-Century French Novel (3)**

Prerequisite: Fre 3280 or 3281. Critical reading of selected works by the major novelists of the period. Discussion of realism and naturalism.

**4365 Modern French Poetry (3)**

Prerequisite: Fre 3280 or 3281. A study of French poetry in the nineteenth and twentieth centuries through critical readings of selected works by major poets.

**4371 Twentieth-Century French Novel (3)**

Prerequisite: Fre 3280 or 3281. A study of selected works by the principal novelists of the modern period.

**4375 Modern French Theater (3)**

Prerequisite: Fre 3280 or 3281. A study of French drama in the nineteenth and twentieth centuries through critical study of selected works by major dramatists.

**4390 Special Readings (1-3)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

**4399 French Seminar (3)**

Prerequisite: Fre 3280 or 3281. Specialized topic in French literature. Subject to be announced by instructor in charge of seminar.

**5400 Contemporary French Thought (3)**

Prerequisite: B.A. or permission of instructor. Analyses and discussion of contemporary cultural French issues through a representative sample of journals and pamphlets. In French.

**German**

**1001 German I (5)**

Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

**1002 German II (5)**

Prerequisite: Ger 1001 or equivalent. Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

**2101 Intermediate German Language and Culture (3)**

Prerequisite: Ger 1002 or equivalent. Students will advance their understanding of German-speaking cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

**2110 Masterpieces of German Literature in Translation (3)**

Prerequisite: Sophomore standing. Representative readings in German literature from the beginning to the present. Emphasis to be placed upon German literature in the general context of European culture. No credit toward minor in German.

**2115A, 2115B, 2115C Intensive German (15)**

Prerequisites: Aptitude test and permission of department. An intensive study of German assuming no previous knowledge of German. 2115a, 2115b, 2115c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

**2150 European Literature in Translation: Special Topics (3)**

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic announced in advance by the department. Does not count toward major in German.

**2170 Composition and Conversation (3) [C, H]**

Prerequisite: Ger 2101 or equivalent. Emphasis will be placed on the development of speaking and writing skills in German.

**2180 Readings in German (3) [C, H]**

Prerequisite: Ger 2170 or equivalent. May be taken concurrently. Further development of language skills through readings and discussions of literary texts.

**2190 Special Readings (1-3)**

Prerequisites: Ger 2101 and consent of department. Independent study on mutually acceptable topics through readings, reports, and conferences.

**3201 Masterpieces of German Literature (3)**

Prerequisite: Two years of college German or equivalent. Introduction to German literature. Readings and critical analysis of selected works of German literature.

**3202 The German Novelle and Drama (3)**

Prerequisite: Ger 3201 or equivalent. Reading and critical analysis of selected German Novellen and dramas.

**3208 Intermediate Composition and Conversation (3)**

Prerequisite: Ger 2170 or equivalent. Emphasis on speaking and writing German.

**3210 German Culture and Civilization (3)**

Prerequisite: Ger 2180 or equivalent. A survey of the development of German culture and civilization. All reading and class work in German.

### 3290 Special Readings: German (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

### 4308 Advanced Composition and Conversation (3)

Prerequisite: Ger 3208 or equivalent. Continuation of Ger 3208. Designed to develop accuracy and fluency of expression in German.

### 4311 Special Topics in German Culture (3)

Prerequisites: At least one 3000 level German course and/or consent of instructor. Discussion of selected topics of German current events. This course may be repeated for credit provided the topic is different each time.

### 4315 German Classicism and Romanticism (3)

Prerequisites: Ger 3201 and one other 3000-level course in German. Representative writers from the classical and romantic periods of German literature, including works by Lessing, Goethe, Kleist, and E.T.A. Hoffmann.

### 4320 German Realism and Naturalism (3)

Prerequisites: Ger 3201 and one other 3000-level course in German. Representative writers of realism and naturalism in German literature, including works of Grillparzer, Hebbel, Stifter, Keller, and Hauptmann.

### 4345 Modern German Literature (3)

Prerequisites: Ger 3201 and one other 3000-level course in German. Representative works from modern German literature.

### 4390 Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

### 4397 Survey of German Literature Part I (3)

Prerequisite: Ger 3201 or 3202. Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

### 4398 Survey of German Literature Part II (3)

Prerequisite: Ger 3201 or 3202. Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

### 4399 German Seminar (3)

Prerequisite: Ger 3201 or 3202. Specialized topic in German literature.

## Ancient Greek

### 1001 Ancient Greek 1 (5)

Study of grammar, syntax, and vocabulary, accompanied by readings of simple prose selections.

### 1002 Ancient Greek 2 (5)

Prerequisite: Anci Gk 1 or equivalent. The study of vocabulary, grammar, and syntax is continued from Greek 1. Readings and discussion from selected classical authors.

### 2101 Intermediate Ancient Greek Language and Culture (3)

Prerequisite: Anci Gk 1002 or equivalent. Students will advance their understanding of ancient Greek culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

### 2151 Greek and Latin in English Today (3)

Same as Latin 2151 Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.

### 2190 Special Readings (1-3)

Prerequisites: Gk 2101 and consent of department. Independent study through readings, reports, and conferences.

## Modern Greek

### 1001 Modern Greek I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Modern Greek and upon the acquisition of the fundamentals of grammar and syntax.

### 1002 Modern Greek II (5)

Prerequisite: Mod Gk 1001 or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Modern Greek and upon the acquisition of the fundamentals of grammar and syntax.

### 2101 Intermediate Modern Greek Language and Culture (3)

Prerequisite: Mod Gk 1002 or equivalent. Students will advance their understanding of Modern Greek culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

### 2150 Modern Greek Literature in Translation (3)

This course is an exploration of significant works by major Modern Greek authors, dealing with relevant issues of Western literary traditions. Authors include Cavafy, Kazantzakis, Seferis, Solomos, Elytis.

### 2190 Special Readings (1-3)

Prerequisite: Mod Gk 2101 or consent of the department. Independent study through readings, reports, and conferences.

## Japanese

### 1001 Japanese I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese and upon the acquisition of the fundamentals of grammar and syntax.

### 1002 Japanese II (5)

Prerequisite: Japan I or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese. Continuation of the acquisition of the fundamentals of grammar and syntax.

### 2101 Intermediate Japanese I (5)

Prerequisite: Japan 1002 or equivalent. Students will advance their understanding of Japanese culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

### 2102 Intermediate Japanese II (5)

Prerequisite: Japan 2101 or equivalent. Continuation of Japan 2101.

### 2190 Special Readings (1-3)

Prerequisite: Japan 2102 or consent of the department. Independent study through readings, reports, and conferences.

### 3290 Special Readings (1-3)

Prerequisites: Japan 2190 or consent of instructor. Independent study through readings, reports and conferences.

## Latin

### 1001 Latin 1 (5)

A study of Latin grammar, syntax, and vocabulary, accompanied by reading selections from literary texts.

### 1002 Latin 2 (5)

Prerequisite: Latin 1001 or equivalent. The study of vocabulary, grammar, and syntax is continued from Latin 1. Readings and discussion from selected classical authors.

### 2101 Intermediate Latin Language and Culture (3)

Prerequisite: Latin 1002 or equivalent. Students will advance their understanding of Roman culture through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

### 2151 Greek and Latin in English Today (3)

Same as Anci Gk 2151. Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin, and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.

### 2190 Special Readings (1-3)

Prerequisites: Latin 2101 and consent of department. Independent study through readings, reports, and conferences.

## Spanish

### 1001 Spanish I (5)

Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

### 1002 Spanish II (5)

Prerequisite: Span 1001 or equivalent. Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

### 2101 Intermediate Spanish Language and Culture (3)

Prerequisite: Span 1002 or equivalent. Students will advance their understanding of Hispanic cultures through discussions, readings, and written work. Language skills will be further developed through meaningful communicative interaction.

### 2105 Commercial Spanish (3)

Prerequisite: Span 1002 or equivalent. Grammar review and cultivation of language skills with emphasis on technical vocabulary and correct Spanish usage in business affairs. Designed for business majors, economics majors, or anyone interested in the commercial application of Spanish. This course is the equivalent of Spanish 2101 but both courses may not be taken for credit.

### 2110 Spanish Literature in Translation (3)

Prerequisite: Sophomore standing. Lectures on the literature and culture of Spain from the Middle Ages to the contemporary period. Reading and discussion of works of representative Spanish writers: Cervantes, Calderon, Galdos, Unamuno, Garcia Lorca, Buero Vallejo, and others. No credit toward major in Spanish.

### 2115A, 2115B, 2115C Intensive Spanish (15)

Prerequisites: Aptitude test and permission of department. An intensive study of Spanish assuming no previous knowledge of Span 2115a, 2115b, 2115c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

### 2150 European Literature in Translation: Special Topics (3)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. The department announces topic in advance. Does not count toward major in Spanish.

**2171 Spanish Conversation and Pronunciation (3) [C, H]**

Prerequisite: Span 2101 or equivalent. Emphasis will be placed upon the development of oral skills in Spanish and upon the problems of Spanish pronunciation and intonation.

**2172 Spanish Composition (3), [C, H]**

Prerequisite: Span 2101 or equivalent. Emphasis in developing the capacity and the ability to write in Spanish.

**2180 Readings in Spanish (3) [C, H]**

Prerequisite: Span 2101 or equivalent. Development of language skills through reading and discussion of a variety of texts.

**2190 Special Readings (1-3)**

Prerequisites: Span 2101 and consent of department. Independent study through readings, reports, and conferences.

**3200 Syntax of the Spanish Language (3)**

Prerequisite: Span 2171, 2172, 2180 (2 of the 3 courses) or equivalent. Study of the syntactical and morphological characteristics of the Spanish language. Designed primarily for students majoring in Spanish. May be taken concurrently with any 3000 level course.

**3210 Hispanic Culture and Civilization: Spain (3)**

Prerequisite: Span 2171, 2172, 2180 (2 of the 3 courses) or equivalent. The development of Spanish peninsular civilization from its Roman beginnings to the present.

**3211 Hispanic Culture and Civilization: Spanish America (3)**

Prerequisite: Spanish 2171, 2172, or 2180 (2 of the 3 courses) equivalent. The development of the cultures and civilization of the Spanish-speaking nations of the Western hemisphere.

**3260 Spanish for Business (3)**

Prerequisites: Span 2171 or 2172 or equivalent and Span 3200 or permission from the instructor. Cultivation of advanced language skills with emphasis on business vocabulary, basic business and cultural concepts and situational practice to help prepare for interaction in the Spanish-speaking business world. Designed for international business students, economics students, or anyone interested in expanding their awareness of the Spanish language or wishing to explore the possibilities of positions with companies that need to conduct business in Spanish.

**3271 Advanced Spanish Conversation (3)**

Prerequisite: Span 2171 or consent of department. Emphasis will be placed upon the further development of oral skills in Spanish.

**3275 Practicum in Spanish (3)**

Prerequisites: One of the following: Span 3200, 3210, 3211, 3271 or equivalent, or consent of the instructor. A minimum of twenty hours per semester of supervised field experience

in local agencies that serve the Hispanic community. A course designed for majors of various disciplines. Placement at the agencies is relevant to the enrolled student's major but depends on the availability of resources. Required weekly seminar accompanies the practicum.

**3280 Introduction to Hispanic Literature: Spain (3)**

Prerequisite: Span 2171, 2172, 2180 (2 of the 3 courses) or equivalent and Span 3200. Study of selected texts of Spanish writers from the Middle Ages to the present and the historical, cultural, and political factors, which influence their writing. Required of Spanish majors. Spanish 2180 is recommended for prerequisite.

**3281 Introduction to Hispanic Literature: Spanish America (3)**

Prerequisite: Span 2171, 2172, 2180 (2 of the 3 courses) or equivalent and Span 3200. Study of selected texts of Spanish-American writers from the colonial period to the present and the historical, cultural, and political factors, which influenced their writings. Required of all Spanish majors. Span 2180 is recommended for prerequisite.

**3290 Special Readings: Spanish (1-3)**

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

**4300 Advanced Spanish Grammar (3)**

Prerequisite: Span 3200 or equivalent. Advanced theoretical and practical study of the form and syntax of the Spanish language, focusing especially on sentence structure. A analysis of texts, which illustrate different linguistic levels and their values. Designed to develop accuracy and fluency of expression in Spanish.

**4310 Spanish Literature From 1898 to 1939 (3)**

Prerequisite: Span 3280. A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists, and dramatists.

**4311 Special Topics in Hispanic Culture (3)**

Prerequisite: Junior standing or Span 3280 or 3281. Selected topics in Hispanic culture taught in Spanish. This course may be repeated for credit provided that the topic is different each time.

**4315 Spanish Literature From 1939 to the Present (3)**

Prerequisite: Span 3280. A study of cultural and literary development since the Spanish Civil War. Emphasis on leading novelists and dramatists.

**4320 Realism and Naturalism in the Nineteenth-Century Spanish Novel (3)**

Prerequisite: Span 3280. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading novelists of the epoch (Galdos, Clarin, Pardo-Bazan, Blasco-Ibanez).

**4321 Poetry and Drama of the Nineteenth Century (3)**

Prerequisite: Span 3280. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading poets (Espronceda, Becquer) and playwrights (Zorrilla, Duque de Rivas).

**4325 Poetry and Drama of the Golden Age (3)**

Prerequisite: Span 3280. Selected readings from the drama of Lope de Vega, Tirso de Molina, Ruiz de Alarcon, and Calderon de la Barca, and from the poetry of Garcilaso, Fray Luis de Leon, San Juan de la Cruz, Gongora, Lope de Vega, and Quevedo.

**4326 Applied Linguistics in Spanish (3)**

Prerequisites: Span 3200 or equivalent. Study of the general principles of linguistics applied to the learning and teaching of Spanish with special emphasis on historical linguistics. The course will focus on the development of the Spanish language with emphasis on etymological and phonological changes. Recommended for prospective teachers of Spanish.

**4327 Spanish Dialectology (3)**

Prerequisites: Span 3200 or equivalent. The course will focus on the syntactical, lexical and phonological variations of modern Spanish from a sociolinguistics perspective. Regional variations may include Castilian, Mexican, and Caribbean Spanish, Spanish of the northern Andes region and the Southern Cone, and the Spanish spoken in the United States.

**4330 Cervantes (3)**

Prerequisite: Span 3280. A study of Don Quixote in relation to the author's life and with the cultural background of the Spanish Golden Age. Independent readings on other works of Cervantes.

**4331 Picaresque and Satirical Prose (1550-1650) (3)**

Prerequisite: Span 3280. A study of Renaissance and Baroque prose in its social context. All readings and discussions are in Spanish.

**4335 Masterpieces of Spanish Medieval and Renaissance Literature (3)**

Prerequisite: Span 3280. Designed to acquaint students with the cultural background of medieval and Renaissance Spanish traditions. Critical reading and discussion of representative works of these periods: Poema del Cid, El Conde Lucanor, Libro de Buen Amor, El Romancero, La Celestina, the Picaresque novel, and Don Quixote.

**4340 Spanish-American Literature of the Nineteenth Century (3)**

Prerequisite: Span 3281. A study of the culture and literature of Spanish America in the nineteenth century with emphasis on the leading novelists and essayists of the epoch.

**4341 Modernismo (3)**

Prerequisite: Span 3281. The genesis, development, and influence of this literary movement in Spanish-American

letters with emphasis on Modernista poetry and prose.

**4345 Spanish-American Literature of the Twentieth Century (3)**

Prerequisite: Span 3281. A study of the leading Spanish American poets, essayists, and novelists of this period as interpreters of contemporary man's dilemma and the Apathos--and Aethos--of their culture.

**4351 Spanish-American Fiction in the Twentieth Century (3)**

Prerequisite: Span 3281. The role of prose fiction in Spanish American literary and cultural history from World War I to the present.

**4360 Spanish American Poetry From Modernismo to the Present (3)**

Prerequisite: Span 3281. A study of poetry and its role in the literary and cultural history of Spanish-American society from Modernismo to the present.

**4390 Special Readings (1-3)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

**4399 Seminar on Hispanic Literature (3)**

Required of major students in the senior year. Subject to be announced every year by the instructor in charge of the seminar.

**5400 Spanish as Spoken Today (3)**

Prerequisite: A.B. or permission of instructor. Contemporary Spanish, including emphasis on standard and colloquial speech: slang, proverbs, and the mass media. Some attention will be given to the influence of English on twentieth-century spoken Spanish. Study of samples; oral practice. rerequisite: A.B. or permission of instructor. Contemporary Spanish, including emphasis on standard and colloquial speech: slang, proverbs, and the mass media. Some attention will be given to the influence of English on twentieth-century spoken Spanish. Study of samples; oral practice.

**Department of History****Faculty**

**Louis Gerteis**, Professor, Chairperson\*  
Ph.D., University of Wisconsin

**Richard H. Mitchell**, Curators' Professor\*  
Ph.D., University of Wisconsin

**Jay Rounds**, E. Desmond Lee Professor of  
Museum Studies and Community History\*  
Ph.D., University of California, Los Angeles

**Carlos A. Schwantes**, Saint Louis Mercantile Library  
Professor of Transportation Studies\*  
Ph.D., University of Michigan

**Mark A. Burkholder**, Professor\*  
Dean of College of Arts and Sciences  
Ph.D., Duke University

**Jerry M. Cooper**, Professor Emeritus\*  
Ph.D., University of Wisconsin

**Walter Ehrlich**, Professor Emeritus\*  
Ph.D., Washington University

**Paul Corby Finney**, Professor Emeritus\*  
Ph.D., Harvard University

**John R. Gillingham**, Professor\*  
Ph.D., University of California, Berkeley

**Steven C. Hause**, Professor Emeritus\*  
Ph.D., Washington University

**Andrew J. Hurley**, Professor\*  
Ph.D., Northwestern University

**Charles P. Korr**, Professor Emeritus\*  
Ph.D., University of California, Los Angeles

**William S. Maltby**, Professor Emeritus\*  
Ph.D., Duke University

**James Neal Primm**, Curators' Professor Emeritus\*,  
Ph.D., University of Missouri-Columbia

**Steven W. Rowan**, Professor\*  
Ph.D., Harvard University

**Blanche M. Touhill**, Professor\*, Chancellor Emeritus  
Ph.D., Saint Louis University

**Robert M. Bliss**, Associate Professor\*  
Dean of Pierre Laclède Honors College  
Ph.D., University of Wisconsin

**Priscilla Dowden**, Associate Professor\*  
Ph.D., University of Indiana-Bloomington

**J. Frederick Fausz**, Associate Professor\*  
Ph.D., William and Mary

**Kevin J. Fernlund**, Associate Professor\*  
Ph.D., University of New Mexico

**Winston Hsieh**, Associate Professor\*  
Ph.D., Harvard University

**Adell Patton Jr.**, Associate Professor\*  
Ph.D., University of Wisconsin

**Gerda W. Ray**, Associate Professor\*  
Ph.D., University of California, Berkeley

**John A. Works Jr.**, Associate Professor Emeritus\*  
Ph.D., University of Wisconsin

**Deborah Cohen**, Assistant Professor\*  
Ph.D., University of Chicago

**Minsoo Kang**, Assistant Professor\*  
Ph.D., University of California, Los Angeles

**Laura Westhoff**, Assistant Professor\*  
Ph.D., Washington University

**Peter Acsay**, Affiliate Assistant Professor\*  
Ph.D., Saint Louis University

**Robert Archibald**, Adjunct Professor\*  
President, Missouri Historical Society  
Ph.D., University of New Mexico

**Louise B. Robbert**, Adjunct Professor Emeritus\*  
Ph.D., University of Wisconsin

**John Hoover**, Adjunct Professor\*  
Director of St. Louis Mercantile Library  
M.A., University of Missouri-Columbia

**Michelle Rutledge**, Adjunct Instructor  
M.A., University of Missouri-St. Louis

\*members of Graduate Faculty

**General Information****Degrees and Areas of Concentration**

The department offers work in Asian, African, European, Latin American, Mexican, and United States history from ancient to modern times. At the bachelor's level, the department offers the B.A. in history, and, in cooperation with the College of Education, the B.A. in history with teacher certification and the B.S. in education with an emphasis in social studies.

At the graduate level, the department offers an M.A. in history with work in European, Latin American, Mexican, East Asian, African, and United States history. The department also offers the option of an M.A. in history with a concentration in museum studies.

**Departmental Honors**

Students majoring in history may be awarded departmental honors upon graduation if they have achieved the following: a) at least a 3.2 overall GPA; b) at least a 3.5 GPA for all hours attempted in history courses; and c) an outstanding research paper in the Senior Seminar as certified by the faculty member responsible for directing it.

**Undergraduate Studies****General Education Requirements**

History majors must meet the university and college general education requirements. History courses that will satisfy the university's state requirement are:

**History 1001**, American Civilization  
**History 1002**, American Civilization  
**History 1003**, African-American History  
**History 1004**, The History of Women in the United States  
**History 2007**, The History of Missouri

**History 3002**, United States History: Revolution and the New Nation, 1763 to 1815

**History 3041**, Topics in American Constitutional History  
Students may take any language that fulfills the college's foreign language requirement. Majors may not take required history courses on a satisfactory/unsatisfactory basis.  
Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

### Degree Requirements

**Bachelor of Arts in History** Students are encouraged to take programs which combine breadth of coverage with intensity. Two of the following are required:

#### Courses 1001-1064

**History 1001**, American Civilization to 1865

**History 1002**, American Civilization 1865 to present

**History 1003**, African-American History

**History 1004**, The History of Women in the United States

#### Plus two of the following:

**History 1030**, The Ancient World

**History 1031**, Topics in European Civilization: The Emergence of Western Europe to 1715

**History 1032**, Topics in European Civilization: 1715 to the Present

#### Plus:

**Non-Euro/American survey: One** 3-hour course

#### Courses 2000-3004

**One course in United States history**

**One course in European history**

**One course in Non-Euro-American history**

**History 4001**, Special Readings (one credit hour)

**History 4004**, Senior Seminar

Three additional 2000 or 3000 level courses

#### Other

Majors must complete at least 39, but not more than 45, hours in history with no grade below C in major. Courses 4011 and 4012 do not count toward major. After fulfilling the general education and specific major degree requirements, students are to take the remaining 30 hours required to complete the B.A. or B.S. degrees from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following are or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics and astronomy/geology, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

Undergraduate majors must complete a residency minimum of 15 hours of 3000 level History courses including History 4001 (1 credit hour) and History 4004) (5 credit hours) in residence.

#### Minor in History

Students may minor in history by taking 18 hours of history courses as follows:

1) **One** course numbered 1001-1064 in each of the following areas: United States history, European history, and Non-Euro-American history

2) **One** course numbered 2000-3304, except 4011 and 4012 in each of the following areas: United States history, European history, and Non-Euro-American history

No course in which a grade below a C is received shall count toward a minor.

#### Related Areas

Since history is a broad discipline, it can be combined with serious work in any other discipline. Courses in the humanities, social sciences, languages, and the natural sciences may complement the history program. Students should consult with faculty advisers to select courses suited to their individual interests.

#### Bachelor of Arts with Teacher Certification

Students majoring in History can receive Social Studies Teacher Certification.

**Social Studies Teacher certification** students must complete the major and meet these minimum social science requirements: American history, 12 hours including History/Sec Ed 3257; European or world history, 9 hours including History/Sec/Ed 3258; United States and/or state government, 6 hours including Political Science/Sec Ed 3209; economics, 3 hours; geography, 3 hours; and 2 hours of elective social studies credit. For emphasis area advising, **you must see a History/Social Studies advisor. You must also see an advisor in the College of Education for help with Education requirements.**

For more information, refer to the College of Education section in this Bulletin.

#### Bachelor of Science in Education: Emphasis in Social Studies

The history requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this *Bulletin*.

#### Graduate Studies

##### 2+3 B.A. and M.A. in History

The 2+3 B.A./B.S. – Ed and M.A. in History enables students of demonstrated academic ability and educational maturity to complete the requirements for both degrees in five years of full-time study. Because of its accelerated

nature, the program requires the completion of lower-division requirements (15 hours) before entry into the three-year portion of the program. It also has prerequisites numbered 5000-5304 for graduate readings courses numbered 6101-6115. When all the requirements of the B.A./B.S. – Ed. and M.A. program have been completed, students will be awarded both the baccalaureate and master's degrees. A carefully designed program can permit a student to earn both degrees within as few as ten semesters.

The combined program requires a minimum of 137 hours, at least 6 of which must be at the senior level (History 4001 and 4004) and 37 of which must be at the graduate level (courses numbered in the 5000-5304 range and in the 6101-6115 range). In qualifying for the B.A. or B.S. – Ed., students must meet all University and College requirements, including the requirements of the undergraduate major. In qualifying for the M.A., students must meet all University and Graduate School requirements, including satisfactory completion of at least 37 credit hours.

Students should apply to the Graduate Director of the Department of History for admission to the 2+3 combined degree program in History the semester they will complete 60 undergraduate credit hours. A cumulative grade point average of 3.1 or higher and three letters of recommendation from faculty are required for consideration. Students will be admitted to the 2+3 program under provisional status until they have completed 30 credit hours in History with a grade point average of 3.0 or higher. After completion of the provisional period, and the recommendation of the Graduate Director, students can be granted full admission into the program. Students in the 2+3 program begin to pay graduate credit hour fees for all courses applied to the graduate degree after they have earned 107 hours. Students must maintain a grade point average of 3.0 or higher throughout the combined program. Students who officially withdraw from the 2+3 combined degree program will be awarded the B.A. or B.S. – Ed. Degree when they have successfully completed all the requirements for the degree.

#### **Undergraduate History Requirements For Students in the 2+3 Program**

A. The following requirements must be completed prior to enrolling in the 2+3 Program:

Two of the following courses numbered 1001-1004:

- History 1001, American Civilization
- History 1002, American Civilization
- History 1003, African American History
- History 1004, The History of Women in the United States

Plus two of the following:

- History 1030, The Ancient World
- History 1031, Topics in European Civilization: the Emergence of Western Europe to 1715
- History 1032, Topics in European Civilization: 1715 to the Present

Plus

Non-Euro-American survey: One three hour course at the 1041-1064 level.

The following UNDERGRADUATE courses are required for majors in the 2+3 program

History 4001, Special Readings (1)

History 4004, Senior Seminar (5)

NOTE: B.S.-Ed. Students must also take History 4012, 4013 and 4014.

#### **Graduate History Requirements For Students in the 2+3 Program**

The following GRADUATE courses are required at the 5000-5304 level

One course in United States History (3)

One course in European History (3)

One course in Non-Euro-American History (3)

Three additional courses (9 hours)

**Courses 6101-6123 level** (selected from the seven fields available). The prerequisite for each 6101-6123 level course for 2+3 program students is one or more 5000-5304 level courses in the field as part of the B.A. (or B.S. Ed.) Program.

1. **Two 6101-6123 level courses** (one of 3 credit hours, one of 5 credit hours) in the first field: total 8 hours  
Prerequisite: two 5000-5304 level courses in the field (6 hours)
2. **Two 6101-6123 level courses** (one of 3 credit hours), in the second field: total 8 hours  
Prerequisite: one 5000-5304 level course in the field (3 hours)
3. **One 6101-6123 level course** of 3 credit hours in the third field: total of 3  
Prerequisite: one 5000-5304 level course in the field 3 hours

To fulfill the 6101-6123 requirements, a student would enroll in 8-10 hours one semester and 9-11 hours the other

NOTE: With prior approval of the Coordinator of Graduate Studies, a student may write a M.A. thesis (6 credit hours). Students writing M.A. theses may substitute three-three-hour 5000-level courses for the two five-credit hour courses in 1 and 2.

#### **Regular M.A. Degree Requirements**

The Department of History offers two regular options for graduate study, the Master of Arts in History and the Master of Arts in History with Concentration in Museum Studies. These options are described below in separate sections.

#### **Master of Arts in History**

The Department of History offers students two ways of completing the master of arts degree: one path of study emphasizes depth of knowledge and research competence acquired through writing a substantial master's thesis; the



second emphasizes breadth of historical knowledge acquired through graduate course work and the writing of research papers. Both paths include a core of substantive courses in history (see Core) to which the student adds either a thesis (see Thesis) or additional research papers and seminars (see Research Papers).

The M.A. program offers all students intermediate training preparatory to doctoral programs, advanced training leading to teaching and other careers, and disciplined advanced work.

The department offers study in European history, United States history, East Asian history, Latin American history, African history, and African American history. Within these areas of study, students may specialize in the following fields:

Europe to 1715  
Europe since 1715  
Latin America  
United States to 1865  
United States since 1865  
China and Japan since 1800  
Africa and African American

#### Admission Requirements

Applicants must meet several departmental admission requirements in addition to the general criteria of the Graduate School. The applicant's undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, only students with a 3.2 grade point average in their undergraduate major are admitted; most successful applicants have higher grades.

Applicants must submit three letters of recommendation, preferably from former teachers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Applicants for graduate teaching assistantships must take the GRE Aptitude Test; the Advanced Test is optional. The departmental Graduate Committee bases its admission decisions upon the undergraduate transcript, the letters of recommendation, and the sample of written work.

#### Core

All candidates for the M.A. degree in history must complete a core of 26 hours of course work (excluding thesis credit), with no more than nine hours of history and related fields at the 3000 level (except History 4004). This 26-hour core must include seven courses at 3 credit hours each (21 hours in all), and one 5-credit-hour writing seminar consisting of a 2-credit-hour research paper supplement to a 3-credit-hour, 6100 level history readings course.

To earn the 26-hour core, candidates select three fields of study, the first with a minimum of four courses (each at 3 credit hours or more), the second and third with a minimum of two courses each (at 3 credit hours or more). Each field must include at least one 5100 level course.

In addition to this core, each candidate must select one of the two following degree options:

#### 1) Thesis Option--32 hours total

In addition to the core, the candidate choosing this option must enroll for 6 hours of thesis credit and submit an acceptable thesis. The thesis is based on original research in primary sources. Normally, theses do not exceed 100 pages of text. Candidates receive a grade for the thesis upon its approval by an advisory committee. The committee consists of professors selected by the candidate after consultation with the major professor. One member of the committee must be outside the candidate's general area of study, and one may be outside the history department.

The advisory committee conducts an oral examination on the thesis during the candidate's last semester of residence.

The committee decides whether the candidate shall pass, fail, or fail with the option to repeat the oral examination at a later date. Students may not take the oral examination more than twice. The second examination must be held no less than one and no more than two semesters following the date of the first examination. Summer session may be counted as a semester under this procedure, but students should be aware of the difficulties involved in assembling faculty committees during the summer.

Thesis candidates must demonstrate competence in one foreign language or in quantitative methods as applied to historical study. Candidates shall demonstrate foreign language competence by translating, with the use of a dictionary, 500 words in one hour. A member of the history faculty will conduct this examination. That faculty member will choose the test for translation. Candidates shall demonstrate quantitative methods competence by satisfactory completion of either Psychological Statistics 2201 or Sociological Statistics 3220, or their equivalent.

#### 2) Research Paper Option-36 hours total

To complete this option, the candidate must complete two 5-credit-hour seminars (each consisting of a 6100 level reading seminar plus 2 credit hours of supplementary work on a substantial research paper), in addition to the core. The candidate may choose a fourth field in addition to the three already represented in the core to complete this option.

#### Master of Arts in History (Museum Studies) and Graduate Certificate in Museum Studies

These options are intended for students planning to pursue professional careers in museums. In addition to the core requirement of substantive courses in history, the Museum Studies program includes intensive training in the theory and practice of museology. This innovative program is a collaboration between the Department of History, Department of Anthropology, and Department of Art and Art History, and the Missouri Historical Society. It is taught by a combination of professors and practicing professionals from St. Louis-area museums. Recognizing that the museums field

is in a period of rapid change, the program is designed to train students for leadership in the emergence of a new paradigm of museology that focuses on relationships between museums and the people and communities that they serve.

For most students this will be a terminal master of arts degree, fully preparing graduates for immediate entry into museum careers in a variety of positions. While the core requirement focuses on history studies, the museological training is applicable to employment in any type of museum.

#### **Admission Requirements**

Applicants wishing to enter the Museum Studies concentration must apply specifically for that concentration; successful application for the general M.A. program in history does not automatically provide access to the museum studies program. Applications for the museum studies concentration will be accepted only for the fall semester. Because of the prescribed sequence of course work, no midyear entry into the program will be allowed.

In addition to the general criteria of the Graduate School, applicants for the Museum Studies concentration must meet several additional criteria of the Department of History and the museum studies program. Applicants' undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, the history department admits only students with a 3.2 grade point average in their undergraduate major; most successful applicants have higher grades. Applicants must submit three letters of recommendation, preferably from former teachers and/or employers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Besides these departmental requirements, applicants must submit the Museum Studies Supplemental Application. The supplemental application includes a statement of intent for pursuit of a museum career.

The departmental Graduate Committee and the director of the museum studies program will base their admissions decisions upon the undergraduate transcript, the letters of recommendation and the sample of written work.

Applications for the museum studies program must be received by the university no later than March 1.

#### **Museum Studies Curriculum—39 hours total**

All candidates for the M. A. in History with a Concentration in Museum Studies must complete Hist 6134, 6135, 6136, and 6137. These courses are cross listed under the same numbers in the Anthropology Department and the Art and Art History Department. Students may enroll through the department of their choice. All candidates must also complete Art 5588 Museum Education and Visitor Research and Anthr 6139 Practicum in Exhibit and Program Development. Together, these courses provide a solid foundation in the theory and history of museology and in practical skills for museum work. As a final requirement,

candidates must complete Hist or Anthr or AH 6138. This exit project will be the capstone demonstration of competence in museum studies. The specific nature of this demonstration will be customized to the interests and career aspirations of each student. It may take the form of a traditional thesis, an exhibit project, or some other appropriate form, as approved in advance by the candidate's advisory committee.

In addition to these requirements, all candidates must complete 15 hours of elective history course work, with no more than 6 hours of history at the 3000 level except Hist 4004. Museum Studies students will take courses distributed in any proportion between the fields of "United States to 1865" and "United States Since 1865." Exceptions to this requirement (e.g., selections of courses from another field, such as European or African history) must be approved in advance by both the director of the Museum Studies Program and the graduate coordinator of the History Department.

#### **Graduate Certificate in Museum Studies (19 hours)**

A very limited number of slots may be available for students who wish to pursue only the Graduate Certificate in Museum Studies without seeking the M.A. in History. In most cases, these will be students who already hold an advanced degree and are currently working or planning to work in a museum but who have had no formal training in museum studies. Candidates for the Graduate Certificate must complete Hist 6135, 6136, 6137, and 6138, AH 5588, and Anthr 6139. Contact the director of the Museum Studies Program for availability of slots in this option and for special application procedures.

#### **Career Outlook for B. A. and M. A. graduates**

An important rationale for the discipline of history is its centrality to the university curriculum and to the life experience. The ability to put events or developments into the context of the past is useful as well as pleasurable. Responses to a questionnaire sent to history graduates have indicated that alumni in a wide variety of fields are as conscious of and appreciative of their training in history as those who have chosen it as a profession. Men and women in business, lawyers, bankers, librarians, and foreign service officers have all found it relevant to their careers. Study and research in history sharpens organizational and writing skills important to success in business and the legal profession. A growing interest in local history has created employment opportunities in museum, archival, and preservation work.

#### **Career Outlook for M. A. with Concentration in Museum Studies**

There are more than 8,000 museums in the United States. History museums constitute more than half of that total, and employ approximately one-third of the 150,000 paid staff working in U. S. museums. While job requirements vary widely among individual museums and specific professional roles, the M.A. degree offered by this program qualifies graduates for a wide range of career opportunities, in history museums and in other types of museums as well. The

Museum Studies Program provides students with placement assistance and counseling and with access to a wide range of information on career opportunities in the field, and program faculty use their extensive networks in the field to help identify opportunities and to place students.

### Course Descriptions

Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin. 1001, 1002, 1003, 1004, 1030, 1031, 1032, 1041, 1042, 1051, 1052, 1061, 1062, 1063, 1064, 2007, 2008, 2219, 2800, 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3011, 3012, 3021, 3022, 3031, 3032, 3041, 3042, 3043, 3044, 3045, 3050, 3053, 3071, 3072, 3073, 3081, 3082, 3083, 3084, 3085, 3086, 3092, 3093, 3094, 3095, 3101, 3102, 3103, 3201, 3202, 3301, 3302, 3303, 3304, 3322, 4001, 4004.

The following courses fulfill the Cultural Diversity [CD] requirement; 1041, 1042, 1051, 1052, 1061, 1062, 1063, 1064, 3032, 3101, 3102, 3103, 3201, 3202, 3301, 3302, 3303, 3304.

The following courses fulfill the state [ST] requirement: 1001, 1002, 1003, 1004.

### 1000 Selected Topics in History (1-3)

Prerequisite: Consent of Instructor. May be repeated with consent of instructor

### 1001 American Civilization (3) [ST,SS,C]

Evolution of the cultural tradition of the Americas from the earliest times to the mid-nineteenth century, with emphasis on the relationship of ideas and institutions to the historical background.

### 1002 American Civilization (3) [ST,C,SS]

Continuation of Hist 1001 to the present. Course fulfills the state requirement. Hist 1001 or Hist 1002 may be taken separately.

### 1003 African-American History (3) [ST,V,SS]

A survey of African-American history from the beginning of the European slave trade to the modern Civil Rights era.

### 1004 The History of Women in the United States (3) [ST,C,SS]

A survey of women's history from the colonial era to the present.

### 1030 The Ancient World (3) [C,SS]

Survey of ancient history in the near east, the Aegean, the central and western Mediterranean. Themes: politics and

economy, war and society, culture, including art, literature, technology, religion and philosophy. The chronological span is from the neolithic period (7500-3000 B.C.) in the near east to the fall of the Roman Empire in the fifth century A.D.

### 1031 Topics in European Civilization: Emergence of Western Europe to 1715 (3) [C,SS]

Lectures and discussions on the development of Western European society and tradition from approximately 800 to 1715.

### 1032 Topics in European Civilization: 1715 to the Present (3) [C,SS]

Lectures and discussions on the development of Western European society and tradition from 1715 to the present. Either Hist 1031 or Hist 1032 may be taken separately.

### 1041 East Asian Civilization (3) [CS,SS]

The development of Asian civilization from earliest times to the Manchu conquest.

### 1042 East Asian Civilization (3) [CS,SS]

Continuation of History 1061 with emphasis on the Asian response to the Western incursion. Either Hist 1041 or History 1042 may be taken separately.

### 1051 Latin American Civilization (3) [CD,C,CS]

A survey of selected topics important in the development of Latin America from pre-Columbian times to the twentieth century.

### 1052 Mexican Civilization (3) [C,SS,CD]

This course will focus on the history and culture of Mexico from the Aztecs to the mid-twentieth century. Among the topics to be covered are: the Aztecs, Cortez and the Conquest of Mexico, colonial institutions and culture, the obtaining of political independence, disorder and dictatorship in the nineteenth century, the Mexican Revolution, contemporary Mexico.

### 1061 African Civilization to 1800 (3) [C,SS,CD]

Introduction to cultural history from the emergence of early mankind to the abolition of the Atlantic slave trade. This course fulfills the Cultural Diversity requirement.

### 1062 African Civilization Since 1800 (3) [C,SS,CD]

Survey of African initiative and response in the period spanning the loss and reassertion of independence. Hist 1061 or Hist 1062 may be taken separately.

### 1063 The African Diaspora to 1800 (3) [C,SS,CD]

An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic, Mediterranean, and Indian Ocean areas from the earliest times to 1800. The course will survey the political, social, and religious foundations of the African continent and include a comparative analysis of other diasporas. Special attention will be given to themes and issues associated with: slavery, creolization, multiracialism, transformation from

heterogeneous crowds to new homogeneous communities, and cultural linkages between Africans and their descendants in the Atlantic Communities.

**1064 The African Diaspora Since 1800 (3) [C,SS, CD]**

An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic world from 1800 to contemporary times. The course will include a comparative analysis of other diaspora groups. Special attention will be given to themes and issues associated with: slavery, multiracialism, cultural clocks, the social transformation from heterogeneous crowds to the formation of new homogeneous communities, the new elite, and the modern cultural linkages between Africans and their descendants in the Atlantic Communities.

**2000 Selected Topics in History (1-3)**

Prerequisites: Consent of instructor. May be repeated for credit with consent of instructor.

**2007 History of Missouri (3) [ST]**

Prerequisite: Junior standing or the consent of the instructor. Lecture and readings. Seventeenth-century Spanish and French explorations and interaction with the Indians; settlement and organization of the Louisiana territory; lead mining and the fur trade; the Louisiana Purchase; the Missouri territory; the struggle for statehood and slavery; antebellum politics; banking and internal improvements; westward expansion; Civil War and reconstruction; postwar agrarian politics, industrialization; Irish, German, and southern European immigration; the Progressive reforms--political and economic change; and twentieth-century social changes and political developments.

**2008 The History of St. Louis (3)**

Prerequisite: Junior standing or consent of the instructor. This course will provide an overview of the history of the St. Louis metropolitan region from its founding in 1764 to the present. Main topics will include the St. Louis region before the Europeans, forces leading to the founding of the city, St. Louis as an "urban frontier," the Age of Steam on water and rail, the questions of slavery and the Civil War, St. Louis in the Gilded Age, the World's Fair, early efforts at city planning, impact of the automobile, St. Louis during the Depression and World War II, post war suburbanization, urban renewal St. Louis-style, school desegregation, the Schoemehl years, the emergence of St. Louis "Edge Cities," and St. Louis 2004.

**2117 Greek History and Culture (3)**

(Same as Anthr 2117)

Greek Civilization has had a deep impact on contemporary society in art; social, political, and economic organization; philosophy; law; medicine; and science. This course covers major aspects of Greek history and culture from antiquity to the present. It considers the major political and military events of Greek history, as well as important aspects of Greek culture, including sports and the history of the Olympic Games, literature, philosophy, and mythology.

**2219 U.S. Labor History (3)**

Examines the history of work and the working class in the United States. It focuses on the transformation of the workplace, the evolution of working class consciousness, the development of the labor movement, the role of race, gender and ethnicity in uniting or dividing the working class, and the nature of labor's relations with other social groups in the political arena. Particular emphasis on the political, and economic conditions and strategies of periods when working class power was growing.

**2300 The People's Century, Part I (3)**

The course provides unique insight into the turbulent events of the last 100 years by combining rare archival film footage with the testimony of ordinary people who lived through the century's sweeping changes and who recount their firsthand experiences.

**2800 History of American Economic Development (3) [MI]**

Prerequisites: Econ 1000 or 1001 or consent of instructor. Same as Econ 2800. Uses economic concepts to explain historical developments in the American economy, beginning with hunter-gatherers who crossed the Bering land bridge around 12,000 B.C. Main topics include Native American economies, European exploration and conquest, the colonial economies, indentured servitude, the American Revolution, the U.S. Constitution, westward expansion, transportation, the Industrial Revolution, state banking and free banking, slavery, the Civil War, post-bellum agriculture, the rise of big business and antitrust, banking panics, the Federal Reserve Act, the First and Second World Wars, the New Deal, and the growth of government in postwar economy.

**3000 Selected Topics in History (3)**

Prerequisite: Junior standing or consent of instructor. Special topics in history. The course may be repeated for credit with the consent of the instructor.

**3001 United States History: Colonial America to 1763 (3)**

Prerequisite: Junior standing or consent of instructor. English background of colonization; rise of distinctive New England and Southern societies; English colonial policy to the Peace of Paris.

**3002 United States History: Revolution and the New Nation, 1763 to 1815 (3) [ST]**

Prerequisite: Junior standing or consent of the instructor. The American Revolution and the creation of the new nation. The young republic and the development of the first American party system.

**3003 United States History: Nationalism and Sectionalism, 1815 to 1860 (3)**

Prerequisite: Junior standing or consent of the instructor. The Era of Good Feelings, the Age of Jackson, manifest destiny, the political and social developments of the antebellum period relating to the growth of sectionalism and the developing antislavery crusade.

**3004 United States History: The Civil War Era, 1860-1900 (3)**

Prerequisite: Junior standing or consent of the instructor. The Civil War, Reconstruction, industrial and urban expansion and their impact on American life.

**3005 United States History: 1900-1940 (3)**

Prerequisite: Junior standing or consent of the instructor. The economic, political, and social developments and crises of the mature industrial United States. The growing importance of foreign relations.

**3006 United States History: 1940 to the Present (3)**

Prerequisite: Junior standing or consent of instructor. The economic, political, and social developments and crises of postindustrial United States. The role of foreign affairs in American life.

**3007 United States Labor History (3)**

Prerequisites: Junior standing or consent of instructor. Explores advanced topics in the history of labor in the U.S. including: globalization and labor process, changing meaning and function of gender, labor/community organizing, immigration and free trade, race and labor market segmentation.

**3008 Railroads in American Life (3)**

Prerequisites: Junior standing or consent of instructor. This course examines the many ways that railroads have shaped the history of the United States from the early 1830s to the present. Among the various railroad-related topics to be covered are the rise of big business, the standardization of American life, and international perspectives on transportation and travel in North America. All students will be encouraged to conduct research in the extensive railroad history collections of the St. Louis Mercantile Library.

**3009 St. Louis and the West (3)**

Prerequisites: Junior standing or consent of instructor. An examination of the role St. Louis played in the evolution of the North American West, both in the United States and Canada, from the fur trade of the late eighteenth century to the opening of the Texas oil fields in the early twentieth century. Special emphasis will be given to competition between river and rail transportation corridors, and hence to the rivalry that developed between St. Louis and Chicago.

**3010 Aviation in American Life (3)**

Prerequisites: Junior standing or consent of instructor. This course focuses on the history of aviation in the United States from balloon flights preceding the Wright brothers through the terrorist attacks in September 2001 with emphasis upon how aviation and aviators have influenced American society and culture. Themes include the evolution of aviation technology, the growth of the commercial/military aviation/aerospace industries, issues of race and gender in aviation, the development of America's commercial airlines, aviation's influence upon American art

and literature, the significance of the space race, and the role of aerial weapons of war.

**3011 The American West: Gateways and Corridors (3)**

Prerequisites: Junior standing or consent of instructor. An exploration of the history of the American West from the 1750s to present, with emphasis on the role of transportation. Urban gateways such as St. Louis and San Francisco and transportation corridors such as the Missouri River and the Santa Fe and Oregon trails will be of particular importance.

**3012 The Indian in American History, 1600-1900 (3)**

Prerequisite: Junior standing or the consent of instructor. Investigates Native American encounters with non-Indian peoples between 1600 and 1900, analyzing how traditional Indian cultures changed to meet a variety of new challenges introduced to North America by Europeans and Africans. The approach will be interdisciplinary and ethnohistorical with emphasis placed on case studies of important native nations at key turning points in their history.

**3021 U.S. Urban History (3)**

Prerequisite: Junior standing or consent of the instructor. The physical and spatial growth of U.S. cities from colonial times to the present with special attention to the impact of industrialization, public policy, and advances in transportation technology.

**3022 Comparative Urban History (3)**

Prerequisite: Junior standing or consent of the instructor. Reviews and analyzes the development of cities from a North American perspective focusing on the 19<sup>th</sup> and 20<sup>th</sup> centuries. Attention will be given to the issue of why North American cities appear and function differently from urban areas on other continents, including Europe, Asia, and South America.

**3031 History of Women in the United States (3)**

Prerequisite: Junior standing or consent of the instructor. Development of women's economic, political, and social role in the United States with special emphasis on the nineteenth and twentieth centuries; women and work; women and the family; women and reform movements; women and education; feminist theorists and activists; images of women.

**3032 History of Women in Comparative Cultures (3) [CD]**

Prerequisite: Junior standing or consent of the instructor. An introduction to the historical development of women's status in a variety of cultures and periods within the areas of Africa, Europe, the Far East, Latin America, and the Middle East. The course analyzes women's political, economic, familial, and sexual roles and the economic, demographic, ideological, and political forces which promoted change and continuity in those roles.

**3041 Topics in American Constitutional History (3) [ST]**

Prerequisite: Junior standing or consent of instructor. Origins and development of principal institutions and ideas of American constitutional system; role of Constitution and

Supreme Court in growth of the nation; important Supreme Court decisions; great American jurists and their impact on the law; historical background to current constitutional issues.

### **3042 U.S. Social Movements in the 20th Century**

Prerequisite: Junior standing or the consent of instructor. This course challenges students to analyze the historical sources, objectives, and techniques of social movements initiated by racial minorities, women, gays and lesbians, evangelical Christians, and many others.

### **3043 History of Crime and Justice (3)**

Prerequisite: Junior standing or consent of the instructor. Same as CCJ 3043. The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison and the juvenile court.

### **3044 American Military History to 1900 (3)**

Prerequisite: Junior standing or consent of instructor. A study of American military institutions from colonial times to 1900. The impact of the military upon major aspects of American life. The place of war in American history to 1900.

### **3045 American Foreign and Military Affairs, 1900-Present (3)**

Prerequisite: Junior standing or consent of instructor. A survey of American foreign and military affairs since 1900, with particular emphasis on the major wars during the period and the Cold War Era. Consideration of the nation's changing place in a changing world.

### **3050 Topics in African-American History (3)**

Prerequisite: Junior standing or consent of instructor. Will explore a salient topic in African-American history. Such historical documents as personal narratives, letters, government documents, and autobiographies as well as monographs, articles, and other secondary sources will be used to explore topics such as slavery and slave culture in the United States; blacks and America's wars; the African-American intellectual tradition; or, African-Americans and the Great Migration.

### **3051 African-American History: From Slavery to Civil Rights (3)**

Prerequisite: Consent of the instructor. This course examines the impact of region, gender, and class on black activism by focusing on topics such as remembering slavery and emancipation, institution and community building during segregation, changing strategies in politics and protest, and the emergence of the direct action civil rights movement.

### **3052 African-American History: From Civil Rights to Black Power (3)**

Prerequisite: Consent of instructor. A seminar on the activities, ideas, movement centers, and personalities that created the Civil Rights and Black Power movements in the U.S. from the 1950s through the 1970s. Some familiarity

with the broad contours of U.S. history is presupposed. Special attention will be devoted to the roles of the African-American masses, college students, and women, and to the points of conflict cooperation, and intersection between African-America and the larger American society.

### **3053 African-American Women's History (3)**

Prerequisite: Junior standing or consent of the instructor. This course introduces some of the themes of African-American women's history. By examining the impact of region, gender, and class on African-American women's experiences across time, the course highlights black women's applied and theoretical contributions to feminist politics and activism as well as the black struggle for freedom and equality. Topics covered include: slavery and emancipation, institution and community building, the family and work, electoral politics and direct action protest, civil rights, and contemporary issues.

### **3062 Sport and Society (3)**

Prerequisite: Junior standing or the consent of the instructor. This course looks at sport in Western society as a form of social history. The first section of the course covers from early Olympic games through the end of the eighteenth century. The major part of the course deals with the role of organized sport in Europe and the United States since 1840, the political and economic aspects of sports, and the growth of international sports.

### **3071 Medieval England (3)**

Prerequisite: Junior standing or consent of the instructor. A brief summary of the Anglo-Saxon heritage and the impact of the Norman Conquest, followed by an investigation of the institutional, social, and legal evolution of the realm of England. English development will be viewed in its European context.

### **3072 York and Tudor England**

Prerequisite: Junior standing or consent of instructor. The turmoil over the monarchy and consolidation of the Tudor dynasty. A study of the English Reformation and the political and economic changes of the sixteenth century.

### **3073 Stuart England (3)**

Prerequisite: Junior standing or consent of instructor. A study of the English revolutions, religious controversy, and the rise of parliamentary power; the social and economic changes of the century; and the role played by England in the European struggles of the period.

### **3081 Rome: The Republic and Empire (3)**

Prerequisite: Junior standing or consent of the instructor. A survey of the development of Roman political and cultural life from the legendary founding of the city in central Italy in 753 to the death of the Emperor Justinian in 565 A.D.

### **3082 History of the Church: The Middle Ages (3)**

Prerequisite: Junior standing or consent of the instructor. A topical study of the Christian church in Europe as an

autonomous and central institution from the sixth century through the reformation crisis. Special attention will be given to the relations between the church and the secular world, and the contributions of medieval Christianity to the development of European institutions and ideas.

**3083 Europe in Early Middle Ages (3)**

Prerequisite: Junior standing or consent of the instructor. The end of the Roman Empire as a universal entity; the successor states of the Mediterranean and Northern Europe; the emergence of a Western Christendom under the Franks; the development of feudal states; the Gregorian reforms; the Crusades; the revival of education and learning in the twelfth century.

**3084 Europe in the High and Late Middle Ages (3)**

Prerequisite: Junior standing or consent of the instructor. Medieval society at its political, economic, and intellectual zenith; the crisis of the later Middle Ages; the papal schism and the development of national particular churches within Catholicism; and the rise of estate institutions.

**3085 The Age of the Renaissance (3)**

Prerequisite: Junior standing or consent of the instructor. The Italian and Northern Renaissance as a distinct age; political, socioeconomic, intellectual, religious, and artistic movements attending the decline of medieval society, and the transition to the early modern period.

**3086 The Age of Reformation (3)**

Prerequisite: Junior standing or consent of the instructor. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

**3091 European Social History Since 1715**

Prerequisite: Junior standing or the consent of the instructor. This is a survey course examining the life of ordinary people in modern Europe. It begins with an examination of economic conditions and the social classes that derive from them. Most of the course explores the conditions of every day life. Topics include demography, marriage and the family, sexuality, children and old age, the roles of women, disease and death, diet, drink and drugs, clothing and housing, leisure and entertainment, and popular attitudes.

**3092 Europe, 1900-1950: War and Upheaval (3)**

Prerequisite: Junior standing or consent of the instructor. The impact of World Wars I and II and the search for equilibrium.

**3093 Europe, 1950-Present: Peace and Prosperity(3)**

Prerequisite: Junior standing or consent of instructor. A survey of the main social, economic, political, military, and cultural trends since the outbreak of World War II.

**3094 France in the Modern Age (3)**

Prerequisite: Junior standing or consent of instructor. The history of Republican France. Topics discussed include the creation of a liberal-democratic government; the scandals

and crises of the Third Republic; the Dreyfus affair; the rise of imperialism, socialism, and feminism; the impact of World War I, the popular front, defeat, collaboration, and resistance during World War II; and the reestablishment of France as an important power.

**3095 Germany in the Modern Age (3)**

Prerequisite: Junior standing or consent of instructor. The course deals with whether or not the Third Reich should be considered the culmination of German history. Problems of national unification, economic development, representative government, and cultural modernism will be considered.

**3096 Britain in the Modern Age (3)**

Prerequisites: Junior standing or consent of the instructor. The economic, social, and political development of modern Britain, 1750 to present.

**3097 History of Spain (3)**

Prerequisites: Junior standing or consent of instructor. A survey of Spanish history from the fifteenth century to the present, emphasizing its period of imperial greatness and examining the effects of empire on national development.

**3101 Modern Japan: 1850 to Present (3) [CD]**

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern Japan.

**3102 Modern China: 1800 to Present (3) [CD]**

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern China.

**3103 Modern History of the Asian Pacific Rim (3) [CD]**

Prerequisite: None. A survey course on the modern history of the broad economic region of East and Southeast Asia as well as the region's interaction with the United States. The course is designed for students who need to understand the political and economic dynamics of the countries around the Pacific Basin and the historical roots of various problems.

**3201 History of Latin America To 1808 (3) [CD]**

Prerequisite: Junior standing or consent of instructor. Latin America from the pre-Columbian civilizations to 1808, stressing social, political, and economic institutions in the Spanish colonies.

**3202 History of Latin America Since 1808 (3) [CD]**

Prerequisite: Junior standing or consent of instructor. Emphasis on the attainment of political independence and social, political, and economic developments of the nineteenth and twentieth centuries in Latin America.

**3301 West Africa to 1800 (3) [CD]**

Prerequisite: Junior standing or consent of instructor. This course discusses both the history and historiography of Africa's most populous and ethnically diverse region. Beginning with the prehistoric era prior to the desiccation of

the Sahara, the course explores climatology and population movement, changes in food production and technology, state formation, the spread of Islam, cultural and political diversity in the forest region, domestic slavery, the Atlantic slave trade and abolition.

### **3302 West Africa Since 1800 (3) [CD]**

Prerequisite: Junior standing or consent of instructor. Analysis of change in the savanna/forest societies occasioned by Islamic reform and the end of the slave trade, the imposition of colonial rule and African response, growth of nationalist protest, and post independence development

### **3303 African Diaspora to 1800 (3) [CD]**

Prerequisite: Junior standing or consent of instructor. Comparative in scope, the course examines major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora up to 1800. Themes include: slavery, multiracialism, economics of the South Atlantic system, political dimensions and the social transformation from heterogeneous crowds to new and homogenous communities. Linkages between Africans and their descendants in the Atlantic communities of Latin America, the Caribbean, as well as North America will be stressed.

### **3304 African Diaspora Since 1800 (3) [CD]**

Prerequisite: Junior standing or consent of instructor. Comparative in scope, this course uses a comparative methodology to examine the major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora after 1800.

### **3322 Advanced History of Natural History: Systematics, Ecology, and Natural History in the Strict Sense (3)**

Prerequisites: At least 3 biology courses beyond the introductory level or permission of instructor. Topics include principles of ethnobiological classification, Aristotle and Theophrastus and their incorporation in western science, and natural history in the Renaissance. Focuses on breakup of natural history after 1750; integration of natural history and botany in popular culture and its consequences for professional disciplines; relationships between new botany and classification botany, among botany, zoology and biology at the end of 19<sup>th</sup> century, and between field and laboratory science; and conflict between systematic schools in later 20<sup>th</sup> century. Three hours of lecture per week. Paper on topic of student's choice required. Credit not granted for more than one of Biol 3322, Hist 3322, and Biol 5322.

### **3401 World History to 1500 (3)**

Prerequisites: Junior standing or consent of the instructor. A survey of the history of humankind to 1500. In addition, interregional, comparative, cross cultural, and historiographical topics will be considered.

### **3402 World History since 1500 (3)**

Prerequisites: Junior standing or consent of the instructor. A survey of the history of humankind since 1500. In addition,

interregional, comparative, crosscultural, transnational, and historiographical topics will be considered.

### **4001 Special Readings (1-10)**

Prerequisite: Consent of the instructor. Independent study through readings, reports, and conferences.

### **4002 Collaborative Research (3-6)**

Prerequisite: Consent of instructor. Faculty-student collaboration on a research project designed to lead toward publication of a jointly authored article. Faculty member will direct the research.

### **4003 Internship (3-6)**

Prerequisites: Consent of supervising instructor and institution offering the internship. Supervised practicum in a museum, historical agency, and other institution offering an opportunity for hands-on experience in public history. This elective course supplements but does not replace requirements for baccalaureate degree in history. May not be taken for graduate credit.

### **4004 Senior Seminar (5)**

Prerequisite: Consent of department and presentation of three examples of formal written work submitted in prior upper-division courses in history. Studies in historical methodology and historiography. Directed readings, research, and writing leading to the production of an original piece of historical scholarship. An exit interview is required. Senior Seminar is required for all history majors. May not be taken for graduate credit.

### **4011 Curriculum and Methods of Teaching Secondary School History and Social Studies (3)**

[Same as Sec Ed 4011]. Prerequisite: Junior standing and Tch Ed 3310. A study of the scope and sequence of history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. This course must be taken in conjunction with Sec Ed 3289, Secondary Education Professional Internship. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence. Not available for graduate credit.

### **4012 Social Studies Teaching Seminar (1)**

[Same as Sec Ed 4012]. Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, Sec Ed 4990. Not available for graduate credit.

### **4013 United States History for the Secondary Classroom (3)**

Prerequisites: Tch Ed 3310 or consent of the instructor. Same as Sec Ed 4013. This course is required for Social Studies certification. Adapts the themes and subject matter of American history to the secondary classroom and trains



teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the minimum 39-hour history major requirement, but can be counted towards the 45-hour maximum and for Social Studies Certification. Not available for graduate credit.

**4014 World History for the Secondary School Classroom (3)**

Prerequisites: Tch Ed 3310 or consent of the instructor. Same as Sec Ed 4014. This course is required for Social Studies certification. Adapts the themes and subject matter of World history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Cannot be counted towards the minimum 39-hour history major requirement, but can be counted towards the 45 hour maximum and for the Social Studies Certification. Not available for graduate credit.

**5000 Advanced Selected Topics in History (3)**

Prerequisites: Graduate standing. Special topics in history. The course may be repeated for credit with the consent of the instructor.

**5001 Advanced US History: Colonial America to 1763 (3)**

Prerequisites: Graduate standing  
English background of colonization; rise of distinctive New England and Southern societies; English colonial policy to the Peace of Paris.

**5002 Advanced United States History: Revolution and the New Nation, 1763 to 1815 (3)**

Prerequisite: Graduate standing. The American Revolution and the creation of the new nation. The young republic and the development of the first American party system.

**5003 Advanced United States History: Nationalism and sectionalism, 1815 to 1860 (3)**

Prerequisites: Graduate standing. The Era of Good Feelings, the Age of Jackson, manifest destiny, the political and social developments of the antebellum period relating to the growth of sectionalism and the developing antislavery crusade.

**5004 Advanced United States History: 1860-1900 (3)**

Prerequisites: Graduate standing. The Civil War, Reconstruction, industrial and urban expansion and their impact on American life.

**5005 Advanced United States History: 1900-1940 (3)**

Prerequisites: Graduate standing. The economic, political, and social developments and crises of the mature industrial United States. The growing importance of foreign relations.

**5006 Advanced United States History: 1940 to the Present (3)**

Prerequisites: Graduate standing. The economic, political, and social developments and crises of postindustrial United States. The role of foreign affairs in American life.

**5007 Advanced Studies in United States Labor History (3)**

Prerequisites: Graduate Standing. Explores advanced topics in the history of labor in the U.S. including: globalization and labor process, changing meaning and function of gender, labor/community organizing, immigration and free trade, race and labor market segmentation.

**5008 Advanced Railroads in American Life (3)**

Prerequisites: Graduate standing or consent of instructor. This course examines the many ways the railroads have shaped the history of the United States from the early 1830s to the present. Among the various railroad-related topics to be covered are the rise of big business, the standardization of American life, and international perspectives on transportation and travel in North America. All students will be encouraged to conduct research in the extensive railroad history collections of the St. Louis Mercantile Library.

**5010 Advanced Aviation in American Life (3)**

Prerequisites: Graduate Standing. This course focuses on the history of aviation in the United States from balloon flights preceding the Wright brothers through the terrorist attacks in September 2001 with emphasis upon how aviation and aviators have influenced American society and culture. Themes include the evolution of aviation technology, the growth of the commercial/military aviation/aerospace industries, issues of race and gender in aviation, the development of America's commercial airlines, aviation's influence upon American art and literature, the significance of the space race, and the role of aerial weapons of war.

**5011 Advanced Studies in the American West (3)**

Prerequisites: Graduate standing. An exploration of the history of the American West from the 1750s to present, with emphasis on the role of transportation. Urban gateways such as St. Louis and San Francisco and transportation corridors such as the Missouri River and the Santa Fe and Oregon trails will be of particular importance.

**5012 Advanced Studies of the Native American in American History (3)**

Prerequisites: Graduate standing. Investigates Native American encounters with non-Native American peoples between 1600 and 1900, analyzing how traditional Native American cultures changed to meet a variety of new challenges introduced to North America by Europeans and Africans. The approach will be interdisciplinary and ethno-

historical with emphasis placed on case studies of important native nations at key turning points in their history.

**5021 Advanced Studies in U.S. Urban History (3)**

Prerequisites: Graduate standing.

The physical and spatial growth of U.S. cities from colonial times to the present with special attention to the impact of industrialization, public policy, and advances in transportation technology.

**5022 Advanced Comparative Urban History (3)**

Prerequisites: Graduate standing. Reviews and analyzes the development of cities from a North American perspective focusing on the 19<sup>th</sup> and 20<sup>th</sup> centuries. Attention will be given to the issue of why North American cities appear and function differently from urban areas on other continents, including Europe, Asia, and South America.

**5031 Advanced History of Women in the United States (3)**

Prerequisites: Graduate standing. Development of women's economic, political, and social roles in the United States with special emphasis on the nineteenth and twentieth centuries: women and work; women and the family; women and reform movements; women and education; feminist theorists and activists; images of women.

**5032 Advanced History of Women in Comparative Cultures (3)**

Prerequisites: Graduate standing. An introduction to the historical development of women's status in a variety of cultures and periods within the areas of Africa, Europe, the Far East, Latin America, and the Middle East. The course analyzes women's political, economic, familial, and sexual roles and the economic, demographic, ideological, and political forces which promoted change and continuity in these roles.

**5041 Advanced Topics in American Constitutional History (3)**

Prerequisites: Graduate standing. Origins and development of principal institutions and ideas of American constitutional system; role of Constitution and Supreme Court in growth of the nation; important Supreme Court decisions; great American jurists and their impact on the law; historical background to current constitutional issues.

**5042 Advanced Studies in U.S. Social Movements in the 20<sup>th</sup> Century (3)**

Prerequisites: Graduate standing. This course challenges students to analyze the historical sources, objectives, and techniques of social movements initiated by racial minorities, women, gays and lesbians, evangelical Christians, and many others.

**5044 Advanced Studies in American Military History to 1900 (3)**

Prerequisites: Graduate standing. A study of American military institutions from colonial times to 1900. The impact

of the military upon major aspects of American life. The place of war in American history to 1900.

**5045 Advanced Studies in American Foreign and Military Affairs 1900-Present (3)**

Prerequisites: Graduate standing. A survey of American foreign and military affairs since 1900, with particular emphasis on the major wars during the period and the Cold War Era. Consideration of the nation's changing place in a changing world.

**5050 Advanced Topics in African-American History (3)**

Prerequisites: Graduate standing. Will explore a salient topic in African-American history. Such historical documents as personal narratives, letters, government documents, and autobiographies as well as monographs, articles, and other secondary sources will be used to explore topics such as slavery and slave culture in the United States; African Americans and America's wars; the African American intellectual tradition; or, African-Americans and the Great Migration.

**5051 Advanced Topics in African-American History: From Slavery to Civil Rights (3)**

Prerequisites: Graduate standing. This course examines the impact of region, gender, and class on black activism by focusing on topics such as remembering slavery and emancipation, institution and community building during segregation, changing strategies in politics and protest, and the emergence of the direct action civil rights movement

**5052 Advanced Studies in African-American History: From Civil Rights to Black Power**

Prerequisites: Graduate standing. A seminar on the activities, ideas, movement centers, and personalities that created the Civil Rights and Black Power movements in the U.S. from the 1950s through the 1970s. Some familiarity with the broad contours of U.S. history is presupposed. Special attention will be devoted to the roles of the African-American masses, college students, and women, and to the points of conflict, cooperation, and intersection between African-America and the larger American society.

**5053 Advanced Studies in African-American Women's History (3)**

Prerequisites: Graduate standing. This course introduces some of the themes of African-American women's history. By examining the impact of region, gender, and class on African-American women's experiences across time, the course highlights black women's applied and theoretical contributions to feminist politics and activism as well as the black struggle for freedom and equality. Topics covered include: slavery and emancipation, institution and community building, the family and work, electoral politics and direct action protest, civil rights, and contemporary issues.

**5061 Advanced Mexican American (3)**

Prerequisites: Graduate Standing. This course explores Mexican American and Chicano history from the 17<sup>th</sup> century to the present. It does so by examining the making of race and ethnicity in the United States for citizens and foreigners alike. This course emphasizes change and continuity over time and focuses on themes of work, migration, race and identity.

**5062 Advanced Studies in Sport and Society (3)**

Prerequisites: Graduate standing. This course looks at sport in Western society as a form of social history. The first section of the course covers from early Olympic games through the end of the eighteenth century. The major part of the course deals with the role of organized sport in Europe and in the United States since 1840, the political and economic aspects of sports, and the growth of international sports.

**5071 Advanced Studies in Medieval England (3)**

Prerequisites: Graduate standing.  
A brief summary of the Anglo-Saxon heritage and the impact of the Norman Conquest, followed by an investigation of the institutional, social, and legal evolution of the realm of England. English development will be viewed in its European context.

**5072 Advanced Studies in York and Tudor England (3)**

Prerequisites: Graduate standing. The turmoil over the monarchy and consolidation of the Tudor dynasty. A study of the English Reformation and the political and economic changes of the sixteenth century.

**5073 Advanced Studies in Stuart England (3)**

Prerequisites: Graduate standing. A study of the English revolutions, religious controversy, and the rise of parliamentary power; the social and economic changes of the century; and the role played by England in the European struggles of the period.

**5081 Advanced Studies in Rome: The Republic and Empire (3)**

Prerequisites: Graduate standing. A survey of the development of Roman political and cultural life from the legendary founding of the city in central Italy in 753 to the death of the Emperor Justinian in 565 A.D.

**5082 Advanced History of the Church: The Middle Ages (3)**

Prerequisites: Graduate standing. A topical study of the Christian church in Europe as an autonomous and central institution from the sixth century through the reformation crisis. Special attention will be given to the relations between the church and the secular world, and the contributions of medieval Christianity to the development of European institutions and ideas.

**5083 Advanced Studies in Europe in Early Middle Ages (3)**

Prerequisites: Graduate standing. The end of the Roman Empire as a universal entity; the successor states of the Mediterranean and Northern Europe; the emergence of a Western Christendom under the Franks; the development of feudal states; the Gregorian reforms; the Crusades; the revival of education and learning in the twelfth century.

**5084 Advanced Studies in Europe in the High and Late Middle Ages (3)**

Prerequisite: Graduate standing. Medieval society at its political, economic, and intellectual zenith; the crisis of the later Middle Ages; the papal schism and the development of national particular churches within Catholicism; and the rise of estate institutions.

**5085 Advanced Studies in Age of the Renaissance (3)**

Prerequisites: Graduate standing. The advanced study of the Italian and Northern Renaissance as a distinct age; political, socioeconomic, intellectual, religious, and artistic movements attending the decline of medieval society, and the transition to the early modern period.

**5086 Advanced Studies in Age of Reformation (3)**

Prerequisites: Graduate standing. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

**5090 Advanced Nineteenth Century Europe (3)**

Prerequisites: Graduate Standing. This course is a general survey of Europe in the 'long' eighteenth century (from 1688 with the Glorious Revolution in England to the 1815 with the fall of Napoleon). Major aspects of the historical period will be covered, including political, military, social, and cultural events, upheavals, and challenges, but special emphasis will be placed on the intellectual history of the era. Philosophical, political and scientific ideas will be examined in detail to show how they shaped the modern world.

**5091 Advanced Studies in European Social History Since 1715: Everyday Life (3)**

Prerequisites: Graduate standing. A survey course examining the life of ordinary people in modern Europe. It begins with an examination of economic conditions and the social classes that derive from them. Most of the course explores the conditions of every day life. Topics include demography, marriage and the family, sexuality, children and old age, the roles of women, disease and death, diet, drink and drugs, clothing and housing, leisure and entertainment, and popular attitudes.

**5092 Advanced Studies in Europe 1900-1950: War and Upheaval (3)**

Prerequisites: Graduate standing. The impact of World Wars I and II and the search for equilibrium.

**5093 Advanced Studies in Europe, 1950-Present: Peace and Prosperity (3)**

Prerequisites: Graduate standing. A survey of the main social, economic, political, military, and cultural trends since the outbreak of World War II.

**5094 Advanced Studies in France in the Modern Age (3)**

Prerequisites: Graduate standing. The history of Republican France. Topics discussed include the creation of a liberal-democratic government; the scandals and crises of the Third Republic; the Dreyfus affair; the rise of imperialism, socialism, and feminism; the impact of World War I, the popular front, defeat, collaboration, and resistance during World War II; and the reestablishment of France as an important power.

**5095 Advanced Studies in Germany in the Modern Age (3)**

Prerequisites: Graduate standing. The course deals with whether or not the Third Reich should be considered the culmination of German history. Problems of national unification, economic development, representative government, and cultural modernism will be considered.

**5096 Advanced Modern Britain (3)**

Prerequisites: Graduate standing  
An advanced study of the economic, social, and political development of modern Britain, 1750 to present.

**5097 Advanced History of Spain (3)**

Prerequisites: Graduate standing. An advanced survey of Spanish history from the fifteenth century to the present, emphasizing its period of imperial greatness and examining the effects of empire on national development.

**5101 Advanced Studies in Modern Japan: 1850 to Present (3)**

Prerequisites: Graduate standing. The economic, social, and political development of modern Japan.

**5102 Advanced Studies in Modern China: 1800-Present (3)**

Prerequisites: Graduate standing. The economic, social, and political development of modern China.

**5103 Advanced Studies in Modern History of the Asian Pacific Rim (3)**

Prerequisites: Graduate standing. A survey course on the 20<sup>th</sup>-century history of the most rapid growth of a broad economic region in East and Southeast Asia as well as their interactions with America. For students who need to understand the political and economic dynamics of the countries around the Pacific Basin and the historical roots of various problems.

**5201 Advanced History of Latin America: To 1808 (3)**

Prerequisites: Graduate standing. Latin America from the pre-Columbian civilizations to 1808, stressing social, political, and economic institutions in the Spanish colonies.

**5202 Advanced History of Latin America: Since 1808 (3)**

Prerequisites: Graduate standing. Emphasis on the attainment of political independence of countries in Latin America and their social, political, and economic developments in the nineteenth and twentieth centuries.

**5301 Advanced Studies in West Africa to 1800 (3)**

Prerequisites: Graduate standing. Discusses both the history and historiography of Africa's most populous and ethnically diverse region. Beginning with the prehistoric era prior to the desiccation of the Sahara, the course explores climatology and population movement, changes in food production and technology, state formation, the spread of Islam, cultural and political diversity in the forest region, domestic slavery, the Atlantic slave trade and its abolition.

**5302 Advanced Studies in West Africa Since 1800 (3)**

Prerequisites: Graduate standing. Analysis of change in the savanna/forest societies occasioned by Islamic reform and the end of the slave trade, the imposition of colonial rule and African response, growth of nationalist protest, and post independence development.

**5303 Advanced Studies in African Diaspora to 1800 (3)**

Prerequisites: Graduate standing. Comparative in scope, the course examines major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora up to 1800. Themes include: slavery, multiracialism, economics of the South Atlantic system, political dimensions and the social transformation from heterogeneous crowds to new and homogenous communities. Linkages between Africans and their descendants in the Atlantic communities of Latin America, the Caribbean, as well as North America will be stressed.

**5304 Advanced Studies in African Diaspora since 1800 (3)**

Prerequisites: Graduate standing. Comparative in scope, this course uses a comparative methodology to examine the major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora after 1800.

**6013 United States History for the Secondary Classroom (3-6)**

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of American history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques particularly designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 6013 may not be used to meet History degree requirement.

**6014 World History for the Secondary Classroom (3-6)**

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of World history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. Hist 6014 may not be used to meet History degree requirement.

**6101 Readings in American History to 1865 (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history to 1865.

**6102 Readings in American History Since 1865 (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history since 1865.

**6103 Mercantile Library Seminar and Readings in American History (3-5)**

Prerequisite: Consent of instructor and advanced graduate standing. Directed readings and writing on selected topics and areas in American history that draw heavily upon resources in the St. Louis Mercantile Library.

**6104 Readings in African-American History (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writings on selected topics and areas in African-American history.

**6110 St. Louis: Metropolitan and Regional History (3 or 5)**

Prerequisites: Graduate standing and consent of instructor. Directed readings and writing. Principal areas of study will include the St. Louis region before European settlement; St. Louis as an 'urban frontier'; the impact of steam powered transportation; the crisis of slavery and the Civil War; St. Louis in the Gilded Age; the 1904 World's Fair and the origins of urban planning; the impact of the automobile; the St. Louis region in the Great Depression and W.W. II; suburbanization, urban renewal and desegregation; from the Schoemehl years to St. Louis 2004.

**6111 Readings in European History to 1715 (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history to 1715.

**6112 Readings in European History Since 1715 (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history since 1715.

**6113 Readings in East Asian History (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in East Asian history.

**6114 Readings in Latin American History (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in Latin American history.

**6115 Readings in African History (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in African history.

**6121 Directed Readings (1-3)**

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the graduate level.

**6122 Collaborative Research (3-6)**

Prerequisites: Graduate standing and consent of instructor. Faculty-student collaboration on a research project designed to lead toward publication of a jointly authored article. Faculty member will direct the research.

**6123 Thesis Seminar (2-6)**

Prerequisite: Graduate standing and consent of instructor. Thesis research and writing on a selected topic in history.

**6131 Doctoral Proseminar in Metropolitan History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**6132 Doctoral Proseminar in Regional History (3)**

Prerequisites: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**6134 History Curatorship (5)**

Prerequisite: Graduate standing and consent of instructor. Principles and practices of curatorship in history museums. Historiography and research in material culture; theoretical foundations; methodologies for collecting and curating collections; legal and ethical issues, interpretation, role of the history curator in exhibit and program developments; and responsibilities to the community.

**6135 Foundations of Museology I (3)**

Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6035 and Anthr 6135. Concepts for understanding museums in their social and cultural context; history of museums; museology and general social theory; information transfer vs. meaning-making models; museums and communities; the changing role of museums; museums as complex organizations; process models of museology.

**6136 Foundations of Museology II (3)**

Prerequisite: Hist 6035 and consent of Director of Museum Studies Program. Same as Art 6036 and Anthr 6136. Audience-centered approaches to museology; visitor research and learning theory; philosophical and practical considerations in museum planning; the physical design of museums; creativity, exhibit and program development; collections and curation; the challenge of diversity; the future of museums.

**6137 Effective Action in Museums (3)**

Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6037 and Anthr 6137. The nature of the work done in museums; how museums are organized to accomplish this work; professional roles and practices; technology and resources used by museums, skills for creative and effective leadership in project management and administration in museums; planning, flow charting, budgeting, team dynamics, and related skills. The course will include several site visits to area museums and guest lectures by a variety of museum professionals.

**6138 Museum Studies Master's Project (4)**

Prerequisite: Consent of Director of Museum Studies Program. Same as Art 6038 and Anthr 6138. Research and writing/exhibit development on a selected topic.

**7001 Doctoral Proseminar in American History to 1865 (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Symantec review of the literature and methods of the field.

**7002 Doctoral Research Seminar in American History to 1865 (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7003 Doctoral Proseminar in American History Since 1865 (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**7004 Doctoral Research Seminar in American History Since 1865 (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7005 Doctoral Proseminar in African-American History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**7006 Doctoral Research Seminar in African-American History (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7007 Doctoral Proseminar in European History to 1715 (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**7008 Doctoral Research Seminar in European History to 1715 (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7009 Doctoral Proseminar in European History Since 1715 (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**7010 Doctoral Research Seminar in European History Since 1715 (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7011 Doctoral Proseminar in East Asian History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**7012 Doctoral Research Seminar in East Asian History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7013 Doctoral Proseminar in Latin American History (3)**


Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**7014 Doctoral Research Seminar in Latin American History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7015 Doctoral Proseminar in African History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.



**7016 Doctoral Research Seminar in African History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**7017 Dissertation Research (1-18)**

Prerequisite: Completion of the doctoral qualifying examination. Dissertation research and writing on a selected topic in history.

**7018 Doctoral Presentation Seminar (1-3)**

Prerequisite: Previous enrollment in Hist 7017 and consent of department. Discussion and presentation of research in progress for the doctoral dissertation. Normally taken in the final year.

**7019 Directed Readings for Doctoral Students (1-6)**

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the doctoral level.


**7101 Doctoral Research in Metropolitan History (3)**

Prerequisites: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.



**7102 Doctoral Research Seminar in Regional History (3)**

Prerequisites: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.



## Department of Mathematics and Computer Science

### Faculty

**A Prabhakar Rao**, Professor\*, Chairperson  
Ph.D., University of California, Berkeley

**Charles Chui**, Distinguished Professor\*  
Ph.D., University of Wisconsin

**Raymond Balbes**, Professor Emeritus\*  
Ph.D., University of California, Los Angeles

**William Connert**, Professor Emeritus\*  
Ph.D., University of Chicago

**Richard Friedlander**, Professor\*, Associate Chairperson  
Ph.D., University of California, Los Angeles

**Deborah Tepper Haimo**, Professor Emerita\*  
Ph.D., Harvard University

**Wayne L. McDaniel**, Professor Emeritus\*  
Ph.D., Saint Louis University

**Stephen Selesnick**, Professor Emeritus\*  
Ph.D., University of London

**Jerrold Siegel**, Professor Emeritus\*  
Ph.D., Cornell University

**Grant V. Welland**, Professor Emeritus\*  
Ph.D., Purdue University

**Sanjiv K. Bhatia**, Associate Professor\*  
Ph.D., University of Nebraska-Lincoln

**Haiyan Cai**, Associate Professor\*  
Ph.D., University of Maryland

**Uday K. Chakraborty**, Associate Professor\*  
Ph.D., Jadavpur University

**Ronald Dotzel**, Associate Professor\*  
Ph.D., Rutgers University

**Wenjie He**, Associate Professor\*  
Ph.D., University of Georgia

**Cezary Janikow**, Associate Professor\*  
Ph.D., University of North Carolina at Chapel Hill

**Qingtang Jiang**, Associate Professor\*  
Ph.D., Peking University

**Kyungho Oh**, Associate Professor\*  
Ph.D., Purdue University

**Frederick Wilke**, Associate Professor Emeritus\*  
Ph.D., University of Missouri-Columbia

**Shiying Zhao**, Associate Professor\*  
Ph.D., University of South Carolina

**Galina N. Piatnitskaia**, Affiliate Associate Professor  
Ph.D., Moscow Physical-Technical Institute

**Hyung Woo Kang**, Assistant Professor\*  
Ph.D. KAIST

**Martin Pelikan**, Assistant Professor\*  
Ph.D., University of Illinois at Urbana-Champaign

**Donald E. Gayou**, Affiliate Assistant Professor  
Ph.D., Iowa State University

**John Antognoli**, Senior Lecturer  
M.A., University of Missouri-St. Louis

**Monica L. Brown**, Lecturer  
M.S., Southern Illinois University, Edwardsville

**Aarti Dahiya**, Lecturer  
M.S., University of Missouri-St. Louis

**Preetam S. Desai**, Lecturer  
M.S., University of Missouri-St. Louis

**Qiang Sun Dotzel**, Lecturer  
M.A., University of Missouri-St. Louis

**Dorothy Gotway**, Lecturer  
M.A., University of Kansas-Lawrence

**Nazire Koc**, Lecturer  
M.S., Southern Illinois University, Carbondale

**Shahla Peterman**, Senior Lecturer  
M.S., University of Wisconsin-Madison

**Emily Ross**, Senior Lecturer  
M.A., Saint Louis University

\*members of Graduate Faculty

### General Information

#### Degrees and Areas of Concentration

The Department of Mathematics and Computer Science offers work leading to the B.A. in mathematics, the B.S. in mathematics, the B.S. in computer science, and, in cooperation with the College of Education, the B.S.Ed. in secondary education with an emphasis in mathematics. The department also offers minors in computer science, mathematics, and statistics.

At the graduate level, the department offers a Master of Arts (M.A.) degree in mathematics, a Master of Science (M.S.) degree in computer science and a Ph.D. in applied mathematics.

The program leading to the B.A. in mathematics provides a broad grounding in different areas of mathematics, giving students the depth necessary to pursue various aims such as graduate studies or other career choices.

The B.S. in mathematics provides a substantial background in mathematics, statistics and computer science to produce graduates who can work as mathematicians. Both the B.A. and the B.S. in mathematics allow optional courses that enable the student to focus on areas of interest like pure or applied mathematics.

The B.S.Ed. in secondary education with an emphasis in mathematics introduces students to those branches of mathematics most relevant to the teaching of secondary-school mathematics.

The B.S. in computer science prepares students for employment in modern computing technology and careers in computer science.

Students pursuing the M.A. degree in mathematics may choose an emphasis in either pure or applied mathematics. The pure mathematics emphasis is well suited for students preparing to teach at the high school, junior college, or four year liberal arts college level. Those who concentrate on applied courses in the M.A. program build a foundation for the application of mathematics in industry and the



continuation of their education in the Ph.D. program in applied mathematics.

The M.S. degree in computer science emphasizes practical aspects of the field.

The Ph.D. in applied mathematics prepares students for a leadership role involving research and development in both industrial and academic settings.

Students may enroll in any of these graduate programs on a part-time basis.

### Career Outlook

A degree in mathematics or computer science prepares well-motivated students for interesting careers.

Our graduates find positions in industry, government, and education. The demand for individuals well trained in statistics, computer science, and applied mathematics is greater than the available supply. In addition, a number of graduates in mathematics have elected careers in business, law and other related fields where they find logical and analytical skills valuable.

Graduates in computer science and mathematics from UM-St. Louis are located throughout the country, and they also have a strong local presence. They have careers in banking, health care, engineering and manufacturing, law, finance, public service, management, and actuarial management. Many are working in areas such as systems management, information systems and data management, scientific computing, and scientific positions in the armed services. Others have careers in education, especially at secondary and higher levels.

### Department Scholarships

The Department of Mathematics and Computer Science offers two scholarships for students who are majoring in mathematics or computer science.

**The Mathematical Sciences Alumni Scholarship** is a monetary award for outstanding undergraduates at the junior or senior level. **The Edward Z. Andalafte Memorial Scholarship** is a monetary award for outstanding undergraduate students at the sophomore level or higher. Applicants for each of these scholarships must have a grade point average of 3.5 or higher in at least 24 hours of graded course work at the University of Missouri-St. Louis, and show superior achievement in courses in the mathematical sciences. Application forms may be obtained from the Department of Mathematics and Computer Science. The deadline for application for both scholarships is March 15, and the scholarships must be used for educational fees or for books at UM-St. Louis starting in the fall semester following the application

## Undergraduate Studies

### General Education Requirements

All majors must satisfy the university and appropriate school or college general education requirements. All mathematics courses may be used to meet the university's general education breadth of study requirement in natural sciences and mathematics.

### Satisfactory/Unsatisfactory Restrictions

Majors in mathematics and computer science may not take mathematical sciences or related area courses on a satisfactory/unsatisfactory basis. Students considering graduate study should consult with their advisers about taking work on a satisfactory/unsatisfactory basis.

### Degree Requirements

All mathematical sciences courses presented to meet the degree requirements must be completed with a grade of C- or better. At least four courses numbered 3000 or above must be taken in residence. Students must have a 2.0 grade point average in the mathematical sciences courses completed.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the *Schedule of Classes*. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- is required to meet the prerequisite requirement for any course except with permission of the department.

Note: Courses that are prerequisites for higher-level courses may not be taken for credit or quality points if the higher-level course has been satisfactorily completed.

Many students are qualified, as a result of having studied calculus in high school, to begin their major with Math 1900, Analytic Geometry and Calculus II, or Math 2000, Analytic Geometry and Calculus III. These students are urged to consult with the department before planning their programs. Credit for Math 1800, Analytic Geometry and Calculus I, will be granted to those students who complete Math 1900 with a grade of C- or better.

Similarly, students who are ready to begin their computer science studies with CS 2250, Programming and Data Structures, will be granted credit for CS 1250, Introduction to Computing, once they complete CS 2250 with a grade of C- or better.

### Degree Requirements in Mathematics

All mathematics majors in all undergraduate programs must complete the mathematics core requirements.

### Core Requirements

1) The following courses are required:

- 1250, Introduction to Computing
- 1320, Applied Statistics I
- 1800, Analytic Geometry and Calculus I
- 1900, Analytic Geometry and Calculus II
- 2000, Analytic Geometry and Calculus III
- 2020, Introduction to Differential Equations
- 2450, Elementary Linear Algebra
- 3000, Discrete Structures
- 4100, Advanced Calculus I

2) The related area requirements as described below must be satisfied.

Students seeking a double degree, either within this department or with another department, do not have to fulfill the related area requirements.

#### Bachelor of Arts in Mathematics.

In addition to the core requirements and the College of Arts and Sciences' foreign language requirement, three mathematics courses at the 4000 level or higher must be completed. Of these, one must be 4400, Introduction to Abstract Algebra

#### B.S.Ed. in Secondary Education with emphasis in mathematics.

In addition to the core requirements and the required education courses, three mathematics/statistics courses at the 4000 level or higher must be completed. Of these, one must be

4400, Introduction to Abstract Algebra, and one must be chosen from:

- 4660, Foundations of Geometry or
- 4670, Introduction to Non-Euclidean Geometry

#### Bachelor of Science in Mathematics

In addition to the core requirements, the B.S. in Mathematics degree requires:

- i) Completing all of the following:
  - 4160, Functions of a Complex Variable
  - 4400, Introduction to Abstract Algebra
  - 4450, Linear Algebra
- ii) Completing an additional three courses numbered above 4000 in mathematics, statistics or computer science, at least one of which must be in mathematics/statistics.

#### Degree Requirements in Computer Science

Candidates for the **Bachelor of Science in Computer Science** degree must complete the following work:

- 1) **Computer Science**
  - 1250, Introduction to Computing
  - 2250, Programming and Data Structures
  - 2260, Object-Oriented Programming with C++
  - 2700, Computer Systems: Architecture and Organization
  - 2710, Computer Systems: Programming
  - 2750, Advanced Programming with Unix

- 3000, Discrete Structures
- 3130, Design and Analysis of Algorithms
- 4250, Programming Languages
- 4280, Program Translation Techniques
- 4760, Operating Systems

#### 2) Mathematics and Statistics

- 1320, Applied Statistics I
- 1800, Analytic Geometry and Calculus I
- 1900, Analytic Geometry and Calculus II
- 2000, Analytic Geometry and Calculus III
- 2450, Elementary Linear Algebra

#### 3) Philosophy

- 4458, Ethics and the Computer

4) Five more elective courses, numbered above 3000 if in computer science, and above 2010 if in mathematics or statistics. At least three of these elective courses must be in computer science, and at least one must be in mathematics or statistics.

5) Satisfy the related area requirements as described below.

#### Related Area Requirements

Candidates for the B.A. in Mathematics must satisfy the requirements in one of the groups below with a grade of C- or better. Candidates for the B.S.Ed. in Mathematics, B.S. in Mathematics and B.S. in Computer Science must satisfy the requirements in two of the groups below with a grade of C- or better.

Candidates for the B.S. in Computer Science may not choose group 1. Candidates for the B.A. in Mathematics, B.S.Ed. in Mathematics, or B.S. in Mathematics may not choose group 2 or 3. If candidates for any of these three latter degrees choose group 4, then they cannot apply either of the two courses listed in that group towards the additional 4000 level mathematics courses (beyond the core requirements) that must be completed for each of these degrees.

Students seeking a double degree, either within this department or with another department, do not have to fulfill the related area requirements.

#### Related Area Courses

##### 1) Computer Science:

- Two courses from the following list:
  - 2250, Programming and Data Structures
  - 2700, Computer Systems: Architecture and Organization
  - 3130, Design and Analysis of Algorithms
  - 4140, Theory of Computation
  - 4410, Computer Graphics
  - 4440, Digital Image Processing

##### 2) Mathematics (Analysis):

- Two courses from the following list:

2020, Introduction to Differential Equations

4030, Applied Mathematics I

4100, Advanced Calculus

4160, Functions of a Complex Variable

4230, Numerical Analysis I

**3) Mathematics (Algebra):**

Two courses from the following list:

4350, Theory of Numbers

4400, Introduction to Abstract Algebra

4450, Linear Algebra

4550, Combinatorics

**4) Statistics:**

4200, Mathematical Statistics I

4210, Mathematical Statistics II

**5) Biology:**

2102, General Ecology

2103, General Ecology Laboratory

**6) Biology:**

2012, Genetics

4182, Population Biology

**7) Chemistry:**

1111, Introductory Chemistry I

1121, Introductory to Chemistry II

**8) Chemistry:**

3312, Physical Chemistry I

and another 3000-level, or above, chemistry course.

**9) Economics:**

4100, Introduction to Econometrics,

and one of either:

4110, Applied Econometrics or

4130, Econometric and Time Series Forecasting

**10) Philosophy:**

3360, Formal Logic

3380, Philosophy of Science

4460, Advanced Formal Logic

**11) Physics:**

2111, Physics: Mechanics and Heat

2112, Physics: Electricity, Magnetism, and Optics

**12) Physics:**

3221, Mechanics

and another 3000 level, or above, physics course

**13) Business Administration:**

3320, Introduction to Operations Management

and one of the following courses:

4330, Production and Operations Management –  
Logistics

4324, Production and Operations Management-  
Service Systems

4312, Business Forecasting

4326, Quality Assurance in Business

4350, Operations Research

**14) Engineering:**

2310, Statics

2320, Dynamics

**Minor Requirements**

The department offers minors in computer science, mathematics, and statistics. All courses presented for any of these minors must be completed with a grade of C- or better.

**Minor in Computer Science**

The requirements for the minor are:

1250, Introduction to Computing

2250, Programming and Data Structures

2700, Computer Systems: Architecture and Organization

and two additional courses computer science courses numbered above 2700.

A minimum of two computer science courses numbered above 2700 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

**Minor in Mathematics**

The requirements for the minor are:

1800, Analytic Geometry and Calculus I

1900, Analytic Geometry and Calculus II

2000, Analytic Geometry and Calculus III

and two additional three-hour mathematics courses numbered above 2400. A minimum of two mathematics courses numbered 2000 or above must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

**Minor in Statistics**

The requirements for the minor are:

1320, Applied Statistics I

4200, Mathematical Statistics I

and two additional courses in statistics numbered above 4200. A minimum of two statistics courses numbered above 2000 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

**Graduate Studies**

The Department of Mathematics and Computer Science offers an M.A. degree in mathematics, a Ph.D. degree in applied mathematics, and an M.S. degree in computer science.

**Admission**

Applicants must meet the general admission requirements of the Graduate School, described elsewhere in this *Bulletin*.

Additional admission requirements for specific programs are listed below.

### Mathematics Programs

Applicants must have at least a bachelor's degree in mathematics or in a field with significant mathematical content. Examples of such fields include computer science, economics, engineering and physics. An applicant's record should demonstrate superior achievement in undergraduate mathematics.

Individuals may apply for direct admission to either the M.A. or Ph.D. program. Candidates for the M.A. degree may choose to concentrate in either **pure** or **applied** mathematics. A student in the M.A. program may petition the department for transfer to the Ph.D. program upon successful completion of 15 credit hours and fulfillment of additional requirements as listed below.

Students intending to enter the Ph.D. program must have a working ability in modern programming technologies. A student with a deficiency in this area may be required to take courses at the undergraduate level in computer science.

Applicants for the Ph.D. program must, in addition, submit three letters of recommendation and scores from the Graduate Record Examination (GRE) general aptitude test.

### Computer Science Program

Applicants to the Graduate Program in Computer Science must meet the general graduate admission requirements of the Graduate School, described in the U.M.-St. Louis *Bulletin*. Students seeking admission to the program must formally apply for admission to the Graduate School either online or by traditional means. Additional requirements are listed below.

Applicants must have at least a bachelor's degree, preferably in computer science or in a related area. Applicants with bachelor's degrees outside of computer science must demonstrate significant proficiency in computer science, either by taking the GRE subject area examinations or by explicitly showing competence in the following areas:

- C programming (CS 1250 and CS 2250).
- An object oriented programming language (C++ or Java) (CS 2260).
- A course in data structures (CS 2250).
- A course in assembly language programming, computer architecture, or computer organization (CS 2700).
- A course in design and analysis of algorithms (CS 3130).
- Programming with Unix, including shell scripts and tools (CS 2750).

Students must also have satisfactorily completed mathematics courses equivalent to the following UM-St. Louis courses:

- Two semesters of calculus (Math 1800 and 1900).

- A course in elementary linear algebra (Math 2450).
- A course in discrete mathematics (Math 3000).
- An elementary course in probability or statistics (Math 1320).

A student missing some of the above requirements may be admitted on restricted status if there is strong supportive evidence in other areas. The student will have to take the missing courses, or demonstrate proficiency to the satisfaction of the Graduate Director. Special regulations of the Graduate School that apply to students on restricted status are described elsewhere in this *Bulletin*.

### Preliminary Advisement

Incoming students are assigned advisers with whom they should consult before each registration period to determine an appropriate course of study. If necessary, students may be required to complete undergraduate course work without receiving graduate credit.

### Degree Requirements

#### Master of Arts in Mathematics

Candidates for the M.A. degree must complete 30 hours of course work. All courses numbered below 5000 must be completed with grades of at least B. The courses taken must include those listed below in group A together with additional courses discussed in B.

Students who have already completed courses equivalent to those in A) may substitute other courses numbered above 4000. All substitutions of courses for those listed in A) require the prior approval of the graduate director.

#### A) Mathematics core:

- 4100, Advanced Calculus
- 4160, Functions of a Complex Variable
- 4450, Linear Algebra

B) M.A. candidates must also complete 15 hours of course work numbered 5000 or above, chosen with the prior approval of the graduate director. Courses may be chosen to develop expertise in either pure or applied mathematics.

**Thesis Option** Part of B) may consist of an M.A. thesis written under the direction of a faculty member in the Department of Mathematics and Computer Science. A thesis is not, however, required for this degree. A student who wishes to write a thesis should enroll in 6 hours of Math 6900, M.A. Thesis. Students writing an M.A. thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

#### Doctor of Philosophy in Applied Mathematics

The requirements for the Ph.D. degree include the following:

1. Course work
2. Ph.D. candidacy
3. Doctoral dissertation

The requirements are described in detail below.

### 1. Course Work

A minimum of 60 hours of courses numbered 4000 or above. At least 33 hours must be in courses numbered 5000 or above. All courses numbered below 5000 must be completed with a grade of at least B. Up to 9 hours can be in Math 7990, Ph.D. Dissertation Research. Courses outside the Department of Mathematics and Computer Science will require approval of the graduate director.

### 2. Advancement to Ph.D. Candidacy

Advancement to Ph.D. candidacy is a four-step process consisting of:

- A) Completing 18 hours of 5000 level courses other than Math 7990, Ph.D. Dissertation Research.
- B) Passing the comprehensive examination.
- C) Selecting a Ph.D. committee and preparing a dissertation proposal.
- D) Defending the dissertation proposal.

### Qualifying Examination

A student must fulfill the following requirements.

#### Basic Requirement

Pass one written examination covering the fundamental topics from advanced calculus, complex variables and linear algebra—Math 4100, Math 4160, and Math 4450. This examination would normally take place within the first 12 credit hours of study after admission to the Ph.D. program

#### Additional Requirement

After fulfilling the basic requirement above, the student must meet one of the following:

1. Pass a written examination in an area of the student's interests. This area will be approved by the graduate committee and will be based on a set of two or more graduate courses taken by the student. This examination would normally take place within the first 24 credit hours of study after admission to the Ph.D. program.
2. Write a survey paper in a specialized area under the direction of a member of the graduate faculty. The student should propose to take this option when he/she has already finished at least 2 graduate level courses and has the approval of the graduate committee. The paper should be submitted within four semesters, at which time an oral examination given by a committee of at least three members of the graduate faculty must be passed.

### Selection of a Ph.D. Committee and Preparation of a Dissertation Proposal.

The student is required to identify a dissertation adviser and an area of specialization for the dissertation. The area of specialization can be in a discipline complementary to mathematics. Usually, students select an adviser from contacts made through course work or in the seminar series. The adviser and student will then form a Ph.D. committee which may include faculty from other departments at UM-St.

Louis. The committee advises the student on course work and research.

Each student must prepare a dissertation proposal. This is a substantial document describing the problem to be worked on and the methods to be used. It should also demonstrate the student's proficiency in written communication. The proposal is to be submitted to the Ph.D. committee for approval

**Dissertation Proposal Defense.** If the Ph.D. committee finds the student's dissertation proposal acceptable, a defense is scheduled. This is a public event in which the student demonstrates mastery of the necessary skills to begin research.

### Dissertation and Dissertation Defense

Each Ph.D. candidate must write a dissertation which is an original contribution to the field on a topic approved by the candidate's Ph.D. Committee and the department, and which meets the standards and requirements set by the Graduate School including the public defense of the dissertation. Students working on a dissertation may enroll in Math 7990, Ph.D. Dissertation Research. A maximum of 9 hours in Math 7990 can be used toward the required hours of work in courses numbered 5000 or above.

### Master of Science in Computer Science

Candidates for the M.S. degree in Computer Science must complete 30 hours of course work, subject to the Graduate School regulations. Of these, at least 18 hours must be numbered 5000 or above, with at least one course numbered 6000 or above, chosen with the prior approval of the Graduate Director. All courses numbered below 5000 must be completed with grades of at least B-. Outside computer science, up to 6 hours of related course work is allowed upon permission of the Graduate Director.

Students must satisfy all of the following core requirements:

- Operating Systems, CS 4760
- Programming Languages, CS 4250
- Computer Systems, CS 5700
- Software Engineering, CS 5500
- Advanced Data Structures and Algorithms, CS 5130

Waiving or substituting for a specific requirement can be done on the basis of prior course work or experience at the discretion of the Graduate Director, but it will not reduce the total hours required for the degree.

Additionally, students must attend at least five different seminars or colloquium presentations in the department.

### Thesis Option

Students may choose to write an M.S. thesis under the direction of a faculty member in the Department of Mathematics and Computer Science. A thesis is not, however, required for this degree. A student who wishes to

write a thesis should enroll in 6 hours of CS 6900, Thesis. Students writing an M.S. thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

### Financial Assistance

Any student who intends to apply for financial assistance, in the form of a teaching assistantship or a research assistantship, is required to have three letters of recommendation submitted with the application to the graduate program in Mathematics or Computer Science. The application must include scores on the GRE general aptitude test. Applicants are also encouraged to submit scores in the GRE subject area test in Mathematics or Computer Science. Applications for financial assistance should be submitted before February 15 prior to the academic year in which the student expects to begin graduate study. Notifications of awards are generally made March 15, and students awarded financial assistance are expected to return letters of acceptance by April 15.

### Career Outlook

Graduates from the Department of Mathematics and Computer Science have little difficulty in finding positions in industry, government, and education. The demand for individuals well-trained in statistics, computer science, and applied mathematics is greater than the available supply. In addition, a number of graduates in mathematics have elected careers in business and other related fields where they have found their logical and analytical skills to be well-rewarded.

### Course Descriptions

Courses in this section are grouped as follows: Mathematics, Computer Science, and Probability and Statistics.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the *Schedule of Courses*.

A minimum grade of C- is required to meet the prerequisite requirement for any course except with permission of the department.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

MATHEMATICS: 1020, 1030, 1035, 1070, 1100, 1102, 1105, \*1150, 1800, 1900, 2000, 2020, 2450, \*2510, 3000, \*\*3520, 4030, 4060, 4100, 4110, 4160, 4230, 4240, 4270,

4350, 4400, 4410, 4450, 4500, 4550, 4580, 4620, 4640, 4660, 4670, 4800, 4890.

COMPUTER SCIENCE: 1010, 1050, 1220, 1250, 2010, 2210, 2250, 2260, 2700, 2710, 2750, 3000, 3130, 4010, 4020, 4040, 4050, 4140, 4250, 4280, 4300, 4410, 4440, 4500, 4520, 4540, 4560, 4610, 4620, 4730, 4740, 4760, 4770, 4780, 4880, 4890.

PROBABILITY AND STATISTICS: 1310, 1320, 2320, 4200, 4210, 4260, 4300, 4310, 4320, 4330, 4390.

\*Mathematics 1150 and 2510 fulfill this requirement only for students seeking the B.S. in Education degree in Early Childhood Education, Elementary Education, Special Education, or Middle School Mathematics.

\*\*Mathematics 3250 fulfills this requirement only for students seeking the B.S. in Education degree in Middle School Mathematics.

### Mathematics

#### 0005 Intermediate Algebra (3)

Prerequisite: A current working knowledge of Beginning Algebra. Preparatory material for college level mathematics courses. Covers systems of linear equations and inequalities, polynomials, rational expressions, exponents, quadratic equations, graphing linear and quadratic functions. This course carries no credit towards any baccalaureate degree.

#### 1020 Contemporary Mathematics (3) [MS]

Prerequisites: A satisfactory score on the university's mathematics placement examination, obtained in the six months prior to enrollment in this course. Presents methods of problem solving, centering on problems and questions which arise naturally in everyday life. May include aspects of algebra and geometry, the mathematics of finance, probability and statistics, exponential growth, and other topics chosen from traditional and contemporary mathematics which do not employ the calculus. May be taken to meet the mathematical proficiency requirement, but may not be used as a prerequisite for other mathematics courses. Designed for students who do not plan to take Calculus. Credit will not be granted for Math 1020 if credit has been granted for Stat 1310, Math 1800, 1100, 1102, or 1105. Concurrent enrollment in Math 1020 and any of these courses is not permitted.

#### 1030 College Algebra (3) [MS]

Prerequisites: A satisfactory score on the university's mathematics placement examination, obtained in the six months prior to enrollment in this course. Topics in algebra and probability, polynomial functions, the binomial theorem, logarithms, exponentials, and solutions to systems of equations.

#### 1035 Trigonometry (2) [MS]

Prerequisite: Math 1030 or concurrent registration. A study of the trigonometric and inverse trigonometric functions with emphasis on trigonometric identities and equations.

**1070 Applied Mathematics of Interest (2)**

Prerequisites: Math 1030. An introduction to the role of interest in applied mathematics. Topics include simple and compound interest, mathematics of annuities, amortization bonds, sinking funds, and mortgages.

**1100 Basic Calculus (3) [MS]**

Prerequisite: Math 1030, or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. Introduction to plane analytic geometry and basic differential and integral calculus with application to various areas. No credit for Mathematics majors. Credit not granted for both Math 1800 and 1100.

**1102 Finite Mathematics (3)**

Prerequisite: Math 1030, or a satisfactory ACT Math score, or a satisfactory score on the university's proficiency examination. Introductory logic and set theory, partitions and counting problems, elementary probability theory, stochastic processes, Markov chains, vectors and matrices, linear programming, and game theory.

**1105 Basic Probability and Statistics (3) [MS]**

Prerequisites: Math 1030, or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. An introduction to probability and statistics. Topics include the concept of probability and its properties, descriptive statistics, discrete and continuous random variables, expected value, distribution functions, the central limit theorem, random sampling and sampling distributions. Credit not granted for more than one of Stat 1310, Stat 1320 and Math 1105.

**1150 Structure of Mathematical Systems I (3) [MS]**

Prerequisites: 45 hours of college credit and one of the following: Math 1030, a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. A study of sets, relations, functions, whole numbers; the integers and their properties, and the rational and real number systems.

**1320 Applied Statistics I (3)**

Prerequisites: Math 1800 or 1100 or equivalent. See Statistics 1320 in Probability and Statistics section that follows.

**1800 Analytic Geometry and Calculus I (5) [MS]**

Prerequisites: Math 1030 and 1035, or a satisfactory ACT Math score along with a satisfactory score on the university's trigonometry examination, or a satisfactory score on both the university's mathematics proficiency examination and the university's trigonometry examination. This course provides an introduction to differential and integral calculus. Topics include limits, derivatives, related rates, Newton's method, the Mean-Value Theorem, Max-Min problems, the integral, the Fundamental Theorem of Integral Calculus, areas, volumes, and average values.

**1900 Analytic Geometry and Calculus II (5)**

Prerequisite: Math 1800. Topics include conic sections, rotations of axes, polar coordinates, exponential and logarithmic functions, inverse (trigonometric) functions, integration techniques, applications of the integral (including mass, moments, arc length, and hydrostatic pressure), parametric equations, infinite series, power and Taylor series.

**2000 Analytic Geometry and Calculus III (5)**

Prerequisite: Math 1900. Topics include vectors, cylindrical and spherical coordinates, vector-valued functions, arc length and curvature, functions of several variables, partial and directional derivatives, gradients, extrema, Lagrange multipliers, multiple integrals, change of variables, surface area, vector fields, Stokes' Theorem.

**2020 Introduction to Differential Equations (3)**

Prerequisite: Math 2000. Topics will be chosen from linear differential equations, equations with constant coefficients, Laplace transforms, power series solutions, systems of ordinary differential equations.

**2320 Applied Statistics II (3)**

Prerequisite: Stat 1320  
Same as Stat 2320 See Stat 2320 in Probability and Statistics section that follows.

**2450 Elementary Linear Algebra (3)**

Prerequisites: Math 1100 or 1900. An introduction to linear algebra. Topics will include complex numbers, geometric vectors in two and three dimensions and their linear transformations, the algebra of matrices, determinants, solutions of systems of equations, eigenvalues and eigenvectors.

**2510 Structure of Mathematical Systems II (3) [MS]**

Prerequisite: Math 1150. An introduction to probability and statistics. An intuitive study of elementary geometry. Introduction to the deductive theory of geometry and to coordinate geometry.

**3000 Discrete Structures (3)**

Prerequisite: Math 1900 or 1100, and CS 1250 or equivalent. Same as CS 3000. Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial methods, trees and graphs. Credit not granted for more than one of CS 2250 and Math 3000.

**3520 Structure of Mathematical Systems III (3) [MS]**

Prerequisite: Math 2510. Together with Math 1150 and 2510, this course teaches mathematics necessary for middle school mathematics certification. Topics from Math 1150

and 2510 are continued. Other topics include geometric constructions, similarity, coordinate geometry, normal distribution, combinatorics, and trigonometry. Credit will be granted only toward the B.S. in education degree in Early Childhood Education, Elementary Education, Middle School Education and Special Education.

#### **4030 Applied Mathematics I (3)**

Prerequisites: Math 2020 and 2450. Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems.

#### **4060 Applied Differential Equations (3)**

Prerequisite: Math 2020 and 2450. The study of ordinary differential equations and partial differential equations is continued with applications in such areas as physics engineering and biology.

#### **4100 Advanced Calculus I (3)**

Prerequisite: CS/Math 3000 and 2000. Limits, continuity, and differentiability of functions of one and several variables, sequences and series, and the Riemann Stieltjes integral.

#### **4110 Advanced Calculus II (3)**

Prerequisite: Math 4100. Continuation of Math 4100.

#### **4160 Functions of a Complex Variable (3)**

Prerequisite: Math 2020 or both CS/Math 3000 and Math 2000. Complex numbers and their geometrical representation, point sets, analytic functions of a complex variable, complex integration, Taylor and Laurent series, residue theorem, conformal mapping.

#### **4200 Mathematical Statistics I (3)**

Prerequisites: Math 1320 and Math 2000. Introduction to the theory of probability and statistics using concepts and methods of calculus.

#### **4210 Mathematical Statistics II (3)**

Prerequisites: Math 4200. Continuation of Math 4200. Sampling distribution, estimation theory, properties of estimators, hypothesis testing, Neyman-Pearson Theorem, likelihood ratio tests, introduction of analysis of variance and linear models. Basics of some nonparametric procedures.

#### **4230 Numerical Analysis I (3)**

Prerequisites: Math 2020, 2450, and ability to program in an upper-level language. Solutions of equations, interpolation and approximation, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers.

#### **4240 Numerical Analysis II (3)**

Prerequisite: Math 4230 or consent of instructor. Topics chosen from: the numerical solution of systems of linear equations; the eigenvalue/eigenvector problem; numerical solution of Partial Differential Equations (PDE); numerical

solution of stiff Ordinary Differential Equations (ODE); boundary value problems; sparse matrix methods; approximation theory; optimization theory; digital filter; integral equations.

#### **4270 The Calculus of Variations (3)**

Prerequisites: Math 2020 and 4100. Methods for optimizing functionals and their application. The Euler-Lagrange condition. Hamilton's principle, two dimensional variational problems, and isoperimetric problems. Approximate methods for the solution of variational problems.

#### **4350 Theory of Numbers (3)**

Prerequisite: CS/Math 3000 and Math 2000 or consent of instructor. Properties of integers, multiplicative functions, congruences, primitive roots, and quadratic residues.

#### **4400 Introduction to Abstract Algebra I (3)**

Prerequisite: CS/Math 3000 and Math 2000 or consent of the department. Introduction to groups, rings, and fields, with emphasis on groups and rings.

#### **4410 Introduction to Abstract Algebra II (3)**

Continuation of Math 4400 with emphasis on fields.

#### **4450 Linear Algebra (3)**

Prerequisites: CS/Math 3000, Math 2000 and Math 2450. Topics selected from vector spaces, bases, linear transformations, matrices, canonical forms, eigenvalues, hermitian and unitary matrices, inner product spaces, and quadratic forms.

#### **4500 Special Readings (1-10)**

Prerequisites: CS/Math 3000, Math 2000 and consent of instructor.

#### **4550 Combinatorics (3)**

Prerequisite: CS/Math 3000 and Math 2000. Advanced counting methods are introduced, including the use of generating functions for the solution of recurrences and difference equations. Additional topics may include: graphs and trees, combinatorial designs, combinatorial games, error-correcting codes, and finite-state machines.

#### **4580 Mathematical Logic (3)**

Prerequisite: CS/Math 3000 and Math 2000 or Philosophy 4460. A study of the logic of mathematics by the axiomatic method, with a development of the propositional calculus and restricted predicate calculus emphasizing its application to the foundations of mathematics.

#### **4620 Projective Geometry (3)**

Prerequisites: CS/Math 3000, Math 2000 and Math 2450. Analytic approach to the study of projective spaces. Theorems of Desargues, Pascal, and Brianchon. Projective properties of conics.



**4640 Introduction to Differential Geometry (3)**

Prerequisite: CS/Math 3000 and Math 2000. Geometry of curves and surfaces in Euclidean three-space. Calculus on a surface. Intrinsic geometry of surfaces.

**4660 Foundations of Geometry (3)**

Prerequisite: CS/Math 3000 and Math 2000 or consent of department. A development of portions of Euclidean geometry from a selected set of axioms, including a discussion of consistency, independence, categoricity, and completeness of the axioms.

**4670 Introduction to Non-Euclidean Geometry (3)**

Prerequisite: CS/Math 3000 and Math 2000 or consent of the department. A summary of the history of the non-Euclidean geometries and a study of hyperbolic plane geometry.

**4800 Introduction to Topology (3)**

Prerequisite: CS/Math 3000 and Math 2000 or consent of the department. A study of topological spaces, including the concepts of limit, continuity, connectedness, compactness, etc. Special emphasis placed on, and examples taken from, the space of real numbers.

**4890 Topics in Mathematics (3)**

Prerequisite: Consent of instructor. A seminar on special topics in mathematics to be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

**5010 Theory of Ordinary Differential Equations (3)**

Prerequisite: Math 4100. A theoretical treatment of ordinary differential equations including the existence and uniqueness of solutions of differential equations and systems of differential equations. The course treats such topics as systems of linear differential equations, eigenvalue problems, autonomous systems, and boundary value problems.

**5020 Classical Applied Mathematics (3)**

Prerequisites: Math 4100, 4160, and 4450 or consent of instructor. The course gives the derivation of equations of mathematical physics such as Navier-Stokes' equations, Euler's equations, equations of elastic materials, and equations of electrodynamics, using scaling and conservation principles. The course also includes elements of the calculus of variations, the Euler-Lagrange equations and Hamiltonian theory.

**5040 Calculus of Variations (3)**

Prerequisites: Math 2020, 4100 and 4450. Classical functionals, minimization of functionals, Euler-Lagrange equations, appropriate function spaces, weak solutions, existence of solutions, approximation theory, practical applications and finite element approach to solutions will be covered.

**5050 Computational Curves and Surfaces (3)**

Prerequisite: Math 4100, 4230 and 4450, or consent of instructor. Construction of curves and surfaces using

subdivision algorithms. Iterative refinement of discrete data in an easily programmable manner. Discussion of issues of convergence, shape control, relation to spline functions with uniform knots, multi resolution analysis, and wavelets.

**5060 Computational Harmonic Analysis (3)**

Prerequisites: Math 4030, Math 4100, and Math 4450. The course covers the basic of Fourier analysis and wavelet analysis. Topics include Fourier transforms and series, discrete Fourier transform, discrete cosine transform and their fast computational schemes, fast wavelet transform, and the lifting scheme. Additional topics include industrial standards for image compression and several aspects of signal processing.

**5100 Theory of Functions of a Real Variable (3)**

Prerequisites: Math 4100 and 4800. The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory.

**5110 Differentiable Manifolds (3)**

Prerequisites: Math 4100, 4450, and 4800. An introduction to smooth manifolds and maps. Topics will include the Implicit Function Theorem, Sard's Theorem, transversality, intersection and degree theory, differential forms and integration on manifolds.

**5140 Set Theory and Metric Spaces (3)**

Prerequisites: Math 4100 or consent of instructor. Naïve set theory, cardinal arithmetic, ordinal numbers, the axiom of choice and equivalents, metric spaces, convergence, continuity, compactness, contraction principles and applications. Construction of completions and examples like the real numbers and p-adic numbers. Other topics could include the Stone-Weierstrass theorem and metrization theorems.

**5160 Functions of a Complex Variable (3)**

Prerequisites: Math 4100, 4160, and 4800. Complex numbers, topology of the complex plane, analytic functions, conformal mappings, Taylor series, Laurent series, complex integration, residues, analytic continuation, representation of analytic functions, elliptic functions, normal families, Riemann theorem, majorization.

**5270 Numerical Linear Algebra (3)**

Prerequisite: Math 4230 and Math 4450 or consent of the instructor. The course includes solution of general and special linear systems. Techniques include methods such as splitting or Krylov subspaces. Additional topics are the eigenvalue problem and the method of least squares.

**5300 Partial Differential Equations (3)**

Prerequisites: Math 4100, 4160, 4450, and 4800. Classification of partial differential equations; Cauchy, Dirichlet, and Neumann problems; the fundamental solution; existence theorems of potential theory; eigenvalue problems; and Tricomi's problem.

**5320 Applied Statistics (3)**

Prerequisites: Math 4210 or consent of instructor. The course studies classical and recently developed statistical procedures selected from areas including analysis of variance, multivariate analysis, nonparametric or semiparametric methods and generalized linear models. Emphasis is on application of procedures, including the rationale underlying choice of procedures.

**5350 Operations Research-Deterministic Models (3)**

Prerequisites: Math 4450 or equivalent. Same as MSIS 7350. A study of deterministic methods and models in operations research. This course provides an introduction to operations research and focuses on model building, solution and interpretation of results. Topics include formulation, solution, duality and sensitivity analysis in linear programming, integer programming, network flow models, nonlinear optimization, and dynamic programming.

**5360 Operations Research-Stochastic Models (3)**

Prerequisites: Math 4200 or equivalent. Same as MSIS 7352. A study of stochastic methods and models in operations research. Provides an introduction to probabilistic models for decision making under uncertainty. Topics include stochastic processes, queuing theory and models, probabilistic inventory theory and models, Markovian decision problems, simulation and reliability.

**5370 Quality Management (3)**

Prerequisite: MSIS 5300 or Math 4200 or consent of instructor. Same as MSIS 5326. An applied course on total quality management. Quality improvement approaches are presented and the managerial implications and responsibilities in implementing these approaches are discussed. Topical coverage includes the construction and interpretation of control charts, graphical methods, quality function deployment, robust experiments for product design and improvement, mistake-proofing (poke-yoke), the Deming approach, Baldrige award criteria, quality cost audits, worker empowerment and reward systems. Cases involving both business processes and physical processes are used to illustrate successful quality improvement efforts.

**5420 Algebra (3)**

Prerequisites: Math 4400 and 4450. Basic fundamentals of the theory of groups, rings and fields.

**5500 Directed Readings (1-6)**

Prerequisite: Consent of instructor. Independent readings at an advanced level.

**5550 Topics in Advanced Mathematics for the Teacher (3)**

Prerequisite: Consent of instructor. This course will look at various topics in algebra, analysis, and geometry that will deepen a teacher's understanding of the mathematics of the precollegiate curriculum. It can be taken more than once for credit.

**5600 Topics in Computation (3)**

Prerequisite: Consent of instructor. The course will cover various advanced topics in computation and can be taken more than once for credit. Examples of such topics are: computer graphics, computer architecture, theories of language, analysis of operating systems, numerical geometry and computer aided design, etc.

**5700 Topics in Applied Mathematics (3)**

Prerequisite: Consent of instructor. The course will cover various advanced topics in applied mathematics, and can be taken more than once for credit. Examples of such topics are: Fast transforms, digital filters, etc.

**5710 Topics in Analysis (3)**

Prerequisite: Consent of instructor. Topics selected from the areas of Fourier analysis, harmonic analysis, Hilbert spaces, Banach algebras, special functions, generalized functions, partial differential equations. May be taken more than once for credit with consent of department.

**5720 Topics in Numerical Analysis (3)**

Prerequisite: Consent of instructor. The course will cover various advanced topics in numerical analysis and can be taken more than once for credit. Examples of such topics are: A.D.I. Techniques for solving p.d.e., finite element techniques, the algebraic eigenvalue problem, the software, etc.

**5800 Topics in Topology (3)**

Prerequisite: Consent of instructor. The course will cover topics selected from algebraic or differential topology and may be taken more than once for credit with the consent of the department.

**5810 Topics in Number Theory (3)**

Prerequisite: Consent of instructor. Topics selected from elementary, algebraic, analytic, and other branches of number theory. Examples of topics include the distribution of primes, the Riemann Zeta function, averages of arithmetic functions, the theory of partitions, ideal theory, and representations of integers by quadratic forms.

**5820 Topics in Algebra (3)**

Prerequisite: Consent of instructor. Topics selected from the theory of groups, rings, fields, algebras, and other algebraic systems. May be taken more than once for credit with consent of department.

**6070 Time-Frequency Analysis (3)**

Prerequisites: Math 5060. The course covers theoretical and practical aspects of several time-frequency methods. Included are linear transformations such as filtering, Zak, Gabor and wavelet transforms; bilinear transformations include the Winger-Ville distribution and other distributions of Cohen's class. Statistical methods of feature extraction and applications to signal compression are outlined as well.

**6080 Advances in Wavelet Analysis (3)**

Prerequisite: Math 5060. The course describes recent developments in several research areas connected with wavelet analysis. Included are frames, wavelet vectors, wavelet packets, wavelets on compact intervals and manifolds, adaptive (nonlinear) methods, and methods of computational physics. Applications include the sparsification of matrices, denoising and compression of signals.

**6200 Probability Theory (3)**

Prerequisite: Math 5100 may be taken concurrently. Combinatorial analysis, random walks, stochastic independence, random variables, laws of large numbers, generating functions, and branching processes.

**6440 Lie Groups (3)**

Prerequisites: Math 4400 and 5110. The course provides an introduction to Lie Groups, Lie Algebras, and their representations.

**6600 Topics in Probability Theory (3)**

Prerequisite: Consent of instructor. The course will cover advanced topics in probability theory and may be taken more than once for credit with the consent of the department

**6700 Functional Analysis (3)**

Prerequisites: Math 4450 and 5100. Algebraic and topological tools applied to problems in analysis. The topics chosen will usually include topological vector spaces, metric spaces, Banach spaces, Hilbert spaces, and Banach algebras.

**6900 Master's Thesis (1-6)**

Prerequisite: Consent of instructor. Thesis work under the supervision of a faculty member. The course is designed for those students intending to present a thesis as part of their M.A. program. Students who do not write a thesis cannot apply Math 6900 to a degree.

**7990 Ph.D. Dissertation Research (1-9)**

Prerequisites: Completion of comprehensive exams. May be taken for no more than nine hours.

**Computer Science**

**1010 Introduction to Computers and the Internet (3)**

Prerequisites: Same as for Math 1020 and Math 1030. Covers basic concepts and components of a PC, including microprocessor, disk, display, multimedia, printers, scanners, backup; survey of popular applications including e-mail, personal information managers, word processors, spreadsheets; brief discussion of computer languages; networking, terminology, methods for accessing information on remote computers; dialup access to computers including use of modems; overview of the Internet, popular browsers, World Wide Web, search engines, FTP, utilities, Hyper Text Markup Language, tools for Web page construction, security, privacy. Credit not granted for both CS 1010 and BA 1800.

**1015 Web Structures I (1)**

Prerequisites: CS 1010 and Math 1030 or equivalent. Introduction to Web page design and management using software such as GoLive. Topics include graphical user interfaces, page templates and dynamic Web page publishing.

**1016 Web Structures II (1)**

Prerequisites: CS 1015(or equivalent) Introduction to Java and Java Script. This is a project oriented course using Java and software such as GoLive for Web page design and Internet programming.

**1050 User Interface Design and Event-Driven Programming with Visual Basic (3)**

Prerequisite: CS 1250 or knowledge of some programming language and consent of the instructor. This course explores programming in Visual Basic for event-driven applications. Design and implementation of graphical user interfaces (GUI) are explored as primary examples. Additional topics may include DDE, OLE, and interactions with databases.

**1220 Computers and Programming (3)**

Prerequisite: Math 1800 or 1100, or a grade of at least B in Math 1030. An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of the FORTRAN language will be studied including basic data types, subroutines and functions, arrays, and files. Credit not granted for both BA 1804 and CS 1220.

**1250 Introduction to Computing (3)**

Prerequisite: Math 1800 or 1100, or a grade of at least B in Math 1030. An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of a high level language such as Pascal or C will be studied, including elementary and advanced data types and subprograms. Various features of the UNIX operating system will also be discussed.

**2010 An Introduction to Java and Internet Programming (3)**

Prerequisite: Math 1030. Introduces the Java programming language and its use in Internet programming. This course will involve programming assignments in Java and their interface with browsers using applets. Students will also be exposed to the Java's windows toolkit -- the AWT. A brief introduction to object-oriented programming concepts will be provided. Other topics will include threads, virtual machines, byte code, and the Java security model.

**2210 The C Programming Language (3)**

Prerequisite: CS 2250 or the equivalent. The C language is introduced together with the associated tools which make up the UNIX C programming environment. The course is project-oriented and a portion of the practical work will involve UNIX systems programming. This course is intended for students who have completed the equivalent of CS 1250

and CS 2250 but without the C language. It may not be taken for credit if the student has taken CS 2250 with C.

### 2250 Programming and Data Structures (3)

Prerequisite: CS 1250. A continuation of CS 1250. Advanced programming techniques including recursion, divide-and-conquer, and backtracking will be considered. A discussion of dynamic data structures such as lists, binary trees, stacks, queues, and symbol tables will be presented. An introduction to modular programming, program specification and verification, and analysis of algorithms will be given.

### 2260 Object Oriented Programming with C++ (3)

Prerequisite: CS 2250. Introduces object-oriented concepts, terminology, and notation. The C++ language is explored, including topics such as dynamic memory, exception handling, function and class templates, operator overloading, inheritance, polymorphism, and generic programming with the standard template library. Additional topics may include GUI libraries.

### 2700 Computer Systems: Architecture and Organization (3)

Prerequisite: CS 2250. Introduces details of computer systems from architectural and organizational points of view. Topics discussed may include data representation, digital logic and basic circuits such as ALU, multiplexers, decoders, flip-flops, registers, RAM and ROM memory, memory hierarchies, I/O devices, pipelining, parallel and RISC architectures, etc.

### 2710 Computer Systems: Programming (3)

Prerequisite: CS 2700. Continues introduction of computer systems, with assembly programming and its application. Topics covered may include addressing modes, stack manipulations and applications for reentrant and recursive modules, memory interfacing, I/O device interfacing, and serial and parallel communication.

### 2750 Advanced Programming with Unix (3)

Prerequisite: CS 2250. Exploration of the Unix operating system, including its tools and utilities for program development, such as makefile, piping and redirection, shell scripts, regular expressions, and symbolic debuggers. In addition, this course explores advanced features of the C programming language, including various file processing, command-line and variable arguments, exception handling and generic interfacing.

### 3000 Discrete Structures (3)

Prerequisites: Math 1900 or 1100, and CS 1250 or equivalent. Same as Math 3000. Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial

methods, trees and graphs. Credit not granted for more than one of CS 3000, Math 250, and Math 3000.

### 3010 Web Programming Techniques (3)

Prerequisites: CS 2750. A project-oriented course which provides a survey of current technologies including markup languages (XHTML, CSS, XML), scripting languages (Java Script), client/server computing CGI/PERL/PHP), applets, Web protocols, session tracking, and other topics as time permits.

### 3130 Design and Analysis of Algorithms (3)

Prerequisites: CS 2250, CS/Math 3000, Math 2450 and Math 1320. Addresses the design and mathematical analysis of fundamental algorithms in computer science. Algorithms studied may involve search, sorting, data compression, string manipulation, graph traversal and decomposition, and algebraic and numeric manipulation.

### 4020 Java and Internet Programming (3)

Prerequisites: CS 3010 or consent of instructor. A project-oriented course which examines core Java features and selected Internet applications, such as networking, servlets, applets, AWT/SWING graphics, database connectivity, and XML.

### 4040 Electronic Commerce Protocols (3)

Prerequisites: CS 2750 and Math 2450. Provides a technical introduction to electronic commerce over the Internet, examining topics such as electronic data interchange, digital currency, and electronic catalogs. The course discusses technical issues such as telecommunications infrastructure, data warehousing, software agents, and storage retrieval of multimedia information. Other topics may include cryptographic techniques as applicable to web-site development, management of data in a secure manner, authentication and confidentiality, different levels of security (transaction, network, and protocol), and digital signatures.

### 4050 User Interface Development (3)

Prerequisites: CS 2750. Focuses on user interface design standards as a programming problem. It covers topics such as functional vs. aesthetic concerns, elegance and simplicity, interference between competing elements, visual variables, perceptual organization for visual structure, grid-based design of module and program, semiotics with images and representation.

### 4140 Theory of Computation (3)

Prerequisites: CS 3130. Covers finite state machines and pushdown automata, and their relationship to regular and context-free languages. Also covers minimization of automata, Turing machines, and undecidability. Other topics may include Church's Thesis, uncomputability, computational complexity, propositional calculus and predicate calculus.

### 4250 Programming Languages (3)

Prerequisites: CS 2260. A study of the principles of modern programming languages. The students perform a comparative study of syntax, semantics, and pragmatics of high-level programming languages. Also provides a discussion of list-processing, object-oriented, functional, procedural, or other programming paradigms.

### 4280 Program Translation Techniques (3)

Prerequisites: CS 2700, CS 2260, CS/Math 3000, Math 2450. Looks at the theory of programming languages as well as the theory of program translation as a means for dealing with the conceptual gap introduced by the levels of abstraction. Program translation mechanisms are studied as a means to explore the tradeoff between language expressiveness, translation, and execution effectiveness. Particular attention is paid to compilers, with emphasis on constraints induced by syntax and semantics.

### 4300 Introduction to Artificial Intelligence (3)

Prerequisites: CS 2260, CS 2750 and CS 3130. An overview of AI applications is presented. An AI programming language, such as Prolog or Lisp, is introduced. Fundamental AI problem solving techniques are applied to heuristic search and game playing. An introduction to knowledge representation and expert systems is given. Topics such as theorem proving, neural networks, and natural language processing may also be studied.

### 4410 Computer Graphics (3)

Prerequisites: CS 2260, CS 2750 and CS 3130. The basic architecture of various types of graphics systems is presented. Also presents a detailed description of the basic algorithms for 2-dimensional and 3-dimensional graphics systems. Algorithms for shading, hidden line removal, and rendering in the 3-D systems will be examined. The course involves significant project work.

### 4440 Digital Image Processing (3)

Prerequisites: CS 2260, CS 2750 and CS 3130. Focuses on low-level image processing data structures and algorithms for binary image processing, region and texture analysis, image filtering, edge detection, and contour following. Other topics include coding for storage, retrieval, transmission, and image restoration.

### 4500 Software Engineering (3)

Prerequisites: CS 2260 and CS 2750. Introduces software engineering as a discipline, discusses stages of software lifecycle, compares development models such as waterfall, prototyping and incremental/iterative, and compares structured and object-oriented methods. It also discusses software documentation, both internal and external verification/validation, quality assurance, testing methods, maintenance, project management and team structure, metrics, and available tools.

### 4520 Object-Oriented Analysis and Design (3)

Prerequisites: CS 4500. Concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. Discusses the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling with patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool.

### 4540 Software System Architectures (3)

Concerned with the design, modeling, and evaluation of complex software systems at the architectural level of abstraction. Covers basic principles of architectural system design, and may cover topics such as multi-tiered and packaged architectures, model-view and model-service separation, design supports for distributed and client-server applications, design patterns, package interfaces, notation, persistence, and GUI frameworks.

### 4560 Software Development Processes (3)

Prerequisites: CS 4500 or CS 4520. This course is an in-depth study of software development processes, in the context of an actual project. Discussion includes object-oriented processes such as Rational Unified Process, as well as process management issues such as scheduling, risk-assessment, various metrics, and the selection of appropriate development methodology and tools.

### 4610 Database Management Systems (3)

Prerequisites: CS 2750 and CS 3130. Presents the foundations, concepts and principles of database design. Various models of data representation are considered, including the hierarchical and relational models. Also considers some of the implementation issues for database systems.

### 4620 Information Retrieval (3)

Prerequisites: CS 2750 and CS 3130. Presents deterministic models of information retrieval systems, including conventional Boolean, fuzzy set theory, p-norm, and vector space models. Other topics include probabilistic models, text analysis and automatic indexing, automatic query formulation, system-user adaptation and learning mechanisms, evaluation of retrieval, review of new theories and future directions, and intelligent information retrieval.

### 4730 Computer Networks and Communications (3)

Prerequisite: CS 2750 and Math 1320. Communication systems will be considered in the context of the ISO standard for systems interconnection. Various types of networks will be studied including wide area networks, local area networks, and fiber optic networks.

### 4740 Client-Server Architectures (3)

Prerequisites: CS 2750 and Math 2450. Studies communications systems in the context of the ISO standard for systems interconnection. There is hands-on exposure to development of client-server applications.

**4760 Operating Systems (3)**

Prerequisites: CS 2750, CS 2700, Math 1320 and Math 2450. Studies the structure of a generic operating system, considering in detail the algorithms for interprocess communication, process scheduling, resource management, memory management, file systems, and device management. Topics in security may also be examined. Examples from pertinent operating systems are presented throughout, and use of the algorithms in modern operating systems is examined. Substantial practical work, using the UNIX operating system is required.

**4770 Operating Systems for Telecommunications (3)**

Prerequisites: CS 4520 or MS/IS 6806. The structure of a general operating system will be studied. The various components, including the interface with the underlying hardware, will be considered in detail. UNIX and Windows/NT will be considered as case studies throughout the course. The course will also emphasize hands on experience as a power user of at least one modern operating system.

**4780 Systems Administration and Computer Security (3)**

Prerequisites: CS 2750. Identifies and studies major issues of relevance to systems and networks management. Covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. Discusses the latest advances in network management tools and computer security protocols.

**4880 Individual Studies (1-3)**

Prerequisites: CS 2750 and consent of instructor. Allows a student to pursue individual studies under the supervision of a faculty member. May include development of a software project. May be repeated for credit.

**4890 Topics in Computer Science (3)**

Prerequisite: Consent of instructor. A seminar on special topics in computer science to be determined by recent developments in the field and the interests of the instructor. May be repeated for credit with departmental consent.

**5010 Advanced Java Programming (3)**

Prerequisites: CS 4020 or consent of instructor. Coverage will emphasize advanced Java topics and may include, J2EE, Beans/Enterprise Beans, RMI/RPC, JDBC, Servlets/JSP, development tools such as Ant, frameworks, such as Eclipse, and Java IDEs.

**5130 Advanced Data Structures and Algorithms (3)**

Prerequisites: An elementary course in analysis of algorithms or consent of the instructor. This course covers analysis of time and space complexity of iterative and recursive algorithms along with performance bounds, design of data structures for efficient performance, sorting algorithms, probabilistic algorithms, divide and conquer strategies, various algorithms on graphs, and NP completeness.

**5320 Introduction to Evolutionary Computation (3)**

Prerequisite: CS 4300 or consent of instructor. This course introduces the concepts of nature-inspired problem solving population dynamics, Darwinian selection, and inheritance. It discusses problems applicable to evolutionary algorithms, overviews the existing models and instances, and analyzes specific instances such as genetic algorithms and genetic programming.

**5340 Introduction to Machine Learning (3)**

Prerequisite: CS 4300 or consent of instructor. This course introduces both symbolic and sub-symbolic approaches to machine intelligence. Specific topics covered may include data mining, supervised learning such as decision trees and approximate methods such as fuzzy reasoning.

**5360 Expert Systems (3)**

Prerequisites: CS 4300 or consent of instructor. This course concentrates on issues related to building expert systems mimicking human-level expertise, including knowledge engineering processes leading to the design, construction, and evaluation of systems, relevant languages, tools, and shells, as well as representation, quality, and inference methods.

**5380 Introduction to Neural Networks (3)**

Prerequisites: CS 4300 or consent of instructor. This course introduces the concepts of connectionism, along with algorithms for simulating neural networks, discussion of alternative networks architectures and training algorithms.

**5400 Computer Vision (3)**

Prerequisites: Graduate standing and consent of instructor. This course introduces computational models of visual perception and their implementation on computer systems. Topics include early visual processing, edge detection, segmentation, intrinsic images, image modeling, representation of visual knowledge, and image understanding.

**5420 Visual Data Processing (3)**

Prerequisites: Graduate standing and consent of instructor. This course introduces low-level concepts and techniques used in image processing, including methods for image capture, transformation, enhancement, restoration, and encoding.

**5440 Pattern Recognition (3)**

Prerequisites: Graduate standing and consent of instructor. This course provides an introduction to statistical decision theory, adaptive classifiers, and supervised and unsupervised learning. Different types of pattern recognition systems are introduced, including transducers, feature extractor, and decision units. Students are exposed to the application of the techniques to optical character recognition, speech processing, and remote sensing.

### **5500 Software Engineering (3)**

Prerequisites: Graduate standing and consent of the instructor. This course introduces software engineering as a discipline, discusses stages of the software life cycle, compares development models such as waterfall, prototyping and incremental/iterative, covers requirements analysis, effort and cost estimation, compares structured and object-oriented analysis and design methods. It also discusses verification/validation, quality assurance, software reliability, testing methods, maintenance, documentation, project management and team structure, metrics, and available tools. Credit not granted for both CS 4500 and CS 5500.

### **5520 Object Oriented Analysis and Design (3)**

Prerequisites: CS 4500, CS 5500, or consent of the instructor. This course concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. It introduces the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling and patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool. Topics are the same as CS 4520 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 4520 and CS 5520.

### **5540 Software Systems Architectures (3)**

Prerequisites: One of the following: CS 4500, CS 5500, CS 4520, CS 5520, or consent of the instructor. This course is concerned with the design, modeling, and evaluation of complex software systems at the architectural level of abstraction. It covers basic principles of architectural system design, and may cover topics such as multi-tiered and packaged architectures, model-view and model-service separation, design support for distributed and client-server applications, design patterns, package interfaces, notation, persistence and GUI frameworks. Topics are the same as CS 4540 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 4540 and CS 5540).

### **5560 Software Development Processes (3)**

Prerequisites: One of the following: CS 4500, CS 5500, CS 4520, CS 5520, or consent of the instructor. This course is an in-depth study of software development processes, in the context of an actual project. Discussion will include object-oriented processes such as the Rational Unified Process, as well as process management issues such as scheduling, risk-assessment, various metrics, and the selection of appropriate development methodology and tools. Topics are the same as CS 4560 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 4560 and CS 5560.

### **5610 Advanced Databases (3)**

Prerequisites: Graduate standing and consent of instructor. This course is an in-depth study of database techniques, including normalization theory, object-oriented databases,

statistical databases, distributed databases, and failure recovery. The course will also involve substantial readings from the current literature.

### **5620 Intelligent Information Retrieval (3)**

Prerequisites: CS 4300 or consent of instructor. This course studies the use of AI techniques for the development of adaptive information retrieval systems. Techniques for analysis of information by statistical syntactical, and logical methods are also studied. Topics related to multimedia information are also discussed.

### **5640 Multimedia Information Systems (3)**

Prerequisites: CS 4410 or CS 5400. This course studies the technical and human issues related to the design, construction, and use of computer programs that combine text, audio, video, graphics, animation, and graphical user interfaces. It also surveys applications and tools.

### **5700 Computer Systems (3)**

Prerequisites: Background in computer organization or architecture or consent of instructor. This course focuses on parallel computing architectures, including RISC, pipelining, vector processing, SIMD, MIMD, and array processing. It introduces different memory and I/O subsystems, hardware description languages, and it demonstrates performance enhancement using different architectures studied.

### **5730 Client/Server Computing (3)**

Prerequisite: CS 4770 or MSIS 6836. The course will study communications systems in the context of ISO standards for systems interconnection. There will be hands on exposure to development of client-server applications.

### **5740 Parallel and Distributed Computing (3)**

Prerequisites: Background in computer organization or architecture, or consent of instructor. This course introduces the fundamentals of parallel computation and algorithm design. It discusses general techniques for designing efficient parallel algorithms for fixed-connection parallel network architectures such as arrays, trees, and hypercubes.

### **5760 Advanced Operating Systems and Network Management (3)**

Prerequisites: CS 4760 or consent of instructor. This course provides a survey of contemporary operating systems principles, including overall design strategies for operating systems. The course also discusses communication and synchronization techniques for concurrent processes, and statistical analysis of job scheduling, process scheduling, I/O scheduling, and memory management.

### **5780 Systems Administration (3)**

Prerequisite: CS 4760 or 4770 and MSIS 6838. The course will identify and study major issues of relevance to systems and networks management. It covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. The course will

discuss the latest advances in network management tools and computer security protocols.

### 5870 Computer Science Seminar (1-3)

Prerequisites: Graduate standing and consent of instructor. This is a seminar on various topics. Substantial student reading and participation is expected. It may be taken more than once for credit with the consent of the department.

### 5880 Computer Science Independent Project (1-3)

Prerequisites: Graduate standing and consent of instructor. This course offers the student an opportunity to work on an adviser-supervised project, individually or in a group. A student may repeat the course for up to 6 credit hours total, but at most 6 hours can be accumulated for CS 5880 and CS 6900.

### 5890 Topics in Computer Science (1-3)

Prerequisites: Graduate standing and consent of instructor. This course offers various topics not offered on a regular basis. It may be taken more than once for credit with the consent of the department.

### 6320 Advances in Evolutionary Computation (3)

Prerequisites: CS 5320 or consent of instructor. This course focuses on some advanced topics in Genetic and Evolutionary Computation, both theoretical and practical. Topics may include competent genetic algorithms, learning classifier systems, and Markov models. A substantial part of the course will be based on recent literature. Projects may involve literature research, developing specific applications or implementing a specific model.

### 6340 Genetic Programming (3)

Prerequisites: CS 5320 or consent of instructor. This course provides an in-depth exploration of Genetic Programming, including advanced concepts such as scalability, evolution of modularity and regularity, and constrained evolution with CGP, STGP, or CFG-based GP. It may be reading, research, or application oriented.

### 6410 Topics in Computer Graphics (3)

Prerequisites: CS 4410 or consent of instructor. This course covers various aspects of advanced graphics techniques, such as geometric modeling, rendering, shading, texturing, and computer animation. The course provides an in-depth study of recent advanced topics in computer graphics.

### 6420 Topics in Image Processing and Multimedia (3)

Prerequisites: CS 5400, CS 5420 or consent of instructor. This course covers new developments in digital image processing, computer vision, and multimedia. Topics to be covered may include image databases, object tracking, and large-scale data visualization.

### 6900 Thesis (1-6)

Prerequisites: Completion of at least 12 graduate credits and approval of research topic by thesis adviser. This course is designed for those students intending to present a thesis as

part of their M.S. program. At most 6 hours can be accumulated for CS 5880 and CS 6900.

## Probability and Statistics

### 1310 Elementary Statistical Methods (3)

Prerequisite: Math 1030, or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency exam. An introduction to the basic ideas and tools of statistics. Introductory data analysis, statistical modeling, probability and statistical inference. Includes topics in estimation, prediction, and hypothesis testing. A major focus of the course is the analysis of data using a computer software package such as SAS. A student may not receive credit for more than one of Statistics 1310, Statistics 1320, and Math 1105.

### 1320 Applied Statistics I (3)

Prerequisite: Math 1800 or 1100 or equivalent. This is the first course of a one-year sequence in introductory probability and statistics. It provides a comprehensive introduction to those models and methods which are most likely to be encountered by students in their careers in applied mathematics and the sciences. Topics include descriptive statistics, basics of probability theory, random variables and their distributions, sampling distributions confidence intervals, and hypothesis testing for population means and population proportions. A student may not receive credit for more than one of Stat 1320, Stat 1310 and Math 1105.

### 2320 Applied Statistics II (3)

Prerequisite: Math 1320, or equivalent. This course is a continuation of Stat 1320. It provides a survey of a variety of important statistical methods which are useful in analyzing data. Topics include single and multi-factor analysis of variance, simple and multiple linear regression, analysis of categorical data, and non-parametric statistical methods.

### 4200 Mathematical Statistics I (3)

Prerequisites: Math 1320 and Math 2000. Introduction to theory of probability and statistics using concepts and methods of calculus.

### 4210 Mathematical Statistics II (3)

Prerequisite: Math 4200. Continuation of Statistics 4200. Sampling distributions, estimation theory, properties of estimators, hypothesis testing, Neyman-Pearson Theorem, likelihood ratio tests, introduction of analysis of variance and linear models. Basics of some nonparametric procedures.

### 4260 Introduction to Stochastic Processes (3)

Prerequisite: Math 4200. Basic theory and applications of stochastic processes. Markov chains, martingales, recurrent and transient states, stationary distributions, ergodic theorem, renewal processes, discrete martingales and stationary processes.



**4300 Multivariate Analysis (3)**

Prerequisites: Math 2450 and Math 4200, or consent of instructor. Multivariate normal distribution and related sampling distributions. Procedures of statistical inference for the multivariate normal distributions, such as hypothesis testing, parameter estimations, multivariate regression, classification and discriminant analysis and principal components analysis.

**4310 Analysis of Variance and Design of Experiments (3)**

Prerequisites: Math 2450 and Math 4200 or consent of instructor. An introduction to the analysis of variance with applications in completely randomized designs, randomized block designs, factorial experiments and split-plot type designs

**4320 Regression Models in Statistics (3)**

Prerequisites: Math 2320 or consent of instructor. A rigorous course focused on the applications of regression. The course is rigorous in that the basic regression models in one and several variables are carefully developed using matrix notation. Topics such as the extra sums of squares principle, the general linear hypothesis, and partial and sequential F-tests are carefully presented. The course will focus on using these tools to analyze many different data sets.

**4330 Nonparametric Methods in Statistics (3)**

Prerequisite: Math 4200 or consent of instructor. An introduction to nonparametric statistical procedures. Order statistics, rank order statistics and scores, tests of goodness of fit, linear rank tests for the location and scale problems and applications.

**4390 Topics in Probability and Statistics (3)**

Prerequisite: Consent of instructor. A seminar on special topics in probability and statistics to be determined by the interests of the instructor. May be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

**Department of Philosophy****Faculty**

**Ronald Munson**, Professor, Chairperson\*  
Ph.D., Columbia University

**Stephanie A. Ross**, Professor\*  
Ph.D., Harvard University

**Lawrence H. Davis**, Associate Professor\*  
Ph.D., University of Michigan

**Thaddeus Metz**, Associate Professor\*  
Ph.D., Cornell University

**Berit Brogaard**, Assistant Professor\*  
Ph.D., Suny-Buffalo

**Jon McGinnis**, Assistant Professor\*  
Ph.D., University of Pennsylvania

**Robert Northcott**, Assistant Professor\*  
Ph.D., The London School of Economics  
and Political Science

**Gualtiero Piccinini**, Assistant Professor\*  
Ph.D., University of Pittsburgh

**Eric Wiland**, Assistant Professor\*  
Ph.D., University of Chicago

**Andrew Black**, Affiliate Assistant Professor  
Ph.D., University of Massachusetts-Amherst

**James G. Buickerood**, Affiliate Assistant Professor  
Ph.D., Rutgers University

**Kimberly A. Maricic**, Affiliate Assistant Professor  
Ph.D., Washington University

**Donald W. Mertz**, Affiliate Associate Professor  
Ph.D., Saint Louis University

**David J. Griesedieck**, Senior Lecturer  
M.A., Princeton University

**Peter Fuss**, Professor Emeritus  
Ph.D., Harvard University

**Robert M. Gordon**, Research Professor  
Ph.D., Columbia University

**John E. Clifford**, Associate Professor Emeritus  
Ph.D., University of California-Los Angeles

**Henry L. Shapiro**, Assistant Professor Emeritus  
Ph.D., Columbia University

\* members of Graduate Faculty

Philosophy continues to keep alive the tradition begun by Socrates, Plato, and Aristotle of critically examining one's most cherished assumptions. Moreover, it deals with questions that are common to several areas of inquiry, such as art, ethics, the social sciences, the natural sciences, and the various professions. The study of philosophy also encourages logical precision, a heightened awareness of assumptions used in any discussion, and an attitude of both open-mindedness and responsible criticism toward new and unusual ideas. These skills are particularly useful for students planning careers in law, business, computer science, writing, or other fields requiring such disciplines of mind. For these reasons many students have found it useful to combine a major in another field with a major in philosophy. To

accommodate such students, the department has a special program for double majors.

The philosophy faculty has an unusually wide range of research interests. Faculty members have written books and articles addressing not only the classical and traditional concerns of philosophy, but also contemporary controversies in the fields of law, psychology, sociology, political theory, biology, medical ethics, theology, logic, and philosophy of history as well. For their research in some of these areas, members have been awarded a number of national research grants, including fellowships from the American Council of Learned Societies and the National Endowment for the Humanities.

In keeping with this emphasis on diversity, the department is represented by scholars trained in widely different approaches to philosophy, such as the analytic tradition, Continental idealism and existentialism, Marxist dialectic, and Asian modes of thought.

**General Information****Degrees and Areas of Concentration**

The department offers two options leading to the B.A. degree in philosophy. The first is for students intending to enter graduate school in philosophy; the second is for students seeking a general liberal arts education as their ultimate academic objective or preparing for professional degrees such as law. Each option offers a balance of training in the techniques of logical analysis, study of philosophical classics, and examination of selected problems in philosophy. The department also offers a minor in philosophy for students wishing to pursue a particular interest in philosophy in an organized way.

**Undergraduate Studies****General Education Requirements**

Majors must meet the university and college general education requirements. Philosophy 1120: Asian Philosophy and Philosophy 1125: Islamic Philosophy satisfy the college cultural diversity requirement. Majors may not count philosophy courses taken on a satisfactory/unsatisfactory basis toward the degree requirements.

**Degree Requirements****Bachelor of Arts in Philosophy**

Students must complete one of the following programs. At least 30, but not more than 45, hours are required for a major. A minimum of 18 hours including all courses for the major at or above the 3000 level must be taken in residence in the UM-St. Louis Department of Philosophy.

**Option One: The Major in Philosophy**

30 hours of course work are required:

- 1) **Philosophy 3360: Formal Logic**

## 2) History of Philosophy

Twelve hours in history of philosophy, at least 6 hours of which must be at the 4000 level. Choose from Philosophy 3301-3307 and Philosophy 4401- 4422. Philosophy 1110 and 1111 together count as one 3-hour history course.

## 3) Normative Philosophy

One course from the following:

**Philosophy 3374:** Philosophy of Art

**Philosophy 4430:** Social and Political Philosophy

**Philosophy 4435:** Classical Ethical Theories

**Philosophy 4438:** Recent Ethical Theory

**Philosophy 4474:** Topics in Aesthetics

Phil 4474 cannot be used to satisfy both the normative requirement and requirement 5), the "other disciplines" requirement.

## 4) Core Requirement

One course from the following:

**Philosophy 4440:** Theories of Knowledge

**Philosophy 4445:** Metaphysics

## 5) Philosophy and Other Disciplines

Choose one course from the **Philosophy 4470 – 4490** sequence.

## 6) Philosophy 4491: Senior Seminar

7) Additional hours numbered above 3000 to complete 30 hours of course work. Other than the courses specified above, only courses at the 3000 level or above satisfy the course work requirement for the major. *Video courses cannot be used to satisfy course requirements for this program.*

When appropriate, Phil 4451: Special Topics in Philosophy may be used to satisfy the requirement of number 3), 4), or 5).

Students in this program should take Greek, Latin, French, or German to satisfy the foreign language requirement.

## Option Two: The Double Major

30 hours of course work in philosophy are required:

### 1) Logic

Choose one of the following two courses:

**Philosophy 3360:** Formal Logic

**Philosophy 1160:** Logic and Language (Formal Logic is strongly recommended)

### 2) History of Philosophy

Six hours in history of philosophy, at least three hours of which must be at the 4000 level. Choose from the sequences Phil 3301-3307 and Phil 4401-4422. Phil 1110 and 1111 together count as one 1000-level history course.

## 3) 4000-level Courses

A total of nine hours or more at the 4000 level other than courses used to satisfy 2) and 4). *Video courses cannot be used to satisfy course requirements for this program.*

## 4) Philosophy 4491: Senior Seminar

5) Additional hours numbered above 2000 to complete thirty hours of coursework.

## Departmental Honors

Majors with a 3.2 or higher grade point average in all courses may, with the department's consent, earn departmental honors by completing at least six hours, but not more than nine, of Phil 4450: Special Readings in Philosophy, submitting an acceptable thesis before the end of the senior year, and passing an oral examination.

In such cases, the thirty hours required for the major will include the credit earned in Philosophy 4450: Special Readings, for the senior thesis.

## Related Area Requirements

Majors are urged to acquire a familiarity with some other field above the introductory level.

Transfer students planning to major in philosophy should consult the Department's undergraduate advisor as soon as possible in order to have their transcripts evaluated and plan a program of study.

## The Minor

15 hours of course work in philosophy are required:

### 1) Philosophy 3360: Formal Logic

2) A total of twelve hours at or above the 3000 level, at least six of which must be at the 4000 level. *Video courses cannot be used to satisfy course requirements for this program.*

Minors are strongly encouraged, though not required, to take Phil 4491: Senior Seminar.

All course work for the minor except Philosophy 3360 must be taken in residence in the UM-St. Louis Department of Philosophy.

A GPA of 2.0 or better is required in courses presented for the minor. Prospective minors are encouraged to consult with members of the department for advice in planning an appropriate sequence of courses.

## Graduate Studies

### Master of Arts in Philosophy

To earn a M.A. in philosophy, students must complete at least 36 hours of graduate-level work and pass two comprehensive exams. Entering students must demonstrate a competence in logic, either by having passed the relevant course prior to admission or by taking Phil 5561: Graduate

Formal Logic here at UM-St. Louis. Students should take Phil 5400: Proseminar in Philosophy in the first year of residency. Students may elect to write a thesis, in which case up to 6 hours may be devoted to research and writing. Two-thirds (24 credit hours) of the degree program, including the thesis for students taking that option, must be completed in residence at UM-St. Louis. In addition, the courses taken are subject to two distribution requirements:

- 1) At least half of the courses must be at the 5000 level.-
- 2) At least one course (3 credit hours) must be chosen from each of the following four subject areas:

- Value Theory (including aesthetics courses only with departmental approval); and
- History of Philosophy;
- Logic/Philosophy of science
- Epistemology/Metaphysics

The comprehensive exams must be taken in two of these four areas.

### **2+3 B.A. and M.A. in Philosophy**

The Combined B.A./M.A. Program in Philosophy provides an opportunity for students of recognized academic ability and educational maturity to fulfill integrated requirements of undergraduate and master's degree programs in three years from the beginning of their junior year. When all the requirements of the B.A./M.A. program have been completed, students will be awarded both the B.A. and M.A. degrees. With a carefully designed program, a student can earn both degrees within as few as ten semesters.

The Combined Program requires a minimum of 138 credit hours, of which at least 36 must be at the upper division level course numbers in the 4000-5999 range. In qualifying for the B.A., students must meet all university and college requirements, including all the requirements of the regular undergraduate major in philosophy described above. Students will normally take Philosophy 3360: Formal Logic and two courses in the 3301-3307: History of Philosophy sequence in their junior years, along with electives. Any courses still needed to satisfy college foreign language and expository writing requirements would also be taken during this year. Phil 4491: Senior Seminar and more specialized courses are taken in the senior year. In the fifth year, students take advanced electives and such required courses as are needed to fulfill remaining university, Graduate School, and departmental requirements for the M.A. This includes satisfactory completion of 36 graduate credit hours, at least 18 of which must be in courses numbered above 5000 and among which must be at least three in each of the four subject areas listed for the regular M.A. program, and one of which must be Philosophy 5400: Proseminar in Philosophy. Students are also required to earn a passing grade in comprehensive exams in each of two of these subject areas. See description below. Up to 12 graduate credit hours may be applied simultaneously to both the B.A. and M.A. requirements. Also, students may elect to write a thesis, in

which case up to six hours may be taken in Philosophy 5495: Thesis Research.

Students should apply to the Graduate Committee for admission to the Combined B.A./M.A. Program in Philosophy the semester they will complete sixty undergraduate credit hours or as soon thereafter as possible. It is also recommended that students complete the foreign language requirement and the junior-level writing requirement before applying. A cumulative grade point average of 3.0 or higher and three letters of recommendation from faculty are required for consideration.

Students will be admitted to the Combined Program under provisional status until they have completed fifteen credit hours in it with a grade point average of 3.0 or higher. After the completion of the provisional period, and with the recommendation of the Graduate Committee, students can be granted full admission into the program. Students must maintain a grade point average of 3.0 or higher throughout the Combined Program. Students who officially withdraw from the Combined Program who have successfully completed all the requirements for the B.A. degrees will be awarded the B.A. degree.

### **PHILOSOPHY REQUIREMENTS FOR STUDENTS IN THE 2+3 PROGRAM**

#### **A. To be taken in the junior year:**

Choose four courses (12 credit hours) from the following:

- 1) **Philosophy 3360:** Formal Logic
- 2) Two courses in the History of Philosophy, each at the 2000 level or above.
- 3) One additional Philosophy course, at the 2000 level or above.

#### **B. To be taken in the senior year:**

Choose six courses (18 credit hours) from the following:

- 4491:** Senior Seminar  
Either  
**Philosophy 4445:** Metaphysics or  
**Philosophy 4440:** Theories of Knowledge.  
Two History courses, each at the upper division  
One course from the sequence 4470-4490  
Choose one of the following:  
**Philosophy 4430:** Social and Political Philosophy  
**Philosophy 4435:** Classical Ethical Theory  
**Philosophy 4438:** Recent Ethical Theory

#### **C. To be taken in the final year of the program:**

Six courses (18 credit hours)

- 1) At least 5 of these courses must be at or above the 5000 level.

2) Courses must be selected so that the student has taken at least one from each of the four subject areas in the course of completing the 2 + 3 program:

History of Philosophy  
Value Theory  
Logic/Philosophy of Science  
Epistemology/Metaphysics

3) **Philosophy 5400:** Proseminar in Philosophy

#### D. Graduate Exit Requirements

Each student must pass a comprehensive exam in two of the four subject areas listed in 2) of part C above.

#### Cooperative arrangement with Saint Louis University.

The strengths of the UM-St. Louis Philosophy Department are complemented by those of the Saint Louis University Philosophy Department, which has strengths in the history of philosophy as well as in philosophy of religion. To enhance students' opportunities for instruction and expertise, the two departments have worked out a cooperative arrangement that permits graduate philosophy students on each campus to take up to four courses at the partner institution. In any given semester, UM-St. Louis graduate students must take at least half of their courses at their home institution. Students admitted to the M.A. program on a probationary basis must take all their courses at UM-St. Louis during their first semester.

#### Course Descriptions

Prerequisites may be waived by consent of the department. Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Humanities breadth of study requirements as described in that Bulletin: 1090, 1091, 1110, 1111, 1120, 1125, 1130, 1150, 1160, 1185, 2250, 2255, 2252, 2253, 2254, 2255, 2256, 2258, 2274, 2275, 2280, 2281, 3301, 3302, 3303, 3304, 3305, 3307, 3360, 3369, 3372, 3374, 3379, 3380, 3383, 3385, 4401, 4402, 4405, 4406, 4407, 4408, 4409, 4410, 4420, 4421, 4422, 4430, 4435, 4438, 4439, 4440, 4445, 4450, 4451, 4452, 4453, 4457, 4458, 4460, 4465, 4469, 4470, 4474, 4476, 4478, 4479, 4482, 4483, 4484, 4485, 4487, 4490, 4491.

Phil 1120, 1125 fulfill the Cultural Diversity requirement [CD]. Courses marked [CV] or [H] fulfill the valuing and humanities requirements, respectively.

**1090 Telecourse: Philosophy and Other Disciplines (3) [V,H]**

Video course offering. General introduction to philosophy examines its connections to works of art and related areas. Course does not satisfy any requirements for philosophy major or minor.

**1091 Telecourse: Significant Figures in Philosophy [V,H]**  
Video course introduces philosophy through a survey of the ideas of some of the important figures in the history of the discipline. Course cannot be used to satisfy any requirements for philosophy major or minor.

**1110 Western Philosophy I: Antiquity to the Renaissance (3) [V,H]**

Lectures and discussions tracing the development of Western philosophy from its beginnings among the pre-Socratics through the Middle Ages and Renaissance. Philosophical ideas will be examined in the cultural and historical context: the Greek city-state, the rise of Christianity, etc.

**1111 Western Philosophy II: Descartes to the Present (3) [V,H]**

Lectures and discussions on the development of Western philosophy from Descartes (1596-1650) to the present. Philosophical ideas will be examined with an eye to their historical and cultural setting: the rise of modern science, the industrial revolution, the rise of capitalism, etc.

**1120 Asian Philosophy (3) [CD,V,H]**

Critical study of selected philosophical classics of India and China.

**1125 Islamic Philosophy (3) [CD,V,H]**

Introduction to Arabic philosophy in the Islamic classical period (roughly from mid-9<sup>th</sup> through 12<sup>th</sup> centuries). Considers philosophical and theological background and examines the thought of such notable Islamic philosophers as al-Kindi, Ibn Sina, al-Ghazali, and Ibn Rushd. Topics include proofs for the existence of God, whether the world is eternal or had a beginning, the nature of the soul and whether it is immortal, and distinction between essence and existence.

**1130 Approaches to Ethics (3) [V,H]**

A study and discussion of representative topics in moral philosophy such as moral skepticism, moral objectivity, theories of obligation and value, evaluation of social institutions, and the relation between morality and science. Traditional and contemporary writers will be considered.

**1150 Major Questions in Philosophy (3) [V,H]**

A study and discussion of representative topics in philosophy such as free will and determinism, concepts of mind and body, the basis of value judgments, knowledge and belief, and the possibility of constructing a world view.

**1160 Logic and Language (3) [V,H]**

An introduction to the language and logical structure of arguments, the principles of sound reasoning, and application of these principles in a variety of contexts.

**1185 Philosophy of Religion (3) [V,H]**

A philosophical investigation of such problems as the nature of religious faith and experience, the relation of faith and reason, alternative concepts of deity, and the problem of evil.

**2250 Philosophy and Current Issues (3)**

A careful examination of such current social controversies as women's liberation, the ethics of abortion, public accountability of holders of high offices, and the subtler forms of racism and other prejudices. Although there is no formal prerequisite, it is recommended that students have taken, or be concurrently enrolled in, at least one other philosophy course.

**2252 Philosophical Foundations of Criminal Justice (3)**

[V,H]

(Same as CCJ 2252). Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from pre-trial detention? How, if at all, can it be justified? Is the death penalty ever justified? When is it morally permissible for juries to acquit defendants who are legally guilty? Is plea bargaining unjust? Why might people be morally obligated to obey the laws? Are Laws restricting civil liberty (e.g., laws against abortion, homosexuality, or drug use) permissible?

**2253 Philosophy and Feminism (3) [V,H]**

A critical examination of what various philosophers have said about issues of concern to women. Sample topics include oppression, racism, women's nature, femininity, marriage, motherhood, sexuality, pornography, the ethics of care.

**2254 Business Ethics (3) [V,H]**

A critical survey from the perspective of moral theory of businesses and business practices. Topics vary but usually include some of the following: whether the sole moral obligation of businesses is to make money; whether certain standard business practices, e.g., the creation of wants through advertising, are moral; whether businesses ought to be compelled, e.g., to protect the environment or participate in affirmative action programs.

**2255 Environmental Ethics (3)**

Examines such issues as the value of wilderness, our duties to animals and the natural world, pollution and development, environmental justice.

**2256 Bioethics (3) [V,H]**

Same as Gerontology 2256. An examination of ethical issues in health care practice and clinical research and in public policies affecting health care. Topics include abortion, euthanasia, health care, experimentation, informed consent, and the right to health care.

**2258 Medicine, Values, and Society (3) [V,H]**

Social, conceptual, and policy issues connected with medicine form the focus of the course. Topics may include: role played by race and gender in design of research and distribution of care; whether diseases are socially constructed categories reflecting the values of society; development of social policies that offer universal access to health care; the legitimacy of using Psychotropic drugs to enhance life, rather

than treat disease. The course differs from Bioethics by emphasizing policy issues and their conceptual basis. Content of this course may vary.

**2274 Philosophy and Literature (3)**

Critical reading and discussion of selected literary works in terms of the philosophical problems they present.

**2275 Philosophy and Film (3)**

Study of selected films with emphasis on philosophical problems they address. Attention will be paid to film as an artistic medium and the capacities that distinguish it from other visual, and narrative, arts.

**2280 Minds, Brains, and Machines (3) [V,H]**

Introduction to basic philosophical issues in cognitive science. General topics include minds as computers; computers as minds, or the possibility of artificial intelligence that is truly intelligent; relationship between mental function and brain function. Some areas of current research, such as reasoning, vision, and emotion.

**2281 The Darwinian Heritage (3)**

Prerequisites: Six hours of philosophy preferably including Phil 3380, Philosophy of Science, as 3 of these, graduate standing, or consent of instructor. Examines contributions to science made by Darwin's *Origin* and *Descent*, reception of Darwinism by scientists, and its continuing influence on biological, bio-behavioral, and social sciences. Also considers public reactions to Darwinism, including ways in which Darwin's views, and contemporary research in evolutionary theory and genetics, have been regarded as challenging long-held beliefs about "meaning and purpose" of human life.

**3301 Ancient Philosophy (3)**

Freshmen admitted by consent of department. The principal philosophical doctrines of the ancient world, with special emphasis on the philosophies of Plato and Aristotle. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

**3302 Medieval Philosophy (3)**

A critical study of the important philosophies of the period from Augustine to the Renaissance. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

**3303 Early Modern Philosophy (3)**

Principal figures in the development of rationalism, empiricism and skepticism in early modern Europe, from Descartes through Hume. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

**3304 Kant and Nineteenth-Century Philosophy (3)**

A study of Kant and such major nineteenth-century figures as Hegel and Nietzsche, Mill, and Peirce. Although there is no

formal prerequisite, it is recommended that students have taken at least one other philosophy course.

**3305 Twentieth-Century Philosophy (3)**

Representative topics in contemporary philosophy, with readings selected from pragmatism, logical positivism, linguistic analysis, and existentialism. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

**3307 American Philosophy (3)**

Prerequisite: Six hours of philosophy or consent of instructor. A study of selected American philosophers.

**3360 Formal Logic (3)**

An introductory study of logical truth and deductive inference, with emphasis on the development and mastery of a formal system.

**3369 The Marxist Heritage (3)**

Same as Pol Sci 3690 and ID 3690. Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

**3372 Philosophical Issues in Education (3)**

A critical study and discussion of selected topics in education, including the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the functions of a university.

**3374 Philosophy of Art (3)**

Same as Art 3374. A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

**3380 Philosophy of Science (3)**

An examination of logical and methodological problems related to the sciences, including the structure of scientific explanations, laws and theories; methods of concept formation; and confirmation and the problem of induction.

**3383 The History of Science in Philosophical Perspective (3)**

Course explores philosophical underpinnings of science, including assumptions about the nature of reality and about scientific methods, the role of logic and mathematics in science, and revolutions in science. These issues will be studied by exploring concrete examples of science, and tracing developments and changes in understandings of science. Content will vary, but the particular periods of science studied will typically include two or three of the following: ancient science, medieval science, early modern science, 19<sup>th</sup> century science, and/or 20<sup>th</sup> century science.

**3385 Issues in Philosophy of Religion (3)**

Prerequisite: Phil 1185 or Phil 1150 or consent of instructor. A careful examination of a selected topic in philosophy of

religion or of philosophical issues arising in a selected religion. The topic or religion to be considered will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**4401 Plato (3)**

Prerequisite: Six hours of philosophy, a course in Ancient Philosophy recommended, graduate standing, or consent of instructor. A study of selected Platonic dialogues.

**4402 Aristotle (3)**

Prerequisite: Six hours of philosophy, a course in Ancient Philosophy, recommended, graduate standing, or consent of instructor. A selective study of Aristotle's major works.

**4405 The Rationalists (3)**

Prerequisite: Six hours of philosophy, a course in Ancient Philosophy recommended, graduate standing, or consent of instructor. An examination of the philosophies of such major figures as Descartes, Spinoza, and Leibniz.

**4406 The British Empiricists (3)**

Prerequisite: Six hours of philosophy, a course in Early Modern Philosophy recommended, graduate standing, or consent of instructor. An examination of the philosophies of such major figures as Locke, Berkeley, and Hume.

**4407 Kant (3)**

Prerequisite: Six hours of philosophy, Phil 3304 or equivalent recommended, graduate standing, or consent of instructor. A systematic study of the Critique of Pure Reason.

**4408 Hegel (3)**

Prerequisite: Six hours of philosophy, Phil 3304 or equivalent recommended, graduate standing, or consent of instructor. A critical study of the writings and influence of Hegel.

**4409 Phenomenology and Existentialism (3)**

Prerequisites: Six hours of philosophy, Phil 3305 or equivalent recommended, graduate standing, or consent of instructor. A study of some major representatives of these schools from Kierkegaard to the present.

**4410 Significant Figures in Philosophy (3)**

Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Examination of the work of an important twentieth-century philosopher or philosophical movement. The philosopher or movement to be studied will be announced prior to registration. This is a variable content course that may be taken again for credit with approval of instructor and department chair.

**4420 Topics in Non-Western Philosophy (3)**

Prerequisites: Phil 1120, graduate standing, or consent of instructor. An extensive exploration of issues in some particular non-Western traditions (Islamic, Indian, or Chinese). This is a variable content course and may be taken

again for credit with consent of instructor and department chair.

**4421 The Analytic Tradition I: Origins to Logical Positivism (3)**

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Phil 3305 and Phil 3360 strongly recommended. Course studies in depth the development of analytic philosophy through about 1950. Topics include key philosophical writings in this tradition beginning with Frege, Moore, and Russell and concluding with basic texts in logical positivism, with emphasis on Carnap, Schlick, Neurath and Hempel.

**4422 The Analytic Tradition II: Post-Positivism to Present (3)**

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Phil 3305 and Phil 3360 strongly recommended. Study of reactions and responses to basic analytic techniques and positivist doctrines beginning with Wittgenstein, Quine, and Sellars. Implications of these critiques for style and substance of analytic philosophy are studied, including such contemporary developments as reassessment of positivism, revival of naturalism, and "death" of philosophy.

**4430 Social and Political Philosophy (3)**

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. An analysis of some fundamental concepts and assumptions involved in the theory and practice of social and political organization.

**4435 Classical Ethical Theories**

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Significant contributions to moral philosophy from Plato and Aristotle to Bentham and Mill.

**4438 Recent Ethical Theory (3)**

Prerequisite: Six hours of philosophy, graduate standing or consent of instructor. A study of major contributions to twentieth-century ethics, including works by such writers as Moore, Dewey, Ross, Stevenson, Hare, and Rawls.

**4439 Topics in Ethical Theory (3)**

Prerequisite: Phil 4435, 4438, nine hours of philosophy, graduate standing, or consent of instructor. Formulation and evaluation of major theories in normative ethics, metaethics, and axiology. Topics include egoism, moral realism, act and rule utilitarianism, and varieties of naturalism and non-naturalism in ethics. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

**4440 Theories of Knowledge (3)**

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of concepts and problems involved in the characterization of knowledge. Specific topics will vary, but will usually include knowledge,

belief, skepticism, evidence, certainty, perception, truth, and necessity.

**4445 Metaphysics (3)**

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of selected metaphysical topics such as substance, universals, causality, necessity, space and time, free will, being, and identity.

**4450 Special Readings in Philosophy (1-3)**

Prerequisite: Special consent required. Independent study through readings, reports, and conferences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**4451 Special Topics in Philosophy (3)**

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. A critical study of classical and/or contemporary contributions to a selected topic in philosophy. The topic to be considered will be announced prior to registration. This is a variable content course and can be taken again for credit with the consent of the instructor and department chair.

**4452 Feminism and Science (3)**

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. This course will explore major themes and issues in feminist science scholarship, a body of research that focuses on the relationship between science and gender. Feminist research in the philosophy and history of science, and in the biological sciences, are emphasized. Issues include: the nature of objectivity, evidence, and truth; the factors that contribute to the acceptance or rejection of research hypotheses and theories; the nature and consequences of science's cognitive authority; and the relationship between science and values.

**4453 Feminist Ethical Theory (3)**

Prerequisite: Phil 2253, six hours of philosophy, or consent of instructor. Examines two classic 18th century statements of sympathy-based moral theory in the works of Adam Smith and David Hume. The course, then looks at a number of contemporary works that attempt to delineate a decisively feminist ethical theory, e.g., the work of Carol Gilligan, Nel Nodding, and Virginia Held. The course explores as well differences among female, feminist, and lesbian ethical standpoints.

**4457 Media Ethics (3)**

Prerequisite: nine hours of philosophy or nine hours of communication or consent of instructor. (Same as MS 3357). This course is concerned with some of the issues that arise from the intersection of ethics and modern media communications. Attention is given to some of the more specific concerns of media ethics, such as truth, honesty, fairness, objectivity and bias; personal privacy and the public interest; advertising; conflicts of interest; censorship and offensive or dangerous content (pornography, violence). Particular attention will be given to problems posed by the



development of personal computer communications through bulletin boards, on-line services, and the Internet.

**4458 Ethics and the Computer**

Prerequisites: 6 hours of course work above the level of Math 1030 in Math/Computer Science or at least 6 hours of philosophy or consent of instructor. Examination of ethical issues concerning the use of computers generally and software engineering in particular. Aims at developing awareness of these issues and skills for ethical decision making regarding them through careful, analytical methods. Typical issues include privacy, intellectual property, computer fraud, and others.

**4460 Advanced Formal Logic (3)**

Prerequisite: Phil 3360, graduate standing, or consent of instructor. Rigorous study of major developments in contemporary logic. Emphasis is given to theoretical problems and some attention is devoted to philosophical issues arising from logic.

**4465 Theory of Decisions and Games (3)**

Prerequisite: Six hours of Philosophy and junior standing, Pol Sci 6401 (or the equivalent) or consent of instructor. Same as Pol Sci 4060. A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component, symbolic logic, or some other course with comparable mathematical content is strongly recommended.

**4469 Topics in Political Philosophy (3)**

Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Critical examination of philosophical theories of democracy, individual autonomy, political community, social justice, and other selected issues in political philosophy.

**4470 Topics in Philosophy of Language (3)**

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. Intensive examination of selected problems encountered in developing philosophical accounts of truth, reference, propositional attitudes, and related concepts. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**4474 Topics in Aesthetics (3)**

Prerequisite: Phil 3374, graduate standing, or consent of instructor. Selected topics, such as vision and representation, musical aesthetics, and recent theorists. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**4476 Philosophy of History (3)**

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Discussion and analysis of some philosophical problems raised by historical inquiry, such as subjectivity, relativism, the role of value judgments, and the nature of historical explanations.

**4478 Topics in Philosophy of Mind (3)**

Prerequisite: Six hours of philosophy, graduate standing, or consent of instructor. An examination of selected topics at the interface of philosophical and psychological research. This is a variable content course and can be taken again for credit with consent of instructor and department chair.

**4479 Philosophy of Cognitive Science (3)**

Prerequisite: Phil 4478, nine hours of philosophy, or consent of instructor. An exploration of the philosophical foundations and implications of cognitive science, a cooperative effort of philosophers, cognitive Psychologists, brain scientists, computer scientists, and others to understand the relationship between the mind and the brain.

**4482 Philosophy of Social Science (3)**

Prerequisite: Six hours of philosophy or consent of instructor. An intensive examination of selected topics such as the nature of explanation in social science versus natural science, interpretation theory, and the postmodernism debate e.g., Habermas, Foucault, Clifford. This course may be repeated for credit on approval by the department.

**4483 Topics in History and Philosophy of Science (3)**

Prerequisites: Six hours of philosophy, Phil 3380, Philosophy of Science strongly recommended, graduate standing, or three hours of history, or consent of the instructor. Course begins by exploring research methods and interpretative approaches in the history of science and problems and schools of thought in the philosophy of science. It then turns to recent developments in which links have deepened between the two disciplines through shared research tools, assumptions, and projects. This is a variable content course and may be taken again for credit with consent of instructor and the department chair.

**4484 Topics in History and Philosophy of Medicine (3)**

Prerequisites: Six hours of philosophy, graduate standing, or consent of instructor. Focuses on the rise of philosophical issues associated with scientific medicine, including the emergence of physiology; identification of infectious and genetic diseases; development of effective drugs; rise of diagnostic and therapeutic technologies. Topics may include: disease concepts, the classification of diseases, logic of clinical diagnosis, medical explanation, and clinical decision-making. Topics may also include development of special medical areas such as immunology, cancer treatments, or organ transplantation. This is a variable content course and may be taken again for credit with consent of instructor and the department chair.

**4485 Topics in Philosophy of Religion (3)**

Prerequisite: Phil 3385, nine hours of philosophy, or consent of instructor. An intensive study of problems arising out of traditional and contemporary philosophical theology. This is a variable content course and may be taken again for credit with the consent of the instructor and the department chair.

**4487 Topics in Philosophy of Law (3)**

Same as CCJ 4487. Prerequisite: CCJ 1100 and 3 hours of philosophy, graduate standing or consent of instructor. An intensive study of recent philosophical debate about such issues as the authority of law, legal equality and justice, legal responsibility, self-determination and privacy, and legal punishment. This is a variable content course and may be taken again for credit with consent of the instructor and the department chair.

**4490 Philosophical Issues in Other Disciplines (3)**

Prerequisite: Nine hours in philosophy, graduate standing, or consent of instructor. An examination of selected philosophical issues in a discipline other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, chemistry, physics, or mathematics will be chosen, and philosophical issues selected and announced prior to registration, usually in consultation with the other department concerned. This course is normally taught as a seminar and attempts to serve advanced students in other departments with or without previous background in philosophy. This is a variable content course and may be taken again for credit with the consent of the instructor and the department chair.

**4491 Senior Seminar (3)**

Prerequisites: Senior standing; at least 12 hours of philosophy at the 1000 level or above; or consent of instructor. Intensive study of a central philosophical problem. The course emphasizes the fundamentals of philosophical writing and scholarship. Students will write a major paper to be evaluated by two members of the Philosophy Department and the course instructor.

**5400 Proseminar in Philosophy (3)**

Prerequisites: Graduate standing. Required of all entering graduate students in the fall semester of the first full year of residency. Topics vary. Other graduate students may take this course with the permission of the instructor and the director of graduate studies in Philosophy. Students will be expected to write papers, give presentations, and join in class discussion.

**5410 Seminar in Significant Figures in Philosophy (3)**

Prerequisites: Graduate Standing. In-depth study of work of a single philosopher. The philosopher selected will be announced prior to registration. This is a variable-content course any may be taken again for credit with consent of instructor and department chair.

**5478 Seminar in Philosophy of Mind (3)**

Prerequisites: Graduate standing. Topics may include

functionalism and physicalism; representation and nature of propositional attitudes such as belief, desire, and various emotions; folk psychology and knowledge of other minds; introspection and knowledge of one's own mind; conscious and unconscious mental states and processes. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5515 Ethics in Criminology and Criminal Justice (3)**

Same as CCJ 5515. Prerequisite: CCJ 1110, 1120, 1130, 2110, 2220, Phil 2253, 2254, 2256, 4430, 4435, 4438, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

**5530 Seminar in Social and Political Philosophy (3)**

Prerequisites: Graduate standing or consent of instructor. An intensive study of contemporary philosophical debate about such issues such as civil liberty, economic justice, political decision-making, and state authority. Variable content course and may be taken again for credit with consent of instructor and department chair.

**5531 The Nature of Punishment (3)**

Same as CCJ 5531. Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

**5533 Philosophy of Law (3)**

Same as CCJ 5533. Prerequisite: Graduate standing or consent of instructor. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

**5538 Seminar in Ethical Theory (3)**

Prerequisites: Graduate standing or consent of instructor. Answers questions from normative ethics or metaethics, which may include the following: What do all morally wrong actions have in common? What does the word "wrong" mean? How, if at all, can we verify moral judgements? Are any moral judgements valid for all societies? Do we always have good reason to be moral?

**5540 Seminar in Epistemology (3)**

Prerequisites: Graduate standing or consent of instructor. Close study of selected topics, texts, or individuals in epistemology. Topics may include (but are not limited to) theories of justification, naturalism in epistemology, and conceptions of knowledge. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5545 Seminar in Metaphysics (3)**

Prerequisites: Graduate standing. Intensive study of a selected topic or problem area in metaphysics, e.g., mind-body identity, nature of the self, or conception of time. This

is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5551 Special Readings in Philosophy (3)**

Prerequisites: Graduate standing, written consent of instructor. Independent study through readings, reports, and conferences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5555 Ethical and Legal Issues in Criminal Justice (3)**

Same as CCJ 5555. Prerequisite: Graduate standing or consent of instructor. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology, and research and professional ethics.

**5560 Seminar in Logic (3)**

Prerequisites: Graduate standing. Focused study of topics in logic and/or its history. Representative topics include Aristotelian logic, modal logic, Gödel incompleteness theorems, relevance logic, paraconsistent logic, free logic. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5561 Graduate Formal Logic (3)**

Prerequisites: Graduate standing; permission of the department. A rigorous introduction to formal logic that includes sentential calculus, predicate logic, and completeness proofs. May be taken for graduate credit only with permission of the graduate advisor and chair.

**5579 Seminar in Philosophy of Cognitive Science (3)**

Prerequisites: Graduate standing. General topics include role of computation in cognitive science, merits of symbolic computation and connectionism, aims and methods of artificial intelligence, and relationship between cognitive science and our everyday understanding of people. Specific topics may include perception, reasoning, consciousness, language, emotion, and will. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5580 Seminar in Philosophy of Science (3)**

Prerequisites: Graduate standing or consent of instructor. Focus on recent issues and controversies. Topics may include theories and observation, models of explanation, confirmation, realism and antirealism, empiricism and naturalism, "social construction" and feminist views of science. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5582 Seminar in Philosophy of Social Science (3)**

Prerequisites: Graduate standing or consent of instructor. Intensive examination of selected topics, e.g., nature of explanation in social science, postmodernism debate (e.g., Habermas, Foucault, Clifford), or relation of social to natural

sciences. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5590 Philosophical Issues in Other Disciplines (3)**

Prerequisites: Graduate standing or consent of instructor. Examination of selected philosophical issues in disciplines other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, chemistry, physics, or mathematics will be chosen. The discipline(s) and issues selected will be announced prior to registration. This is a variable content course and may be taken again for credit with consent of instructor and department chair.

**5595 Thesis Research (1-6)**

Prerequisites: Graduate standing or consent of instructor. May be repeated to a total of six credit hours.

**6421 Philosophy of Education (3)**

Prerequisites: Graduate standing or consent of instructor. Same as Educational Foundations 6421. Critical examination of selected issues in education from the perspective of Western philosophy. Topics may include the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the role of public educational institutions.

## Department of Physics and Astronomy

### Faculty

**Bruce A. Wilking**, Professor\*, Chairperson  
Ph.D., University of Arizona

**Jacob J. Leventhal**, Curators' Professor\*  
Ph.D., University of Florida

**Frank Edward Moss**, Curators' Professor\*  
Ph.D., University of Virginia

**Ta-Pei Cheng**, Professor\*  
Ph.D., Rockefeller University

**Bernard Joseph Feldman**, Professor\*  
Ph.D., Harvard University

**Ricardo A. Flores**, Professor\*  
Ph.D., University of California-Santa Cruz

**Thomas F. George**, Professor and Chancellor  
Ph.D., Yale University

**Peter Herwig Handel**, Professor\*  
Ph.D., University of Bucharest

**Bob Londes Henson**, Professor\*  
Ph.D., Washington University

**Richard Dean Schwartz**, Professor Emeritus\*  
Ph.D., University of Washington

**Philip Fraundorf**, Associate Professor\*  
Ph.D., Washington University

**Vasudevan Lakshminarayanan**, Associate Professor\*  
Ph.D., University of California-Berkeley

**Kyungho Oh**, Associate Professor\*  
Ph.D., Purdue University

**Wilfred H. Sorrell**, Associate Professor\*  
Ph.D., University of Wisconsin

**Zhi Xu**, Associate Professor  
Ph.D., University of Pittsburgh

**Sonya Bahar**, Assistant Professor\*  
Ph.D., University of Rochester

**Erika Gibb**, Assistant Professor  
Ph.D., Rensselaer Polytechnic Institute

**Mark L. Spano**, Adjunct Professor  
Ph.D., University of Maryland

**Mary Jane Kernan**, Affiliated Assistant Professor  
Ph.D., Washington University

**Mary M. Leopold**, Adjunct Associate Professor  
Ph.D., Washington University

**Lu Fei**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Jingyue Liu**, Adjunct Assistant Professor  
Ph.D., Arizona State University

**Lucio Mule'Stagno**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Daniel J. Leopold**, Research Associate Professor  
Ph.D., Washington University

**Aleksandr B. Neyman**, Adjunct Associate Professor  
Ph.D., Dr. Sc., Saratov State University, Russia

\*members of Graduate Faculty

## General Information

### Degrees and Areas of Concentration

The Department of Physics & Astronomy offers course work leading to the B.A. in physics, the B.S. in physics, and in cooperation with the College of Education, the B.A. in physics with teacher certification and the B.S. in education with an emphasis in physics.

The department offers meritorious students opportunities to participate in teaching and research to help prepare them for the independent effort required in industry or graduate school. The department's faculty members have a diversity of interests and are active in various experimental and theoretical research areas.

Graduate work leading to the Master of Science in physics is also offered. The M.S. in physics program combines a sound basis in the fundamental areas of classical and modern physics from both a theoretical and an applied perspective. The program is designed to enable students with undergraduate backgrounds in physics or other technical areas to further their professional development and maintain and improve their technical development. The program is offered almost entirely in the evening to serve students who are employed locally. The department offers the Ph.D. degree in cooperation with the University of Missouri-Rolla Physics Department. Students must satisfy the UM-Rolla admission standards, and the UM-Rolla Qualifying Exam in Physics is required of UM-St. Louis Ph.D. students. However, all course work and dissertation research may be completed while the student is in residence at UM-St. Louis.

### Undergraduate Studies

**General Education Requirements:** Majors must complete the university and college general education requirements. Any of the following courses may be used to satisfy the physical science requirement:

**Astronomy:** 1001, 1011, 1012, 1022, 1050, 1051, 1121

**Atmospheric Science:** 1001

**Geology:** 1001, 1002

**Physics:** 1001, 1011, 1012, 2111, 2112.

### Degree Requirements

All physics majors in all programs must complete the physics core curriculum. In addition to the core courses, each individual program has its own specific requirements. Required Physics, Mathematics, Chemistry, Biology, Optometry and Computer Science courses for a major or minor in physics may not be taken on a satisfactory/unsatisfactory grading basis.

**Core Curriculum** The following physics courses are required:

2111, Mechanics and Heat

2112, Electricity, Magnetism, and Optics

**3200**, Mathematical Methods of Theoretical Physics  
**3221**, Mechanics  
**3223**, Electricity and Magnetism  
**3231**, Introduction to Modern Physics I

Also required are:

**Math 1800**, Analytic Geometry and Calculus I  
**Math 1900**, Analytic Geometry and Calculus II  
**Math 2000**, Analytic Geometry and Calculus III  
**Math 2020**, Introduction to Differential Equations  
**Chem 1111**, Introductory Chemistry I or equivalent  
**Computer Science 1250**, Introduction to Computer Science

**Note** Students are urged to begin the calculus sequence [Math 1800, Analytic Geometry and Calculus I] as soon as possible to avoid delays in graduation.

Students with experience in digital computer programming may be excused from Computer Science 1250.

**Bachelor of Arts in Physics** The B.A. program is tailored to students wishing to preserve the option for specialization in graduate school without sacrificing the advantages of a liberal arts education. In addition to the core curriculum, including the foreign language requirement, at least three electives at the 3000 or 4000 must be completed. At least 31 hours of physics courses, but no more than 45 hours, are required.

**Bachelor of Science in Physics** The B.S. degree provides students with five options: general physics, astrophysics, engineering physics, medical physics or optical biophysics.

#### **General Physics Option**

This option may be elected by students desiring a greater concentration in physics and mathematics and is recommended for students wishing to enter graduate study in physics. At least 49 hours, but no more than 52, are required. **In addition to the core curriculum, the following physics courses are required:**

**Physics**  
**4310**, Modern Electronics  
**4311**, Advanced Physics Laboratory I  
**4323**, Modern Optics  
**4331**, Introduction to Quantum Mechanics  
**4341**, Thermal and Statistical Physics

**and three electives** at the 4000 level in physics or astronomy.

**Astronomy**  
**1050**, Introduction to Astronomy I  
or  
**1051**, Introduction to Astronomy II

**Also required are:**

**Math**  
**2450**, Elementary Linear Algebra  
**4030**, Applied Mathematics I  
or  
**4320**, Numerical Analysis I

**Chemistry**  
**1121**, Introductory Chemistry II, or equivalent  
**and one** elective in math or computer science at or above the 3000 level.

#### **Astrophysics Option**

This option may be elected by students who have interests in the aerospace sciences or anticipate graduate studies in astrophysics. At least 47 hours, but not more than 51, must be taken. **In addition to the core curriculum, the following physics courses are required:**

**Physics**  
**4323**, Modern Optics  
**4331**, Introduction to Quantum Mechanics  
**4341**, Thermal and Statistical Physics

**Astronomy**  
**1050**, Introduction to Astronomy I  
**1051**, Introduction to Astronomy II  
**4301**, Astrophysics  
**4322**, Observational Astronomy

**And one physics electives** at the 4000 level. With consent of the astronomy adviser, there may be substitution of Astronomy 1001, 1011 or 1012 for 1050 or 1051.

**Also required are:**

**Math**  
**2450**, Elementary Linear Algebra  
**4030**, Applied Mathematics I  
or  
**4230**, Numerical Analysis I

#### **Engineering Physics Option**

Students interested in careers in the research and development field of industry should consider this option. This program exposes the student to a basic engineering curriculum, as well as to areas of physics with industrial applications, such as electronics, modern optics, and linear analysis. At least 49 hours, but no more than 51, are required. **In addition to the core curriculum, the following courses are required:**

**Joint Engineering**  
**2310**, Statics  
**2320**, Dynamics  
**Joint Electrical Engineering**  
**2800**, Introduction to Electrical Networks  
**Physics**  
**4310**, Modern Electronics  
**4311**, Advanced Physics Laboratory I  
**4323**, Modern Optics

4331, Introduction to Quantum Mechanics

4341, Thermal and Statistical Physics

#### Math

1320, Applied Statistics I

Also required are two additional courses in computer science or numerical analysis at or above the 3000 level.

#### Medical Physics Option

This option is designed for students who are interested in careers in various medical fields or biophysics. This option provides a strong preparation in physics, mathematics, chemistry, and biology for students who intend to apply for admission to medical schools. At least 41 hours of physics and biology combined, but no more than 51, are required. In addition to the core curriculum, the following physics and biology courses are required:

#### Physics

4310, Modern Electronics

#### Biology

1811, Introductory Biology I: From Molecules to Organisms

1821, Introductory Biology II: Organisms and the Environment

and two additional physics electives at the 4000 level.

Also required are:

#### Chemistry

1121, Introductory Chemistry II

2612, Organic Chemistry I

2622, Organic Chemistry II

2633, Organic Chemistry Laboratory

**Note:** With approval of the chairperson of physics and astronomy, students with strong mathematical preparations who have already completed the Physics 1011 and Physics 1012 sequence in basic physics may substitute these courses for two required core courses Physics 2111 and Physics 2112, respectively. However, this is not the recommended route because Physics 2111 and 2112 give significantly better preparation for the required junior-level physics core courses. It would be the individual student's responsibility to make up any resulting deficiencies.

#### Optical Biophysics Option

This program is designed for students wanting to obtain a strong biophysics emphasis that will also prepare them for the optometry program at UM-St. Louis. This 3+4 program allows students to complete their B.S. in physics and Doctor of Optometry degrees in seven years. Students can complete their B.S. in physics degree in their fourth year while starting coursework in the College of Optometry. A total of 52 hours in physics, biology, and optometry courses are required. In addition to the physics core curriculum, the following courses are required:

#### Physics

4341, Thermal and Statistical Physics

#### Biology

1811, Introduction to Biology I: From Molecules to Organisms

1821, Introduction to Biology II: Organisms and the Environment

2482, Microbiology

2483, Microbiology Laboratory

#### Optometry (fourth year only)

8020, Geometric Optics

8060, Biochemistry

8120, Ocular Optics

8130, Physiological Optics Lab

8150, Physical Optics and Photometry Lab

Also required are:

#### Chemistry

1121, Introductory Chemistry II

2612, Organic Chemistry I

2622, Organic Chemistry II

2633, Organic Chemistry Laboratory

#### Psychology

1003, General Psychology and one elective in psychology

#### Statistics,

Math 1320, Applied Statistics I or Psych 2201,

Psychological Statistics

**Note:** Upon declaring physics as a major and selecting this option, students should seek an initial interview with the Director of Student Affairs and the Pre-Optometry Advisor in the UM-St. Louis College of Optometry to ensure that all prerequisites for the College of Optometry will be completed. A similar review is recommended at the beginning of the Winter Semester of the second year. In August following the completion of their second year of this program, students may apply formally to the UM-St. Louis College of Optometry and arrange to take the Optometry Admissions Test (OAT) in October of their third year. The applicant will be invited for a formal interview for acceptance into the College of Optometry professional program following receipt of a completed application in the Fall Semester of the candidate's third year. Following the formal interview with the College of Optometry at the beginning of the third year, students with a 3.0 or better grade point average in the science prerequisites for optometry and a score of 310 or better on the OAT exam may be accepted into the College of Optometry.

#### B.S. degree in Secondary Education with an Emphasis in Physics.

All candidates must enroll in a program that includes Levels I, II and III coursework in the College of Education. In addition, students must complete the following Science Core Courses and the courses listed under Physics Endorsement:

### Science Core Courses:

#### Philosophy

3380, Philosophy of Science

#### Biology

1811, Introductory Biology I: From Molecules to Organisms

1821, Introductory Biology II: Organisms and the Environment

#### Chemistry

1111, Introductory Chemistry I

1121, Introductory Chemistry II

Geology 1001, General Geology

Atmospheric Science 1001, Elementary Meteorology

Biology 1202, Environmental Biology or another environmental science

#### Physics

2111, Physics: Mechanics and Heat

2112, Physics: Electricity, Magnetism, and Optics

### Physics Endorsement

#### Physics

3200, Mathematical Methods of Theoretical Physics

3221, Mechanics

3223, Electricity and Magnetism

3231, Introduction to Modern Physics

4310, Modern Electronics

4311, Advanced Physics Laboratory I

4802, or Sec Ed 3240, Methods of Teaching Science in Secondary Schools

4837, Teaching Intern Seminar

### Minor in Physics

Students may complete a minor in physics with the flexibility of emphasis on classical physics, modern physics, or a combination of the two areas. The following physics courses are required:

2111, Mechanics and Heat

2112, Electricity, Magnetism, and Optics

3200, Mathematical Methods of Theoretical Physics and two additional emphasis courses chosen from the following physics courses:

3221, Mechanics

3223, Electricity and Magnetism

3231, Introduction to Modern Physics I

4310, Modern Electronics

A GPA of at least 2.0 is required in courses presented for a minor. It is required that a student completes a minimum of 6 hours of graded work in 2000 level or above courses on the UM-St. Louis campus.

### Graduate Studies

#### Admission Requirements

The Department requires applicants to have adequate backgrounds in such areas as mechanics, thermodynamics, electromagnetism, optics, electronics, and modern physics. Students admitted to the program with deficiencies in these

areas are required to take appropriate undergraduate courses. If necessary, a remedial program is determined in consultation with the department graduate studies director at the time of application for admission.

### Graduate Degree Requirements

#### Master's

A student must complete 30 credit hours in graduate physics courses with at least 15 of these at the 5000 or 6000 level; of the latter 15, a maximum of 6 credit hours may be counted for thesis research. The writing of a thesis is optional. A comprehensive examination must be passed, which includes a defense of the thesis if the student has chosen to write one. A grade point average of 3.0 must be maintained during each academic year. The requirements must be fulfilled within six years from the time of admission. Two-thirds of required graduate credit must be taken in residence. No language requirement.

#### Doctorate

A minimum of 48 hours past the master's degree with satisfactory performance. Residency requirement of three years/six semesters (for those with master's degree, two years/four semesters) at UM-St. Louis and/or cooperating UM-Rolla campus. Ph.D. qualifying exam, dissertation, dissertation exam administered in cooperation with UM-Rolla. Overall requirement of B grades or better. Dissertation may be written in absentia. No language requirement.

### Special Equipment, Facilities, or Programs

The *William L. Clay Center for Molecular Electronics*, which opened in 1996, is a facility bringing together both physicists and chemists for research in materials science. A focus of the Center is to foster collaborations between its members and colleagues in industry. The Center houses the Scanned Tip and Electron Image Lab where research at the forefront of nanotechnology is conducted with transmitted electron, scanning probe, and scanning electron microscopes in a building uniquely designed for such work. The Center is spearheading the formation of the Missouri NanoAlliance, a nano-characterization and synthesis network that will facilitate the sharing of resources across Missouri. The *Center for Neurodynamics*, established in 1995, conducts research at the interface between physics and biology, with a focus on the roles of noise and stochastic synchronization in neural processing. The Center has an on-site high speed (CCD) imaging system for studying the spatial dynamics of neural activity in the mammalian brain. Collaborations with St. Louis University will permit high time-resolution magnetoencephalography (MEG) image analysis, making use of a high-speed Internet 2 connection, UMStL's new high-speed (3.8 GHz) 128-node Beowulf cluster, and Missouri's first MEG machine. Astronomers make use of national facilities at Kitt Peak, Cerro Tololo, and Mauna Kea Observatories. The Department maintains both machine and electronic shops. The University provides

email and internet services through numerous student labs equipped with computers with Windows and Macintosh operating systems, flat-bed document scanners, and color printers. The Department maintains a network of UNIX workstations with standard software packages for word and image processing. Campus computing facilities include a UNIX system and workstations. The department maintains a workstation for image processing. The department operates a machine shop and an electronics shop. In addition, the department maintains a library containing some of the most frequently used physics journals.

#### Typical Program:

##### First Semester

Physics: 6000 level and 4000, 5000 level course

Total: 6 hours

##### Second Semester

Physics: 6000 level and 4000, 5000 level course

Total: 6 hours

##### Third Semester

Physics: 6000 level and 4000, 5000 level course

Physics 6490, Thesis Research or Seminar

Total: 9 hours

##### Fourth Semester

Physics: 6000 level and 4000 level course

Physics 6490 Thesis Research or Seminar

Total: 9 hours

#### Career Outlook

Many of our students have been successful in subsequent graduate studies in astronomy and meteorology, as well as in physics. Our alumni have pursued graduate studies and earned doctorate degrees at institutions such as Cornell University, University of Wisconsin, Washington University, and University of Chicago. The many students who elected a career in industry are now working in a variety of settings for such firms as International Business Machines, Emerson Electric, Southwestern Bell, Hewlett-Packard, Boeing, and the National Center for Atmospheric Research. Several former students are currently teaching physics in high schools around the St. Louis area.

#### Course Descriptions

Prerequisites may be waived by consent of the department.

Courses in this section are grouped as follows: Astronomy; Atmospheric Science; Geology; and Physics.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Natural Sciences and Mathematics breadth of study requirements as described in that Bulletin:

ASTRONOMY: 1001, 1011, 1012, 1022, 1050, 1051, 1121.

ATMOSPHERIC SCIENCE: 1001.

GEOLOGY: 1001, 1002.

PHYSICS: 1001, 1011, 1012, 2111, 2112.

#### Astronomy

##### 1001 Cosmic Evolution/Introductory Astronomy (4) [MI, MS]

Planets: A brief survey of their motions and properties. Stars: Observations, including stellar spectra and colors; stellar evolution, and star clusters. Galaxies: Structure and content of the Milky Way Galaxy, its relationship to other galaxies. Cosmology: The origin and evolution of the universe. Three classroom hours and two multimedia laboratories.

##### 1011 Planets and Life in the Universe (3) [MS]

Man's concept of the solar system from Stonehenge to Einstein; geology and meteorology of the planets of our solar system, with particular attention to results from the space program; exobiology-study of the possibilities of life on other worlds and the best method of communicating with it. Three classroom hours per week.

##### 1012 The Violent Universe and the New Astronomy (3) [MS]

A nontechnical course focusing on recent results which larger telescopes and the space program have made available. Pulsars, x-ray stars, and black holes; radio astronomy, our galaxy, and interstellar molecules; exploding galaxies and quasars; origin of the expanding universe. Three classroom hours and one observing session per week.

##### 1022 Practical Astronomy (2) [MS]

Prerequisite: Astron 1001 or 1011. Designed to acquaint students with observational astronomy: constellations, planets, stars, nebulae, and galaxies. Students will become familiar with operation of a telescope and its use in visual observation and photography. The basics of astronomical nomenclature and coordinates will also be emphasized. This course is primarily for nonscientists.

##### 1050 Introduction to Astronomy I (3) [MS]

Prerequisites: Math 1030 and 1035. A survey of the history of astronomy from the ancient times to present. Theories for the formation and evolution of the solar system and the general features of the solar system and planetary motions are discussed. The physical concept of gravity is presented. The detailed properties of the planets, comets, and asteroids are reviewed, concentrating on recent results from space missions.

##### 1051 Introduction to Astronomy II (3) [MS]

Prerequisites: Math 1030 and 1035. A survey of astronomy beyond the solar system. Topics include stars and stellar evolution, neutron stars, and black holes. The physical concept of light and the design of telescopes is discussed in detail. The structure of the Milky Way Galaxy and the large scale structure of the universe are explored. Dark



matter, quasars, and active galactic nuclei are discussed in the context of theories for the formation and evolution of the universe. Course does not need to be taken in sequence with Astronomy 1050.

**1121 The Search for Extraterrestrial Life (3) [MS]**

Prerequisite: Astron 1001 or 1011. Are we alone? The possibility of life in the universe in addition to our own will be explored. Our discussion of the chances for extraterrestrial life will be built around the current theories of chemical, biological, and cultural evolution, which have led to our own technological civilization on Earth. Strategies for communication with extraterrestrial intelligence will be discussed.

**4301 Astrophysics (3)**

Prerequisite: Phys 3231 or consent of instructor. A moderately technical introduction to astrophysics. Topics will include: physics of stellar interiors and atmospheres; interpretation of stellar spectra; stellar evolution; radio astronomy; and cosmology.

**4322 Observational Astronomy (4)**

Prerequisites: Astron 1050, Astron 1051, and Math 2000 or consent of instructor. Tools of the astronomer: telescopes, spectroscopy, photoelectric photometry. Students will work on a number of projects which will enable them to develop expertise in obtaining, reducing, and analyzing astronomical observations. Student night observing will be an important part of the course. This course is primarily for persons who are astronomy or physics majors or who have some equivalent astronomical background.

**Atmospheric Science**

**1001 Elementary Meteorology (4) [MS,MI]**

Prerequisite: Math 1020 or equivalent. An elementary course covering atmospheric phenomena, weather, and climate. Topics included are temperature, pressure, and moisture distributions in the atmosphere and dynamical effects such as radiation, stability, storms, and general circulation. Four classroom hours per week with one hour being a learning enhancement session to include demonstrations and exercises on problem solving.

**Geology**

**1001 General Geology (4) [MI,MS]**

Earth materials and processes, including geological aspects of the resource/energy problem. Laboratory involves identification of common rocks and minerals.

**1002 Historical Geology (4) [MI,MS]**

Prerequisite: Geol 1001. Study of changes in geography, climate and life through geological time; origin of continents, ocean basins, and mountains in light of continental drift. Laboratory primarily involves description and identification of fossils.

**1053 Oceanography (3)**

The atmospheric and ocean circulations; the chemistry and geology of the deep sea; and their effects on the distribution of marine organisms.

**Physics**

**1001 How Things Work (3) [MS]**

Provides a practical introduction to understanding common life experiences by using physical intuition and basic ideas of physics. Powerful scientific principles are demonstrated through topics ranging from airplane wings to compact disk players, from lightning strikes to lasers.

**1011 Basic Physics (4) [MI,MS]**

Prerequisite: Math 1800 or 1100 may be taken concurrently. A course specifically designed for students in health and life sciences, covering the topics of classical mechanics, heat and sound. Will not fulfill the Physics 2111 requirement for physics, chemistry, and engineering majors. Three classroom hours and two hours of laboratory per week.

**1012 Basic Physics (4) [MI,MS]**

Prerequisite: Phys 1011. A continuation of Phys 1011. A course specifically designed for students in health and life sciences covering the topics of electricity, magnetism, light and radiation. Will not fulfill the Physics 2112 requirement for physics, chemistry, and engineering majors. Three classroom hours and two hours of laboratory per week.

**1050 Introduction to Physics (4)**

Prerequisite: Math 1030. A laboratory survey course which introduces students to the fields of mechanics, heat and thermodynamics, optics, electricity and magnetism, and modern physics at the pre-calculus level. A problem-solving course, recommended for science and engineering students who have no physics background or who desire additional preparation for Phys 2111. Three classroom hours and two hours of laboratory per week.

**2111 Physics: Mechanics and Heat (5) [MS,MI]**

Prerequisite: Math 1900 [Math 1900 may be taken concurrently]. Phys 1001, or Chem 1121, or equivalent is recommended. An introduction to the phenomena, concepts, and laws of mechanics and heat for physics majors and students in other departments. Three classroom hours, one hour discussion, and two hours of laboratory per week.

**2112 Physics: Electricity, Magnetism, and Optics (5) [MI,MS]**

Prerequisites: Phys 2111 and Math 2000 may be taken concurrently. A phenomenological introduction to the concepts and laws of electricity and magnetism, electromagnetic waves, optics and electrical circuits for physics majors and students in other departments. Three

classroom hours, one hour discussion, and two hours of laboratory per week.

### 3200 Mathematical Methods of Theoretical Physics (3)

Prerequisites: Phys 2112 and Math 2000. Mathematical techniques specifically used in the study of mechanics, electricity, magnetism, and quantum physics are developed in the context of various physical problems. Course includes the topics of vector calculus, coordinate systems, the Laplace equation and its solutions, elementary Fourier analysis, and complex variables. Applications to electrostatics, mechanics, and fluid dynamics are emphasized. Three classroom hours per week.

### 3221 Mechanics (3)

Prerequisites: Phys 3200 and Math 2020. Math 2020 may be taken concurrently. Advanced course covering single and many particle dynamics, rigid-body dynamics, and oscillations. Variational principles and the Lagrangian and Hamiltonian formulations of mechanics are covered. Three classroom hours per week.

### 3223 Electricity and Magnetism (3)

Prerequisites: Phys 3200 and Math 2020. Math 2020 may be taken concurrently. Advanced course covering the rigorous development, from basic laws, of Maxwell's equations for electromagnetic fields along with applications of these equations. Topics covered are electrostatics and electrodynamics including currents, magnetic fields, motion of charged particles in fields and an introduction to electromagnetic waves. Three classroom hours per week.

### 3231 Introduction to Modern Physics I (3)

Prerequisite: Phys 2111, 2112, and Math 2020 may be taken concurrently and Phys 3200 strongly recommended. Photons and the wave nature of particles, wave mechanics, Schrodinger equation, with applications to atomic physics; and radiation; the physics of solids; elementary particles; special relativity; health physics. Three classroom hours per week.

### 3281 Directed Readings in Physics (1-5)

Prerequisite: Consent of instructor. An independent study of special topics in physics. A paper may be required on an approved topic. Topics must be substantially different. Hours arranged.

### 3390 Research (1-10)

Prerequisite: Consent of department. Independent research projects arranged between student and instructor. Hours arranged.

### 3410 Seminar (1)

Presentation of selected papers by students and faculty members at weekly meeting. May be taken twice for credit.

### 4306 Emergent Microscopy Practicals (1-3)

Prerequisite: of 3 credit hours) A critical web-based/laboratory Consent of Instructor (1.0 credit hour per module with a maximum study of developing nanoworld microscopy techniques, designed for microscopy clients and future microscope operators. The course consist of larger set to include (a) electron microscopy, (b) materials microscopy, (c) scanned-probe microscopy, with each module covering instrumentation, wide ranging uses, and weaknesses to avoid. Each module requires two lab visits for hands-on experiences, and three sessions of structured web and e-mail interaction per week.

### 4307 Scanning Electron Microscopy (3)

Prerequisite: Consent of instructor. A lecture/laboratory study of scientific research techniques using scanning electron microscopy (SEM). Course includes electron gun/lens optics, beam-specimen interactions, image formation, associated x-ray techniques, and analysis of images. Two classroom hours and two hours laboratory each week.

### 4308 Transmission Electron Microscopy (3)

Prerequisite: Phys 4307 or consent of instructor. A lecture/laboratory study of transmission electron microscopy (TEM) in conventional, analytical, and phase-contrast (high resolution) applications. Course includes advanced electron optics and image formation, defect structures, specimen preparation, contrast theory, diffraction/periodicity analysis, and electron energy loss/x-ray spectroscopy. Two classroom hours and two hours laboratory per week.

### 4309 Scanning Probe Microscopy (3)

Prerequisite: Phys 4307 or consent of instructor. A lecture/laboratory study of research techniques using scanning probe microscopy. Topics include atomic force microscopy, scanning tunneling microscopy, feedback control, scanning tip fabrication, scan calibrations, air/solution/vacuum imaging, image processing and analysis, near-field optical probes, metrology, and lateral force/displacement microscopy. Applications in physics, chemistry, biology, engineering, and surface science are discussed. Two classroom hours and two hours laboratory per week.

### 4310 Modern Electronics (3)

An integrated recitation/laboratory study of modern analog and digital electronics with emphasis on integrated circuits. Topics include circuit elements, operational amplifiers, logic gates, counters, adc/dac converters, noise reduction, microprocessors, embedded microcontrollers, and digital processing. Three classroom hours or laboratory hours per week.

### 4311 Advanced Physics Laboratory I (3)

Prerequisites: Advanced standing with at least nine completed hours of physics at or above the 3000 level. Physics majors are introduced to the experimental

techniques used in research. A student will choose and do several special problems during the semester. Six hours of laboratory per week.

### 4323 Modern Optics (3)

Prerequisite: Phys 3223. A study of modern optics including diffraction theory, polarization, light propagation in solids, quantum optics, and coherence. Three classroom hours per week.

### 4325 Topics in Modern Applied Physics (3)

Prerequisites: Phys 4310 and Math 2020. Topics are taken from modern applications of physics which may include linear analysis, nonlinear analysis, Fourier transform spectroscopy, wavelet analysis, noise and fluctuation phenomena, material science, physical electronics, optical techniques, and scanning tip microscopy. Three classroom hours per week.

### 4331 Introduction to Quantum Mechanics (3)

Prerequisites: Phys 3200 and 3231. Photons and the wave nature of particles; wave mechanics, the Schroedinger equation, operator and matrix formulations, and Dirac notation; applications to single particle systems, atomic physics, and spectroscopy. Three classroom hours per week.

### 4335 Atomic and Nuclear Physics (3)

Prerequisite: Phys 4331. Application of Schroedinger's equation to hydrogen-like atoms; atomic structure and spectra; nuclear masses, energy levels; alpha, beta, and gamma radiation, nuclear reactions, and models of the nucleus. Three classroom hours per week.

### 4341 Thermal and Statistical Physics (3)

Prerequisites: Math 2000 and Phys 3231. Introduction to statistical mechanics, classical thermodynamics and kinetic theory. Three classroom hours per week.

### 4343 Selected Topics in Physics I (3)

Prerequisites: Phys 3221, 3223, 3231, and 4341. Topics include special phenomena from research areas such as scattering of waves, biophysics, nonlinear physics, geophysical fluid dynamics and the atmospheric sciences treated by methods of advanced mechanics, thermodynamics and quantum mechanics. Three classroom hours per week.

### 4345 Nonlinear Dynamics and Stochastic Processes (3)

Prerequisites: Phys 3221 and 4341 and Consent of Instructor. Dynamical systems; theory of oscillations; introduction to bifurcation theory and chaos in dissipative systems with applications in physics and biology; introduction to stochastic processes with applications in physics, chemistry and biology; dynamics of nonlinear systems perturbed by noise; noise-induced phase transitions; linear and nonlinear time series analysis. Three classroom hours per week.

### 4350 Computational Physics (3)

Prerequisite: CS 1250, plus Phys 3221, 3223, and 3231. Computer analysis in physics; solutions of eigenvalue problems; coupled differential equations. Three classroom hours per week.

### 4351 Elementary Solid State Physics (3)

Prerequisite: Phys 4331. Theoretical and experimental aspects of solid state physics, including one-dimensional band theory of solids; electron emission from metals and semiconductors; electrical and thermal conductivity of solids. Three classroom hours per week.

### 4353 Physics of Fluids (3)

Prerequisites: Phys 3221, 3223, and 4341, or consent of instructor. Dynamical theory of gases and liquids. Course covers the mathematical development of physical fluid dynamics with contemporary applications. Three classroom hours per week.

### 4354 Atmospheric Physics (3)

Prerequisite: Phys 4341 and 3221. The mathematical application of physical laws to atmospheric dynamics and physical meteorology. Application of mechanics, thermodynamics, optics, and radiation to atmospheric phenomena including the ionosphere. Three classroom hours per week.

### 4356 Quantum Optics (3)

Prerequisites: Phys 3200 and 3231, and Math 2020. Review of atomic theory and spectroscopy. Selected applications to modern optical phenomena such as optical pumping, lasers, masers, Mossbauer effect, and holography. Three classroom hours per week.

### 4357 Subatomic Physics (3)

Prerequisites: Phys 3223, 3231 and 4331, may be taken concurrently. Introduction to nuclear and particle physics. Nuclear phenomenology and models; high energy particle accelerators and detectors; phenomenology of strong, electromagnetic and weak interactions; symmetry principles; quark compositions of strongly interacting baryons and mesons; gauge theories and the standard model of particle interactions; grand unification. Three classroom hours per week.

### 4365 Introduction to Plasma Physics (3)

Prerequisite: Phys 3223 and 4341. A study of the nonlinear collective interactions of ions, electrons, and neutral molecules with each other and with electric and magnetic fields. Topics include plasma confinement and stability, electrical discharges and ionization, kinetic theory of plasma transport, plasma waves and radiation, and controlled fusion. Solutions of the Boltzmann, Fokker-Planck, and Vlasov equations are discussed and methods of advanced electromagnetism and statistical physics are utilized. Three classroom hours per week.

**4370 Relativity and Cosmology (3)**

Prerequisites: Phys 3221, 3223, and 3231. An introduction to Einstein's general theory of relativity. Topics will include special relativity in the formalism of Minkowski's four dimensional space-time, Principle of Equivalence, Riemannian geometry and tensor analysis, Einstein Field Equation and cosmology. Three classroom hours per week.

**4381 Directed Readings in Physics (1-10)**

Prerequisite: Consent of instructor. An independent study of special topics in physics for senior undergraduates or graduate students.

**4387 Chemistry/Physics Teaching Intern Seminar (1)**

Same as Chem 4837. Prerequisite: Chem 4802 or Phys 4802. A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, Sec Ed 3290 One hour discussion per week.

**4802 Curriculum and Methods of Teaching Physical Sciences (3)**

Prerequisite: Tch Ed 3310 and a near-major in the subject matter. A study of the scope and sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

**5402 Introduction to Mathematical Physics (3)**

Prerequisites: Graduate standing in Physics or consent of instructor. A course covering mathematical techniques as applied in advanced theoretical physics including generalized vector spaces and their dual spaces, linear operators and functionals, generalized functions, spectral decomposition of operators, tensor analysis, and complex variables. Three classroom hours per week.

**5403 Principles of Mathematical Physics (3)**

Graduate standing in physics or consent of instructor. Boundary value problems; Sturm-Liouville theory and orthogonal functions; Green's function techniques; and introduction to group theory with emphasis on representations of Lie Algebras. Three classroom hours per week.

**6400 Special Problems (1-5)**

Prerequisites: Must have a faculty mentor and approval of the Department Chair. A study of special topics in physics for graduate students.

**6401 Special Topics (1-4)**

Prerequisite: Consent of instructor. This course is designed to give the Department an opportunity to test a new course.

**6404 Experimental Research Techniques (3)**

Prerequisite: Graduate standing. Experiments in various fields of physics designed to stress techniques and experimental approach.

**6405 Theoretical Physics I (3)**

Prerequisites: Phys 3221 and 3223 or equivalent. Newton's laws applied to simple systems, central force problems, variational principles. Lagrangian and Hamiltonian formulations, electrostatics. Maxwell field operations, wave propagation.

**6406 Theoretical Physics II (3)**

Prerequisites: Phys 3231, 4341, or equivalent, and Physics 6405. Schrodinger equation and wave mechanical treatment of simple systems: perturbation theory; identical particles and spin. Laws of thermodynamics, canonical systems; thermodynamic potentials and Maxwell equations, open systems, and chemical potential. Clausius-Clapeyron equation.

**6407 Modern Physics (3)**

Prerequisite: Phys 4331. A study of some of the more important concepts of modern physics.

**6409 Theoretical Mechanics I (3)**

Prerequisite: Phys 3221. Classical mechanics, methods of Newton, Lagrange, and Hamilton, applied to motion of particles and rigid bodies, elasticity, and hydrodynamics.

**6410 Seminar (variable hours)**

Prerequisite: Approval of department chair. Discussion of current topics.

**6411 Electrodynamics I (3)**

Prerequisite: Phys 3223. A rigorous development of the fundamentals of electromagnetic fields and waves. Electrostatics, magnetostatics, Maxwell's equations, Green's functions, boundary value problems, multipoles, and conservation laws.

**6413 Statistical Mechanics (3)**

Prerequisites: Phys 4331 and 4341. A study of statistical ensembles; Maxwell-Boltzmann, Fermi-Dirac, and Einstein-Bose distribution laws, application to some simple physical systems.

**6415 Theoretical Mechanics II (3)**

Prerequisite: Phys 6409. Transformation theory of mechanics, Lagrange and Poisson brackets, Hamilton-Jacobi theory, introduction to the classical theory of fields.

**6417 Advanced Statistical Mechanics (3)**

Prerequisite: Phys 6413. A continuation of Phys 6413. Further applications as to such topics as the imperfect gas, condensation and the critical region, magnetism, liquid state, and transport phenomena.

**6423 Electrodynamics II (3)**

Prerequisite: Phys 6411. A continuation of Phys 6411. Applications of time-dependent Maxwell's equations to such topics as plasmas, wave guides, cavities, radiation: fields of simple systems and multipoles. Relativity: covariant formulation of Maxwell's equations and conservation laws, fields of uniformly moving and accelerated charges.

**6425 Plasma Physics (3)**

Prerequisites: Phys 4341 and 6411. Fundamentals of kinetic theory, fluid equations, MHD equations, and applications; wave propagation, shielding effect, diffusion stability, and charged particle trajectories.

**6435 Cloud Physics (3)**

Prerequisites: Phys 3223 and 4341. A study of cloud microphysics and dynamics, atmospheric condensation and freezing nuclei, phase, precipitation mechanisms, aerosol scavenging, role of electrification, current dynamical models, and review of diagnostic techniques.

**6455 Theoretical Nuclear Physics (3)**

Prerequisite: Phys 6461. A study of the basic properties of nuclei, nuclear scattering and forces, nuclear reactions, and models.

**6461 Quantum Mechanics I (3)**

Prerequisite: Phys 4331. A study of the Schroedinger wave equation, operators and matrices, perturbation theory, collision, and scattering problems.

**6463 Quantum Mechanics II (3)**

Prerequisite: Phys 6461. Continuation of Phys 6461 to include such topics as Pauli spin-operator theory, classification of atomic states, introduction to field quantization. Dirac electron theory.

**6465 Quantum Mechanics III (3)**

Prerequisites: Phys 6461 and 6463. Topics chosen from such fields as: relativistic quantum mechanics, potential scattering, formal collision theory, group theoretical methods in quantum mechanics, electrodynamics.

**6467 Quantum Statistical Mechanics (3)**

Prerequisites: Phys 6413 and 6463. Techniques for calculation of the partition function with examples drawn from interacting Fermi gas, interacting Bose gas, superconductors, and similar sources.

**6471 Atomic and Molecular Structure (3)**

Prerequisite: Phys 6461. Applications of quantum mechanics to the structure of atoms and molecules; perturbation and variational calculations, self-consistent fields, multiplets, angular momenta, Thomas-Fermi model, diatomic molecules, spectral intensities.

**6473 Atomic Collision Theory (3)**

Prerequisite: Phys 6471 or 6463. Basic quantum mechanical concepts involved in atomic scattering theory. Topics include: elastic and inelastic collisions of electrons and ions with neutral atoms and molecules; collisions between heavy particles; curve crossing; photo-processes; and Coulomb wave functions.

**6475 Molecular Spectroscopy (3)**

Prerequisite: Phys 6461. Introduction to classical and quantum treatment of the vibrational and rotational structure and spectra of diatomic, linear triatomic, and simple polyatomic molecules: vibrational-rotational interactions, point group symmetry in simple infrared spectra analysis, calculations of vibrational frequencies, and normal coordinates of polyatomic atoms.

**6481 Physics of the Solid State (3)**

Prerequisite: Phys 6461. Crystal symmetry, point and space groups, lattice vibrations, phonons, one-electron model, Hartree-Fock approximation, elementary energy band theory transport properties, the Boltzmann equation, introduction to superconductivity, semiconductors, and magnetism.

**6483 Selected Topics of the Solid State (3)**

Prerequisite: Phys 6481. Introduction to many-body perturbation theory, the use of Feynman diagrams. Green's functions, treatment of the electron-electron, phonon-phonon, and electron-phonon interactions, theory of magnetism, and theory of superconductivity

**6485 Advanced Quantum Mechanics (3)**

Prerequisite: Phys 6465. Selected topics such as many-body problems field theory, S matrix theory and symmetries.

**6490 Research (variable hours)**

Prerequisites: Must have a faculty mentor and approval of the Department Chair. Investigations of an advanced nature leading to the preparation of a thesis or dissertation.

**6493 Oral Examination**

After completion of all other program requirements, oral examinations for on campus students may be processed during the first two weeks of an academic session or at any appropriate time for off-campus students upon enrollment in Phys 6493 and payment of an oral examination fee. All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three semester hours for resident students.

**6495 Continuous Registration**

Doctoral candidates who have completed all requirements for the degree except the dissertation, and are away from the campus, must continue to enroll for at least one hour of credit each registration period until the degree is completed. Failure to do so may invalidate the candidacy.

Billing will be automatic as will registration upon payment.



## Department of Political Science

### Faculty

**Lana Stein, Professor\***, Chairperson  
Ph.D., Michigan State University  
**E. Terrence Jones, Professor\***  
Ph.D., Georgetown University  
**Dennis R. Judd, Professor Emeritus**  
Ph.D., University of Illinois  
**Carol W. Kohfeld, Professor Emerita**  
Ph.D., Washington University  
**Joyce M. Mushaben, Professor\***, Director, Institute of  
Women's and Gender Studies  
Ph.D., Indiana University  
**David B. Robertson, Professor\***  
Ph.D., Indiana University  
**J. Martin Rochester, Distinguished Teaching Professor\***  
Ph.D., Syracuse University  
**G. Eduardo Silva, Professor\***, Graduate Director  
Ph.D., University of California-San Diego  
**J. Fred Springer, Professor Emeritus**  
Ph.D., University of California-Davis  
**Andrew Glassberg, Associate Professor\***  
Ph.D., Yale University  
**Joel N. Glassman, Associate Professor\***, Director, Center  
for International Studies, Associate Vice Provost for  
Academic Affairs  
Ph.D., University of Michigan  
**Barbara L. Graham, Associate Professor\***  
Ph.D., Washington University  
**Jean-Germain Gros, Associate Professor\***  
Ph.D., University of California-Berkeley  
**Ruth Iyob, Associate Professor\***  
Ph.D., University of California-Santa Barbara  
**David C. Kimball, Associate Professor\***  
Ph.D., Ohio State University  
**Kenneth P. Thomas, Associate Professor\***  
Ph.D., University of Chicago  
**Brady Baybeck, Assistant Professor\***  
Ph.D., Washington University  
**Brian Fogarty, Assistant Professor**  
Ph.D., University of North Carolina at Chapel Hill  
**Farida Jalalzai, Assistant Professor**  
Ph.D., University of Buffalo  
**Nancy T. Kinney, Assistant Professor\***  
Ph.D., University of Colorado at Denver  
**Richard Middleton IV, Assistant Professor\***  
Ph.D., University of Missouri-Columbia

\*members of Graduate Faculty

Political Science faculty are nationally known scholars in their respective fields, dedicated to high-quality teaching and education. Department faculty members have received distinctions such as the Presidential Award for Research and Creativity, Chancellor's Award for Research and Creativity, Chancellor's Award for Excellence in Teaching, Governor's Teaching Awards, Burlington Northern

Faculty Achievement Award, and Emerson Electric Excellence in Teaching Award. They have received research grants from such prestigious agencies as the John F. Kennedy Library, the Ford Foundation, the MacArthur Foundation, the National Science Foundation, the German Marshall Fund, the United States Department of Education, the Fulbright Program, and the United States Institute for Peace. The faculty has published its research in more than 80 books and 400 articles in scholarly journals and is devoted to using its research findings to improve teaching.

In 1987, the Department of Political Science was designated as a Center of Eminence by the Board of Curators. This makes political science one of only two such programs on the St. Louis campus and ten in the entire University of Missouri system to be so designated. The department was selected because of its excellence in research and teaching.

In addition to helping students become more knowledgeable about politics and public policy, political science course work provides rich opportunities for students to develop a variety of practical skills--such as information-gathering and processing, analysis, research, decision making and oral and written communication--that are transferable to many career paths and job settings after graduation.

### General Information

#### Degrees and Areas of Concentration

The political science department offers undergraduate work leading to the B.A. degree in political science, B.S. degree in public policy and administration, and, in cooperation with the College of Education, the B.A. in political science with teacher certification and the B.S. in education with an emphasis in social studies. (See College of Education section in this *Bulletin* for details.) Minors in political science are available to students who are majoring in another discipline and who have a special interest in law, government, politics, and public policy.

Principal areas of concentration include urban politics, American political processes and behavior, international politics, comparative politics, public policy and administration, public law, and political theory. In many courses, emphasis is placed on the ways in which public policies are developed and administered. In addition to formal course work, internships are available in which the student can relate classroom learning to practical field experience.

The political science department also offers graduate courses leading to the M.A. and Ph.D. in political science. The M.A. program in political science offers advanced education for those seeking careers in government, business, secondary education, community, or not-for-profit agencies. The principal foci of the 33-hour program

are public administration and public policy analysis/evaluation in the local, state, national, and international areas. The flexibility of the general master's degree allows for individualized programs in urban politics, prelegal education, American national government, comparative politics, international relations, and political theory.

The Ph.D. in political science emphasizes the study of theoretic, analytic, and substantive approaches to public policy. Core courses include research methods, normative and empirical theory, and policy processes and institutions. Doctoral candidates, in consultation with the faculty, develop a policy concentration, which can be interdisciplinary. Internships, when appropriate, may be a component. All successful doctoral candidates must complete a dissertation, which makes a significant contribution to knowledge in the field.

Most graduate classes are scheduled so those employed outside the university can participate in the programs on a part-time basis. Financial assistance is available to full-time students.

#### **Special Interdisciplinary Degree**

The Department of Political Science also cooperates with the Department of Economics in the College of Arts and Sciences and the College of Business Administration in offering a master's degree in public policy administration (MPPA). For information on the MPPA degree program, see that section in this *Bulletin*.

#### **Cooperative Programs**

Political science students may also study overseas, or obtain a certificate in international studies, European studies, African Studies, East Asian studies, Latin American studies, women's studies, or writing, in conjunction with their political science major. See Certificate Programs in this *Bulletin* and consult with the Center for International Studies.

Research in political science is encouraged for students at all levels. Assistance is available at UM-St. Louis' Public Policy Research Centers, the Center for International Studies, and the Office of Computing. The department's membership in the Interuniversity Consortium for Political and Social Research provides access to a wide range of survey data on local-state-national, comparative, and international politics. In addition, extensive research opportunities are available within the metropolitan St. Louis area. Scholarships are available for qualified students; details can be obtained from the department office.

#### **Undergraduate Studies**

##### **General Education Requirements**

Majors must satisfy the university and college general education requirements. Political science courses may be

used to satisfy the social sciences requirement. The foreign language requirement for the B.A. degree may be satisfied in any language.

##### **Departmental Honors**

The department awards honors to students having a grade point average (GPA) of 3.2 in the major, an overall GPA of 3.2 (except in extraordinary circumstances), and successfully completed an honors thesis, project, or report.

##### **Degree Requirements**

##### **Bachelor of Arts in Political Science**

All majors must complete at least 36, but not more than 45, hours of political science. All students are required to take the following core curriculum:

##### **Poli Sci**

- 1100**, Introduction to American Politics
- 1500**, Introduction to Comparative Politics
- 2000**, Political Analysis
- 3950**, Senior Seminar in Political Science

Majors are urged to take Pol Sci 1100, 1500, and 2000 as early as possible since these courses are designed to provide a substantive foundation as well as conceptual and analytical tools for subsequent course work. Because the seminar topics in Pol Sci 3950 change from semester to semester, the course can be repeated as an elective. All majors must take at least one Seminar in Political Science.

Students also must complete at least one course in **four** of the following political science areas:

- Public Law** (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level)
- American Politics** (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
- Public Policy and Administration** (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
- Comparative Politics** (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
- Political Theory** (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
- International Relations** (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).
- Methodology** (chosen from among courses listed in bulletin at the 1000, 2000, or 3000 or 4000 level).

At least **18 hours** of political science course work must be at the 2000, 3000 or 4000 level, not including Pol Sci 2000. B.A. degree students may take a maximum of 3 hours of political science on a satisfactory/unsatisfactory basis; this can include any course except the required courses in the core curriculum.

**Note:** As early as possible, students should determine their educational objectives and consult with an adviser



regarding a plan of study. *Those students who are uncertain of their future plans are urged to include in their 36-45 hours of political science a broad set of courses in American politics, public policy and administration, public law, comparative politics, international politics, political theory, and methodology.* In addition to this general course of study in political science, the department offers B.A. degree students several specialized programs of study in political science geared to various student academic and career interests.

**Graduate School Preparation** This program is designed for students planning to pursue graduate studies in political science, particularly the Ph.D. degree, with the aim of a career as either an academic or practitioner (working as a researcher, policy analyst, or in some other capacity calling for advanced knowledge and skills). In addition to the core curriculum and common requirements for all political science majors, students are advised to (1) take as many political science courses at the 2000 and 3000 or 4000 level as possible in a variety of areas (public law, American politics, comparative and international politics, etc.), (2) complete a departmental honors project based on independent research and writing in Pol Sci 3900, Special Readings, and (3) give special consideration to courses in normative political theory (such as Pol Sci 2620, Modern Political Thought) and research methods (such as Pol Sci 6401, Introduction to Policy Research, which is a graduate course open to undergraduates with Graduate School approval). Students are also encouraged to take course work outside the department in microeconomics, macroeconomics, and statistics.

**Legal Studies** This is an ideal program of study for double majors in political science and criminal justice or for any student interested in law school and a career in the law. In addition to the core curriculum and common requirements for all political science majors, students are advised to take Pol Sci 1200, Foundations of Law: An Introduction to Legal Studies, and at least four of the following political science courses:

- 2260, Law and the Individual
- 2280, Judicial Politics and Policy
- 2290, Women and the Law
- 2650, American Political Thought
- 2900, Studies in Political Science (when appropriate)
- 3200, Constitutional Law
- 3210, Civil Liberties
- 3260, Judicial Decision-making
- 3290, Studies in Public Law
- 3900, Special Readings (when appropriate)
- 3940, Public Affairs Internship (when appropriate)
- 4850, International Law

**Students are also advised to take political science course work that gives them a strong background in American political institutions and processes. Those students considering practicing law in the international**

**arena should take course work in comparative and international politics. Political science course work may be supplemented by course work in criminal justice and criminology.**

**American Politics** Designed for those students interested in careers in communications, education, business, social work, political consulting, and other fields requiring knowledge of American urban, state, and national politics and institutions. Education majors planning to teach in the social studies field, communications majors planning on a career in journalism, or business majors thinking about working in corporate relations may especially wish to consider a double major in political science with a focus in this area. In addition to the core curriculum and common requirements for all majors, students are advised to take at least five of the following political science courses:

- 1990, The City
- 2280, Judicial Politics and Policy
- 2300, State Politics
- 2320, African Americans and the Political System
- 2350, Introduction to Urban Politics
- 2380, Women in U.S. politics
- 2420, Introduction to Public Policy
- 2650, American Political Thought
- 2820, United States Foreign Policy
- 2900, Studies in Political Science (when appropriate)
- 3300, The American Presidency
- 3330, Introduction to Political Behavior
- 3331, Congressional Politics
- 3340, Politics and the Media
- 3350, Political Parties and Elections
- 3370, Mock Constitutional Convention
- 3390, Studies in American Politics
- 3480, Environmental Politics
- 3900, Special Readings (when appropriate)
- 3940, Public Affairs Internship (when appropriate)

In addition, students may wish to choose other political science courses listed below under the public policy and administration program of study. Given the growing reality of international interdependence, students should not restrict their studies completely to American politics but should take some course work in comparative and international politics as well. Depending on their specific career interest, students may wish to round out their program with course work in other social science departments such as criminal justice, communications, economics, or social work.

**Public Policy and Administration** Designed for students interested in working inside or outside government, in a career requiring familiarity with how public policies are formulated and implemented. (Students alternatively may wish to consider the B.S. in public policy and administration degree offered by the political science department.) In addition to the core curriculum and

common requirements for all majors, students are advised to take Pol Sci 2420, Introduction to Public Policy, and at least four of the following political science courses:

2400, Public Administration  
2820, United States Foreign Policy  
2900, Studies in Political Science (when appropriate)  
3400, Bureaucratic Politics  
3410, The Politics of Business Regulation  
3420, Public Personnel Management  
3439, Studies in Policy Formation  
3440, Public Budgeting  
3450, Urban Administration  
3460, The Politics of Poverty and Welfare  
3480, Environmental Politics  
3490, Studies in Public Administration  
3570, Gender, Race, and Public Policy  
3940, Public Affairs Internship (when appropriate)  
3900, Special Readings (when appropriate)  
4080, Program Evaluation  
4470, Urban Planning and Politics  
4510, Comparative Public Policy and Administration  
4940, Leadership and Management in Nonprofit Organizations

Depending on career interests, students should add course work in American, comparative, or international politics. Students are encouraged to develop a policy concentration in a particular policy area, such as urban, labor, health, education, and business studies, with multidisciplinary course work taken in political science and other departments.

**International and Comparative Studies** Designed for students interested in international careers in government service (not only the U.S. State Department but also other federal government agencies), intergovernmental and non-governmental organizations, business, education, and other areas of employment. In addition to the core curriculum and common requirements for all political science majors, students are advised to take Pol Sci 1800, World Politics, or Pol Sci 2500, Comparing Different Worlds, and at least four of the following political science courses (some of which are international politics courses that focus on conflict and cooperation between countries, and some of which are comparative politics courses that focus on political, economic, and social change within countries):

1600, Contemporary Political Ideologies  
1820, Global Issues  
1850, Global Ecology  
2510, Comparative Politics of Europe  
2520, Middle Eastern Politics  
2530, Political Systems of South America  
2540, Political Systems of Mexico, Central America, and the Caribbean  
2550, East Asian Politics  
2560, Russia and the New Republics  
2580, African Politics  
2800, Model United Nations

2820, United States Foreign Policy  
2900, Studies in Political Science (when appropriate)  
3570, Gender, Race, and Public Policy  
3590, Studies in Comparative Politics  
3690, The Marxist Heritage  
3830, International Political Economy  
3840, European International Relations  
3850, International Organizations and Global Problems Solving  
3860, Studies in War and Peace  
3890, Studies in International Relations  
3900, Special Readings (when appropriate)  
3940, Public Affairs Internship (when appropriate)  
4510, Comparative Public Policy and Administration  
4550, Democratization in Comparative Perspective  
4850, International Law

Students interested in working for the U.S. Foreign Service, American-based multinational companies, and nonprofit organizations should also take course work that familiarizes them with the American political system and how public policy is made. Students should explore the various interdisciplinary area studies and international studies certificate programs offered through the Center for International Studies.

### **Bachelor of Science in Public Policy and Administration**

The BSPA degree has two emphasis areas. The first is a public administration track, which emphasizes management in both the public and nonprofit sectors; it may produce a terminal degree or be a precursor to graduate training. The second is a public policy track in which a student may focus on a particular policy area and also acquire specialized analytic training and research skills, in preparation for relevant entry-level jobs in the public or the voluntary sector as well as in certain parts of the private sector.

**All BSPA majors must complete at least 33, but no more than 45, hours in political science. The following core curriculum is required of all BSPA majors:**

#### **Political Science**

1100, Introduction to American Politics  
1500, Introduction to Comparative Politics  
2000, Political Analysis  
2400, Public Administration  
2420, Introduction to Public Policy  
3940, Public Affairs Internship  
3950, Senior Seminar in Political Science  
Econ 1001, Principles of Microeconomics  
Econ 1002, Principles of Macroeconomics  
CCJ 2220, Statistical Analysis in Criminology and Criminal Justice **or**

**Sociology 3220, Sociological Statistics or Econ 3100, Economic Statistics**

In addition, students must provide a demonstration of computer proficiency through one of the following

**BA 1800**, Computers and Information Systems, extension courses, or other study approved by the BSPA coordinator.

**BSPA students may take a maximum of 3 hours of political science on a satisfactory/unsatisfactory basis, except for the following (which may not be taken on a satisfactory/unsatisfactory basis): Pol Sci 1100, 1500, 2400, 2000, 2420, 3940, and 3950.**

#### **Public Administration Emphasis Area**

In addition to the core curriculum requirements for all BSPA majors, students in the public administration emphasis area are required to complete the following courses:

**Pol Sci 3420**, Public Personnel Management

**Pol Sci 3440**, Public Budgeting

**BA 2400**, Fundamentals of Financial Accounting

Students in the public administration emphasis area also must take two of the political science courses listed under policy and institutions courses below, as well as take at least two additional elective courses chosen from among that list or any other political science offerings.

#### **Public Policy Emphasis Area**

In addition to the core curriculum requirements for all BSPA majors, students in the public policy emphasis area must take four political science courses, preferably selected from the policy and institutions courses listed below but which may include other political science course offerings as well.

#### **Policy and Institutions Courses:**

**1450**, Introduction to Labor Studies

**2280**, Judicial Politics and Policy

**2300**, State Politics

**2350**, Introduction to Urban Politics

**3300**, The American Presidency

**3331**, Congressional Politics

**3400**, Bureaucratic Politics

**3430**, Union Leadership and Administration

**3439**, Studies in Policy Formation

**3450**, Urban Administration

**3460**, The Politics of Poverty and Welfare

**3480**, Environmental Politics

**4470**, Urban Planning and Politics

**4510**, Comparative Public Policy and Administration

**4940**, Leadership and Management in Nonprofit Organizations

Students will adopt a policy concentration of at least 15 credit hours. Possible areas of specialization include, but are not limited to, environmental policy, government and business, society and the legal system, urban policy, labor studies, health care, human services, and nonprofit service provision. In fulfilling the concentration requirement, students, in consultation with the BSPA coordinator, will select courses from related disciplines in addition to taking two more political science courses related to the policy

area beyond the four political science courses already required.

**Note:** Students considering the B.S. in public policy and administration should see a political science adviser as early as possible to plan their program.

#### **Requirements for the Minors**

A general minor in political science can be arranged, as well as specialized minors in eight different subfields of the discipline. Interested students should see a faculty adviser to plan a coherent program of study as a minor field.

Students must achieve a cumulative 2.0 GPA in the political science courses chosen to qualify for the minor. Students may count no more than 3 hours in political science taken on a satisfactory/unsatisfactory basis toward the minor. Students taking an internship Political Science 3940 may count no more than three hours of the internship toward the minor.

#### **Minor in Political Science, General**

Fifteen hours, chosen from among all political science courses.

#### **Minor in American Politics**

Fifteen hours, chosen from the following political science courses:

**1100**, Introduction to American Politics

**2300**, State Politics

**2350**, Introduction to Urban Politics

**2650**, American Political Thought

**2280**, Judicial Politics and Policy

**3300**, The American Presidency

**3331**, Congressional Politics

**2320**, African Americans and the Political System

**3330**, Introduction to Political Behavior

**3340**, Politics and the Media

**3350**, Political Parties and Elections

**2380**, Women in U.S. Politics

**3410**, The Politics of Business Regulation

**2420**, Introduction to Public Policy

**2820**, United States Foreign Policy

**3940**, Public Affairs Internship (when appropriate)

**3390**, Studies in American Politics

**3370**, Mock Constitutional Convention

**3900**, Special Readings (when appropriate)

#### **Minor in Comparative Politics**

Political Science 1500, Introduction to Comparative Politics, plus 12 hours from the following political science courses:

**2500**, Comparing Different Worlds

**2510**, Comparative Politics of Europe

**2530**, Political Systems of South America

**2540**, Political Systems of Mexico, Central America, and the Caribbean

**2550**, East Asian Politics

**2560**, Russia and the New Republics  
**2580**, African Politics  
**3570**, Gender, Race, and Public Policy  
**3590**, Studies in Comparative Politics  
**3900**, Special Readings (when appropriate)  
**4510**, Comparative Public Policy Administration  
**4550**, Democratization in Comparative Perspective

**Minor in International Relations**

Fifteen hours, chosen from the following political science courses:

**1800**, World Politics  
**1820**, Global Issues  
**1850**, Global Ecology  
**2520**, Middle Eastern Politics  
**2820**, United States Foreign Policy  
**3830**, International Political Economy  
**3840**, European International Relations  
**3850**, International Organizations and Global Problem-Solving  
**3860**, Studies in War and Peace  
**3890**, Studies in International Relations  
**3900**, Special Readings (when appropriate)  
**3940**, Public Affairs Internship (when appropriate)  
**4850**, International Law

**Minor in Political Theory**

Fifteen hours, chosen from the following political science courses:

**1600**, Contemporary Political Ideologies  
**2610**, Ancient and Medieval Political Thought  
**2620**, Modern Political Thought  
**2650**, American Political Thought  
**3680**, Feminist Political Theory  
**3690**, The Marxist Heritage  
**3690**, Studies in Political Theory  
**3900**, Special Readings (when appropriate)

**Minor in Public Administration**

Political Science 2400, Public Administration, plus 12 hours chosen from the following political science courses:

**2420**, Introduction to Public Policy  
**3400**, Bureaucratic Politics  
**3410**, Politics of Business Regulation  
**3420**, Public Personnel Management  
**3439**, Studies in Policy Formation  
**3440**, Public Budgeting  
**3450**, Urban Administration  
**3490**, Studies in Public Administration  
**3900**, Special Readings (when appropriate)  
**3940**, Public Affairs Internship (when appropriate)  
**4080**, Program Evaluation  
**4470**, Urban Planning and Politics  
**4510**, Comparative Public Policy and Administration

**Minor in Public Law**

Fifteen hours, chosen from the following political science courses:

**1200**, Foundations of Law: An Introduction to Legal Studies

**2260**, Law and the Individual  
**2280**, Judicial Politics and Policy  
**2290**, Women and the Law  
**3200**, Constitutional Law  
**3210**, Civil Liberties  
**3260**, Judicial Decision-Making  
**3290**, Studies in Public Law  
**3900**, Special Readings (when appropriate)  
**4850**, International Law

**Minor in Public Policy**

Political Science 2420, Introduction to Public Policy, plus 12 hours chosen from the following political science courses:

**2300**, State Politics  
**2350**, Introduction to Urban Politics  
**2400**, Public Administration  
**3300**, The American Presidency  
**3400**, Bureaucratic Politics  
**3410**, The Politics of Business Regulation  
**3440**, Public Budgeting  
**3450**, Urban Administration  
**3460**, The Politics of Poverty and Welfare  
**3480**, Environmental Politics  
**3570**, Gender, Race, and Public Policy  
**3900**, Special Readings (when appropriate)  
**3940**, Public Affairs Internship (when appropriate)  
**4080**, Program Evaluation  
**4470**, Urban Planning and Politics  
**4510**, Comparative Public Policy and Administration

**Minor in Urban Politics**

Political Science 2350, Introduction to Urban Politics, plus 12 hours chosen from the following political science courses:

**2320**, African-Americans and the Political System  
**3450**, Urban Administration  
**3460**, The Politics of Poverty and Welfare  
**3900**, Special Readings (when appropriate)  
**3940**, Public Affairs Internship (when appropriate)  
**4470**, Urban Planning and Politics

**Minor in Women and Politics**

**PS 1550**, Women and Politics in the Developing World and 12 hours from among the following political science courses:

**PS 2290**, Woman and the Law  
**PS 2380**, Women in U.S. Politics  
**PS 3439**, Studies in Policy Formation (consent of instructor required)  
**PS 3460**, The Politics of Poverty and Welfare  
**PS 3570**, Gender, Race, and Public Policy (Comparative)  
**PS 3590**, Politics, Leadership and the Global Gender Gap  
**PS 3680**, Feminist Political Theory  
**PS 3900**, Special Readings (consent of instructor required)  
**PS 4940**, Leadership and Management in Nonprofit Organizations (consent of instructor)

### **Bachelor of Arts with Teacher Certification**

For information, refer to the College of Education section in this *Bulletin*.

### **Bachelor of Science in Education: Emphasis in Social Studies**

The Political Science requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this *Bulletin*.

### **Graduate Studies**

#### **2+3 B.A. and M.A. in Political Science**

The 2+3 Combined BA/MA program in Political Science provides an opportunity for students of recognized academic ability and educational maturity to complete the requirements for both degrees in 5 years of fulltime study.

The combined program requires a minimum of 140 credit hours of which at least 33 must be at the graduate level in political science. In qualifying for the BA, students must meet all University and College requirements. Students in the combined 2+3 who successfully complete the requirements for the MA degree will be awarded a BA degree simultaneously upon completion of at least 107 hours of undergraduate credit.

Student should apply to the Department for admission to the 2+3 combined degree program in Political Science during the semester they will complete 60 undergraduate credit hours. A cumulative grade point average of 3.0 or higher and three letters of recommendation from faculty are required. Students will be admitted to the 2+3 program under provisional status until they have completed 30 hours in that program with a grade point of 3.0 or higher. After completion of the provisional period, with the recommendation of the Graduate Director, students can be granted full admission into the 2+3 program.

Students must maintain a grade point average of 3.0 or higher throughout the combined program. Students who officially withdraw from the 2+3 combined degree program, who have successfully completed all the regular requirements for the BA degree (120 hours) will be awarded their BA degree.

#### **Undergraduate Requirements for Student in the 2+3 Program**

A. The following must be completed prior to enrolling in the 2+3 program

1. **Students must take**  
PS 1100, Introduction to American Politics  
PS 1500, Introduction to Comparative Politics
2. **PLUS** two of the following:  
PS 1600, Contemporary Political Theory

- PS 1800, World Politics
- PS 2300, State Politics
- PS 2350, Introduction to Urban Politics
- PS 2400, Introduction to Public Administration
- PS 2650, American Political Thought

#### **B. Undergraduate Requirements Within the 2+3 Program**

1. Two of the following:  
PS 2280, Judicial Politics and Policy  
PS 2620, Modern Political Thought  
PS 3200, Constitutional Law  
PS 3210, Civil Liberties  
PS 3300, The American Presidency  
PS 3331, Congressional Politics  
PS 3350, Political Parties and Elections  
PS 3470, Gender, Race and Public Policy  
PS 3480, Environmental Politics
2. **PLUS** two of the following:  
PS 2510, Comparative Politics of Europe  
PS 2520, Middle Eastern Politics  
PS 2530, Political Systems of South America  
PS 2540, Political Systems of Mexico, Central American & the Caribbean  
PS 2580, African Politics  
PS 3690, The Marxist Heritage (Phil 269; ID 269)  
PS 3830, International Political Economy  
PS 3850, International Organizations and Global Problem Solving  
PS 4850, International Law

3. **Plus** one additional course from B-1 or B-2

#### **C. Graduate Requirements**

1. PS 6401, Introduction to Policy Research (3 credits)
2. **PLUS** 3 of the following (9 credits):  
PS 6420, Proseminar in Public Law  
PS 6430, Proseminar in American Politics  
PS 6440, Proseminar in Public Policy Administration  
PS 6450, Proseminar in Comparative Politics  
PS 6460, Proseminar in Political Theory  
PS 6470, Proseminar in Urban Politics  
PS 6480, Proseminar in International Relations
3. **PLUS** 5 additional graduate Political Science classes (**15 credits**).  
Students should select an emphasis in American Politics, Public Policy, Comparative Politics, Political Theory, or International Relations.
4. **PLUS** Exit Project or Internship or Thesis (6 credits)

#### **Summary of Credits in Political Science:**

BA: 27 hours (12 completed in lower division courses before admission to the 2+3 program)

MA: 33 hours at the graduate level

**TOTAL:** 60 hours in Political Science classes

### Master of Arts in Political Science

**Admission Requirements:** For admission, a student should have a baccalaureate degree with a minimum grade point average of 2.75 and an undergraduate background in the social sciences. The GRE is required, and scores should be submitted at the time of application. Two letters of recommendation are also requested for each student applying to the program. Students who do not meet these requirements may be admitted upon approval of the department and the dean of the Graduate School. Application materials may be obtained from and should be returned to the office of the director of admissions.

Deadlines are July 1 for the fall semester; December 1 for the winter semester; and May 1 for the summer term.

#### Degree Requirements

Beyond the general requirements of the Graduate School, the department requires a minimum of 27 semester hours of course work, of which 18 hours must be at the 6400 level and 12 hours must be in core courses in political science, including:

- 6401, Introduction to Policy Research
- and three of the following political science courses:
  - 6410, Introduction to Policy Analysis
  - 6420, Proseminar in Public Law
  - 6430, Proseminar in American Politics
  - 6440, Proseminar in Public Policy Administration
  - 6450, Proseminar in Comparative Politics
  - 6460, Proseminar in Political Theory
  - 6470, Proseminar in Urban Politics
  - 6480, Proseminar in International Relations

Students can plan their degree program to reflect the following six emphasis areas:

- American Politics
- Comparative Politics
- International Politics
- Political Process and Behavior
- Public Administration and Public Policy
- Urban and Regional Politics

Students must also select one of the following exit projects: a six-hour thesis, a six-hour internship, or six hours of additional course work and an approved paper. Students will have a mid-program review at the end of 12-15 hours of course work, at which time they will discuss their academic performance and program with a faculty committee and determine the most appropriate exit project. Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project.

### Ph.D. in Political Science

The doctoral program emphasizes theoretical, analytic, and substantive approaches to public policy analysis and administration. Students are provided an opportunity to link core skills in policy analysis and political science with substantive emphasis in specific policy areas. The program is designed to prepare pre-career and mid-career students for advanced positions in policy research and administration, as well as for academic research and teaching.

**Admission Requirements** Admission and financial aid decisions are made on the basis of past academic record, intellectual ability, and career commitment and performance. Applications are accepted from students who have either baccalaureate or master's degrees. Past graduate work will be credited toward degree requirements as appropriate. Applicants must submit a) complete academic transcripts, b) three letters of recommendation, c) aptitude tests of the GRE and d) a statement of objectives for the course of study. Application materials may be obtained from and should be returned to the office of the director of admissions. Applications for fall semester should be submitted by February 15 and for winter semester by October 15.

**Graduate Assistantships** Stipends for teaching and research assistantships (nine month/20 hours per week) are awarded on a competitive basis. Out-of-state educational fees are waived for graduate assistants.

#### Degree Requirements

The department requires 60 credit hours beyond the baccalaureate degree for completion of the Ph.D. To ensure sufficient background for doctoral-level policy courses, students must demonstrate appropriate competence in computing and intermediate economics during their course of study. Course requirements are as follows:

#### Core courses (24 credit hours)

24 credit hours will be required in the areas of research methods, normative and empirical theory, and policy process and institutions. Contact the department for specific courses.

#### Additional Requirements (12 credit hours)

In addition, students will select a minimum of 12 credit hours in public policy, theory, or process.

#### Policy Concentration (15 credit hours)

Students, in consultation with the program director, will develop expertise in a substantive policy area. Policy concentrations (many interdisciplinary) include:

- American National Policy
- Urban Politics and Planning
- Comparative/International Policy
- Policy Analysis and Research Social Welfare

### **Internship (6 credit hours) optional.**

The Ph.D. intern program offers an opportunity to gain first-hand experience in select research and administrative positions.

### **General Examination and Dissertation**

Upon completion of course work, students are advanced to candidacy by successfully completing two general examinations, the first covering the fields of public policy institutions, processes, and analysis, and the second covering the student's chosen subfield and area of policy concentration. The degree is awarded upon completion and defense of the Ph.D. dissertation.

### **Career Outlook**

#### **Bachelor of Arts, Bachelor of Science, and Master of Arts in Political Science**

Political science graduates have done well in obtaining appropriate employment and in pursuing graduate education. Majors develop communications and decision-making skills, learn to analyze complex policy issues, both domestic and international in scope, and have a thorough understanding of government and politics. Political science is a particularly good undergraduate major for pre-law students. Many other majors pursue graduate education in business, education, public administration, public policy administration, journalism, public relations, non-profit organizations, and many other fields. Guides to careers in political science are available in the department office.

#### **Ph.D. in Political Science**

The Ph.D. in political science prepares students for three career areas: 1) government leadership and management positions at the local, state, and federal levels (both for new employees and in-service employees); 2) careers in the private sector, particularly positions in public affairs, policy research, and governmental relations departments of corporations, as well as consulting firms and nonprofit organizations; and 3) research and teaching careers in academic institutions.

Requests for further information about the M.A. or Ph.D. program should be sent to the Director of Graduate Studies, Department of Political Science, University of Missouri-St. Louis, One University Blvd, 347 SSB, St. Louis, MO 63121-4499.

### **Course Descriptions**

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St. Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 1100, \*1220, 1450, 1500, 1550, 1600, 1800, 1820, 1850, 1990, 2000, 2260, 2280, 2290, 2300, 2320, 2350, 2380, 2400, 2420, 2500, 2510, 2520\*,

2530\*, 2540\*, 2550\*, 2560, 2580\*, 2610, 2620, 2650, 2800, 2820, 2900, 3200, 3210, 3220, 3260, 3290, 3300, 3331, 3330, 3340, 3350, 3370, 3390, 3400, 3410, 3420, 3430, 3439, 3440, 3450, 3460, 3470, 3480, 3490, 3570, 3590, 3680, 3690, 3695, 3830, 3840, 3850, 3860, 3890, 3900, 3950, 4060, 4080, 4180, 4460, 4470, 4510, 4550, 4850, 4900, 4940, 4960.

Course fulfills the Humanities or Social Sciences breadth of study requirement: \*Course fulfills Cultural Diversity requirement.

The following courses satisfy the state requirement: Pol Sci 1100, 2260, 2280, 2290, 2300, 2320, 2350, 2380, 2400, 3210, 3300, 3330, 3331, 3350, 3370, 3400, 3450, 4470.

**1100 Introduction to American Politics (3) [V, SS, ST]**  
Introduction to basic concepts of government and politics with special reference to the United States, but including comparative material from other systems.

**1200 Foundations of Law: An Introduction to Legal Studies (3) [MI, V, SS]**  
Same as CCJ 1200 and Interdisciplinary 1200. As a broad liberal arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

**1450 Introduction to Labor Studies (3) [MI, SS]**  
Same as Interdisciplinary 1450. This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. institutional structure, collective bargaining strategies Topics include the role of workers in current and future times, unions' and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and the media.

**1500 Introduction to Comparative Politics (3) [MI, V, SS, CD]**

This course introduces students to western and non-western systems. It examines similarities and differences in the basic political ideologies, structures, economies, social institutions and governmental processes of developed and developing countries. It also provides frameworks for understanding the cultures of the world that are the basis for formal economic and political institutions. In addition, the course examines the role of non-state institutions, including trans-national ones, in shaping national policies. It uses case studies from Africa, Asia, Latin America, as well as Europe, to enhance student understanding of comparative politics.

**1550 Women and Politics in the Developing World (3)**  
**[MI, V, SS, CD]**

Women play a central role in the transformation of political, economic, cultural and gender relations in developing nations. This course examines the political role of women in these transformations. In particular, the course examines ways that modernity, universal education, the market economy and globalization have widened the scope of women's public activities; the emergence of social movements driven by the transformation of economic and political roles brought about by the inclusion of women in the political arena; the re-interpretation of religious doctrines, especially those that emphasize women's "return" to the private sphere and legitimate the denial of women's political rights.

**1600 Contemporary Political Ideologies (3)**

An introduction to the major political ideologies of the world today. Emphasis is placed on democracy, feminism, Marxism, and nationalism.

**1800 World Politics (3)**

An introduction to the field of international relations, covering such topics as nationalism, power, foreign policy-making, diplomacy, war, arms control and disarmament, interdependence, the regulation of conflict, and other aspects of politics among nations.

**1820 Global Issues (3) [MI, SS]**

A freshman- and sophomore-level course designed to introduce students to a range of global concerns, including population, hunger, trade, energy, and the environment. The worldwide implications of these and other problems will be considered, as well as their effects on local communities such as St. Louis.

**1850 Global Ecology (3) [V, SS]**

Must be taken concurrently with Biol 1850 for three hours of biology credit and three hours of political science credit. A course team-taught by the Biology and Political Science departments, combining natural science and social science perspectives in taking a global view of a variety of environmental concerns, such as air and water pollution, climate change, energy use, use and conservation of natural resources, human population ecology and other issues. Examines the underlying scientific dimension, as well as the political-economic-social aspects of problem-solving at local, national and international levels. Features labs and field trips in addition to lecture and discussion.

**1990 The City (3) [MI, V, SS]**

Same as Sociol 1999. An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and Psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

**2000 Political Analysis (3)**

An introduction to political analysis, emphasizing both the logic of inquiry and practical methods. Students learn about the construction and evaluation of theories that relate to real-world politics. They also have an opportunity for hands-on experience with qualitative and quantitative methods including graphics, descriptive statistics, cross-tabular and correlational analysis, hypothesis testing, and computer applications.

**2260 Law and the Individual (3) [ST]**

Same as CCJ 2226. Prerequisite: Pol Sci 1100, or 1200, or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea-bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policymaking and dispute resolution.

**2280 Judicial Politics and Policy (3) [ST]**

Prerequisite: Pol Sci 1100 or 1200, or consent of instructor. This course is an examination of the American state and federal legal systems. Topics examined in this course include an analysis of the structure, organization and function of courts. Emphasis will be placed on the role of juries, judges, attorneys, litigants, and interest groups in the judicial system. The objective of the course is to evaluate courts as political institutions and analyze the policy-making role of judges.

**2290 Women and the Law (3) [ST]**

Legal position of women in the United States, emphasizing constitutional law, criminal law, domestic relations, and fair employment practice laws.

**2300 State Politics (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. An examination of contemporary state politics in the United States; social, economic, and political determinants of policies; federal-state-local relations; elections, interest groups, and participation; executive, legislative, and judicial institutions and policies, and their impact

**2320 African Americans and the Political System (3)**  
**[ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. Examination of the status of African Americans in the context of the American political system. The course will focus on a number of issues, including: attitudes of various publics toward racial concerns; nature of problems in specific policy areas (e.g., unemployment, school desegregation, housing, poverty); representation of African Americans in governmental institutions and the private



sector; and the role of African American leadership and civil rights groups in the political process.

**2350 Introduction to Urban Politics (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor.

Examination of structure and process of politics in the urban community, with emphasis on their relationships to community power structures

**2380 Women in U.S. Politics (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. This course focuses on the relationship between gender and organized politics in the development of women's activism in politics, women United States. Topics to be addressed include the historical as political candidates and elected officials, women's organizations in American politics, women and public policy, women's rights and issues, and women and political leadership. Throughout the class, emphasis will be placed not only on examining the role of women in politics, but also on understanding the role of gender in the construction and evaluation of political institutions, practices and public policies in the United States.

**2400 Public Administration (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. Survey of public administration, with reference to organization, financial administration, personnel management, and judicial control of the administrative process.

**2420 Introduction to Public Policy (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. Study of differing approaches to understanding the public policy process. Course surveys the application of social science to public issues and problems.

**2500 Comparing Different Worlds (3)**

This course focuses on the role of political institutions, economic structures and social groups in explaining differences in forms of government and levels of socioeconomic development. It explores in detail one or more of these themes in cases drawn from developing and developed nations.

**2510 Comparative Politics of Europe (3)**

Prerequisite: Pol Sci 1500 or consent of instructor.

Introduction to the major political systems of Europe. The course will emphasize political culture, political parties, interest groups, and political behavior. It will also focus on political institutions and policy making. While individual countries will be examined separately, the course will also emphasize comparison between systems.

**2520 Middle Eastern Politics (3) [CD]**

Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Survey of political movements, governments, and international conflicts in the Middle East. Islam, nationalism, ideologies, and economic systems will be

studied. The effects of oil and the military will also be considered.

**2530 Political Systems of South America (3) [CD]**

Prerequisite: Pol Sci 1500 or consent of instructor. An introduction to the study of the political systems of South America. Examination of the cultural context that has shaped the political, economic, and social development of states in the region.

**2540 Political Systems of Mexico, Central America, and the Caribbean (3) [CD]**

Prerequisite: Pol Sci 1500 or consent of instructor. An introduction to the study of the political systems of Mexico, Central America, and the Caribbean. Examination of the cultural context that has shaped the political, economic, and social development of these countries.

**2550 East Asian Politics (3) [CD]**

An introduction to the study of the Chinese and Japanese political systems. Examination of the cultural context that has shaped the path of political development for both states.

**2560 Russia and the New Republics (3)**

Prerequisite: Pol Sci 1500 or consent of instructor.

Examination of political-economic conditions responsible for the creation, collapse, and reconstruction of the former Soviet Union, with emphasis on new elites and interest groups, problems of democratic transition, ethnic conflict and socio-economic reform.

**2580 African Politics (3) [CD]**

Prerequisite: Pol Sci 1500 or consent of instructor. An introduction to the nature of societies, governments, and international relations in Africa. The course deals with forms of governance on the continent, regional groupings of states, and persistent conflicts within and among states. Problems of economic underdevelopment, food supplies, health and population trends, and cultural change are analyzed, along with the role of outside major power intervention.

**2610 Ancient and Medieval Political Thought (3)**

Study of political thought from Plato to Machiavelli.

**2620 Modern Political Thought (3)**

Study of political thought from Machiavelli to the present.

**2650 American Political Thought (3)**

History of political thought in the United States from colonial times to the present.

**2800 Model United Nations (1-3)**

Prerequisite: Consent of instructor. Students in this course will be members of the UM-St. Louis delegation to the Midwest Model United Nations, a "mock UN" roleplaying experience involving various universities representing UN member countries. Students are expected to develop

knowledge about the UN and do research on a selected country and issue area (for example, terrorism or economic development). May be repeated up to a maximum of three credit hours.

**2820 United States Foreign Policy (3)**

Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Examination of the factors influencing the formation and the execution of United States foreign policy, with a focus on specific contemporary foreign policy issues.

**2900 Studies in Political Science (3)**

Selected topics in political science.

**3090 American Government for the Secondary Classroom (3)**

Prerequisites: Tch Ed 3310 & Pol Sci 1100, graduate standing or consent of instructor. Same as Sec Ed 3090. Adapts the themes and subject matter of American government to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American government, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Either Hist/Sec Ed 3257 or 3258 or Pol Sci/Sec. Ed. 3209 must be taken the same semester as Hist/Sec Ed 3255 except with special consent of the Social Studies Coordinator. Can be counted towards the Political Science major requirement, but not the American Politics subgroup. Counts towards Social Studies Certification.

**3200 Constitutional Law (3) [ST]**

Prerequisite: Pol Sci 1100, or 1200, or consent of instructor. Study of leading American constitutional principles regarding legislative, executive, and judicial power, federalism, the commerce clause, and economic due process as they have evolved through the important decisions of the U.S. Supreme Court.

**3210 Civil Liberties (3) [ST]**

Prerequisite: Pol Sci 1100, or 1200, or 3200, or consent of instructor. Civil rights in the American constitutional context, emphasizing freedom of religion, freedom of expression, minority discrimination, and the rights of defendants.

**3220 Labor Law (3)**

Prerequisite: Consent of instructor. In this course, participants will examine the role of government in the regulation of labor-management relations in the United States. While the focus of the course will be on federal laws regulating private sector labor relations, parallel issues addressed in the Railway Labor Act and state public sector labor relations law will also be covered. Specific topics include the legal framework for the organization of workers, definition of prohibited or unfair labor practices

of employers and unions, legal regulation of the collective bargaining process, regulation of the use of economic weapons in labor disputes, enforcement of collective bargaining agreements and the regulation of internal trade union activities.

**3260 The Supreme Court (3) [ST]**

Prerequisite: Pol Sci 1100, or Pol Sci 1200, or consent of instructor. An examination of the role, function and assertion of power by the U.S. Supreme Court in our constitutional democracy. Topics include historical overview of the Supreme Court, the process of selecting Supreme Court Justices, life in the Court, Supreme Court decision making, Supreme Court policymaking, implementation and impact of Court decisions and the role of the Supreme Court as a national policymaker. This course fulfills the state requirement.

**3290 Studies in Public Law (3)**

Prerequisite: Pol Sci 1100, or 1200, or consent of instructor. Selected topics in public law. May be repeated.

**3300 The American Presidency (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. Study of the constitutional, political, legislative, and administrative roles played by the American chief executive in the development of public policy.

**3330 Introduction to Political Behavior (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. An introduction to political behavior employing perspectives from both political psychology and political sociology. Subjects include political socialization, the character of public opinion, citizen participation, group dynamics, the social determination of reality, and the underlying bases of leadership and authority.

**3331 Congressional Politics (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. An examination of the Congress of the United States, its history and evolution, its contemporary politics, and its role in the national policy-making process. Topics include candidate recruitment, campaigns and elections, representation, committees, legislative leadership, roles and norms, voting alignments, lobbyists and interest groups, oversight of administration, and House-Senate comparisons. The role of Congress in foreign policy, economic policy, and social-welfare policy will be examined.

**3340 Politics and the Media (3)**

Prerequisite: Pol Sci 1100 or consent of instructor. An analysis of the role the media play in shaping American political life. The first part of the course examines the organizational structures, the economic and psychic incentives, and the social and professional norms that define how television and newspapers report news about public affairs. The second part then considers the nature of a mass-communications society by looking at how reality

is defined, the susceptibility of mass publics to persuasion and propaganda, the peculiar form of media election campaigns, and the manner in which the media link changes the basic character of a citizenry.

**3350 Political Parties and Elections (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. An examination of the part played by parties and elections in American politics. Topics include the historical development of the party system, the organization and management of political parties and campaigns, contemporary changes in the nature of electoral politics, and the effects of elections on public policy.

**3370 Mock Constitutional Convention (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. An active exercise in political imagination. Students make proposals and bargain with each other to write a constitution for the United States in the 21st century. Students are encouraged to develop new views of what is a desirable society and to gain a richer appreciation of how practical politics are conducted. The course is designed for majors and nonmajors who enjoy political discussion and have a genuine interest in political life.

**3390 Studies in American Politics (3)**

Prerequisite: Pol Sci 1100 or consent of instructor. Selected topics in American politics. May be repeated.

**3400 Bureaucratic Politics (3) [ST]**

Prerequisite: PolSci 1100 or consent of instructor. Examination of the policy-making process within public organizations and the forces influencing the making of bureaucratic policy. Study of the role of the bureaucracy as one of several "actors" in the larger policy process.

**3410 Politics of Business Regulation (3)**

Prerequisite: Pol Sci 1100 or consent of instructor. This course will examine the role of governmental decision-making processes in regulatory policy, including congressional politics, presidential initiatives, administrative rulemaking, and society wide constraints. The impact of government regulation and alternative means for accomplishing regulatory goals (e.g., mandatory standards or incentive systems) will also be considered. Bureaucratic incentives and the role of the courts will be emphasized. Selected areas of regulation which may be covered include: equal employment policies, occupational health and safety policies, environmental policies, employment policies, and urban policies.

**3420 Public Personnel Management (3)**

Prerequisite: Pol Sci 1100, or 2400, or consent of instructor. A study of personnel practices in the public sector, including recruitment, job development, labor relations, and administration of equal employment/affirmative action programs.

**3430 Union Leadership and Administration (3)**

Prerequisite: Consent of instructor. This course will focus on the roles and challenges of union leadership in a changing environment. Topics will include the union leader's roles as representative, organizer and educator as well as administrative responsibilities within the union and the relationship with enterprise management in both adversarial and participatory situations. Options for leadership style and organizational models will be discussed and explored in both theory and practice. Leaders will develop their skills of motivation, speaking, strategic planning and managing complex campaigns and diverse organizations.

**3439 Studies in Policy Formation (3)**

Prerequisite: Consent of instructor. Selected topics in policy formation. May be repeated.

**3440 Public Budgeting (3)**

Prerequisite: Pol Sci 1100 or consent of instructor. Budgeting is the study of "who gets what" and who pays for it. This course examines the administration and politics of federal, state, and local government budgets. Students gain experience in interpreting budget documents and making budget choices, using electronic and other resources.

**3450 Urban Administration (3) [ST]**

Prerequisite: Pol Sci 1100 or consent of instructor. Study of administrative machinery and practices of metropolitan government, how metropolitan areas organize themselves to provide services, how urban policies are made and implemented, how budgeting and personnel recruitment processes operate, and how these relate to urban policies.

**3460 The Politics of Poverty and Welfare (3)**

Prerequisite: Pol Sci 1100 or consent of instructor. An examination of the structure of income inequality in the U.S. and public policies designed to redistribute wealth and to treat poverty. The history of welfare programs, the growth of the welfare state, and attempts to cut social spending are closely examined.

**3470 Collective Bargaining (3)**

Prerequisite: Consent of instructor. This course involves a study of collective bargaining processes including contract negotiations, contract administration, and methods for the resolution of bargaining disputes. Both theoretical and applied issues in collective bargaining will be addressed. Specific topics include the economic determination of bargaining power, legal constraints on the bargaining process, negotiations strategies and techniques, and the use of mediation and arbitration in the resolution of bargaining disputes.

**3480 Environmental Politics (3)**

Prerequisite: Pol Sci 1100 or consent of instructor. This course examines the process of environmental policy-making and key environmental issues. Topics include

national and international policies toward air and water pollution, energy use, solid and toxic waste disposal, global warming, overpopulation, and wilderness and wildlife conservation.

**3490 Studies in Public Administration (3)**

Prerequisite: Pol Sci 1100, or 2400, or consent of instructor. Selected topics in public administration. May be repeated.

**3570 Gender, Race and Public Policy (3)**

Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Raises the question as to whether "more women in politics," stemming from diverse economic, racial, ethnic backgrounds and age groups, will necessarily result in better policies for women and men. Compares gendered and racialized impacts of a wide array of public policies (in the areas of education, employment, health care, welfare, and reproductive technologies) across a broad sample of advanced industrial societies. Analyzes the "empowerment" potential of new equality policies being generated at the international and supranational levels (e.g., in the UN and the European Union).

**3590 Politics, Leadership and the Global Gender Gap (3)**

Prerequisites: Pol Sci 1500 or consent of instructor. Compares women's day-to-day leadership and participation patterns across a wide variety of political-economic contexts, emphasizing their performance as elective and administrative office holders. It examines the experiences of individual female leaders, long-term nomination and recruitment strategies, and the larger political opportunity structure awaiting women beyond the year 2000.

**3595 Studies in Comparative Politics (3)**

Prerequisite: Pol Sci 1500 or consent of instructor. Selected topics in comparative politics. May be repeated.

**3680 Feminist Political Theory (3)**

A study of the history of feminist political thought with an emphasis on contemporary concerns. Issues to be considered include the feminist theories of the state, gender and justice, and equality and difference.

**3690 The Marxist Heritage (3)**

Same as Phil 3369 and ID 3690. Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

**3695 Studies in Political Theory (3)**

Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Selected topics in political theory. May be repeated.

**3830 International Political Economy (3)**

Prerequisite: Introduction to international political economy. In particular, it will focus on the politics of

international trade, finance, and investment. It will analyze the relationships between developed and developing countries, and it will assess the relative usefulness of alternative frameworks for studying international political economy.

**3840 European International Relations (3)**

Prerequisite: Pol Sci 1100, or 1500 or consent of instructor. European international relations since World War II. Emphasis upon developments from the Cold War to Détente emphasizing such concepts as containment, Truman Doctrine, Marshall Plan, NATO, WTO, community building, force structures, and security.

**3850 International Organizations and Global Problem Solving (3)**

Prerequisite: Pol Sci 1100 or 1500, or consent of instructor. Introduction to the study of international organization. The course focuses on relationships between nation-states and "nonstate" actors (e.g., global intergovernmental organizations such as the United Nations, and nongovernmental organizations such as multinational corporations) in world politics and on the role of international institutions in such problem areas as economic development, management of resources, and control of violence across national boundaries.

**3860 Studies in War and Peace (3)**

Prerequisites: Junior standing and Pol Sci 1100, or 1500, or consent of instructor. Exploration, development, and testing of theories about the causes and consequences of war, peace, and conflict among nations. A broad range of literature on war and peace will be reviewed and applied to crisis situations in the international system.

**3890 Studies in International Relations (3)**

Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Selected topics in international relations. May be repeated.

**3900 Special Readings (1-10)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated.

**3940 Public Affairs Internship (1-6)**

Prerequisites: Junior standing and consent of instructor. Independent study involving work with an appropriate public or private agency. A maximum of 6 credit hours may be earned.

**3950 Senior Seminar in Political Science (3)**

Prerequisites: Senior standing and consent of instructor. Required of all political science majors in their last year of course work as an integrative capstone experience. Emphasis is on student-faculty interaction in a seminar format designed to engage upper-level students in a critical examination of a broad theme in political science, leading to the production of a major research paper. Topics vary.

May be repeated. This course is not available for graduate student credit.

**4040 Survey Research Practicum (3)**

Same as Econ 4140 and Sociol 4040. Prerequisites: Junior standing and consent of the instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results.

**4060 Theory of Decisions and Games (3)**

Prerequisite: Six hours of Philosophy and junior standing, Pol Sci 6401 (or the equivalent) or consent of instructor. Same as Phil 4465. A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content.

**4080 Program Evaluation (3)**

Prerequisites: Pol Sci 1100, or 2400, and one of the following: BA 3300, Sociol 3200, CCJ 2220, or consent of instructor. Study of techniques and applications for evaluating the impact of public programs.

**4180 Social Choice in Political-Economic Systems (3)**

Prerequisites: Two courses in Economics, Political Science, or Sociology. A study of the mechanisms of social choice from the standpoint of individuals and institutions maximizing their objectives. This area draws on work done by sociologists, political scientists, and economists.

**4460 Urban Planning and Politics (3) [ST]**

Prerequisite: Pol Sci 1100, or 2400, or consent of instructor. Examination of the political processes of urban areas as they relate to the planning of services and facilities.

**4470 Introduction to Environmental Law and Policy (3)**

Prerequisite: Senior or graduate standing or consent of instructor. Survey of the most prominent federal laws governing environmental compliance and pollution control. Examines laws applicable to environmental impact statements, air pollution, water pollution, and hazardous waste. Addresses policy concerning the relative merits of using technological capabilities as compared with health risks in setting environmental standards. Discusses the need for environmental regulation to protect societal resources.

**4510 Comparative Public Policy and Administration (3)**

Prerequisite: Pol Sci 1500 or consent of instructor. A comparative study of the characteristics of public administrators, their institutions and environments in Western democratic, developing nations, and communist political systems.

**4550 Democratization in Comparative Perspective (3)**

Prerequisite: Pol Sci 1500 or consent of instructor. This course explores the meaning of democracy and the nature of transitions to democracy, particularly the processes of political liberalization and democratization that follow the breakdown of authoritarian rule. Cases will be drawn from Latin America and other regions.

**4850 International Law (3)**

Prerequisite: Pol Sci 1100, or 1500, or consent of instructor. Study of the international legal system, including the content and operation of the laws of war and peace, how law is created and enforced with regard to the oceans and other parts of the globe, and the relationship between international law and international politics.

**4900 Topics in Political Science (3)**

Prerequisites: Pol Sci 1100 or consent of Instructor. Selected topics in political science.

**4911 Management Issues in Nonprofit Organizations: Staff Management Issues (1)**

Prerequisite: Junior Standing. Same as SW 4911 and PPA 4911. This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; and legal issues that affect these processes.

**4912 Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)**

Prerequisite: Junior Standing. Same as SW 4912 and PPA 4912. This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

**4913 Management Issues in Nonprofit Organizations: Financial Issues (1)**

Prerequisite: Junior Standing. Same as SW 4913 and PPA 4913. This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets,

cash flow statements, statements of activity, and operating and capital budgets.

**4940 Leadership and Management in Nonprofit Organizations (3)**

Same as PPA 4940, SW 4940, and Sociol 4940.

Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and sector, the role of volunteerism in a democratic management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent society, and the role and scope of philanthropy. Topics include the dynamics, functions and membership voluntary organization management and leadership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

**4960 American Philanthropy and Nonprofit Resources Development (3)**

Prerequisite: Junior standing or consent of instructor.

Same as SW 4960 and PPA4960. This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, from planning through donor relations.

**6400 Analytic Perspectives in Political Science (3)**

An introduction to the graduate study of political science. The course presents a number of analytic approaches to the scientific examination of a wide variety of political phenomena.

**6401 Introduction to Policy Research (3)**

Same as PPA 6010. Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

**6402 Intermediate Techniques in Policy Research (3)**

Prerequisites: Graduate standing and Pol Sci 6401. Elementary distribution theory, statistical inference, and an introduction to multiple regression. Emphasis on practical applications.

**6403 Advanced Techniques in Policy Research (3)**

Prerequisites: Graduate standing and Pol Sci 6402. Selected topics in policy research emphasizing forecasting, modeling, and estimation.

**6404 Multi-Method Research Design (3)**

Prerequisites: Pol Sci 6403 or consent of instructor. Develops policy research skills that combine qualitative

and quantitative social science tools and applies an appropriate mix of these tools to specific policy problems. Topics include alternative approaches to causal analysis, levels of analysis, triangulation from a variety of qualitative and quantitative research techniques, building contextual effects into multiple research projects, techniques for assessing alternative program theories and clarifying implicit assumptions, and meta-analysis of secondary data sources.

**6405 Directed Readings in Research Methods (1-10)**

Independent study through readings, reports, research projects, and conferences.

**6406 Survey Research Methods (3)**

Prerequisites: An introductory statistics course (such as Soc. 3220 or consent of instructor. A course on the principles and procedures for conducting survey research. Topics include: forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

**6410 Introduction to Policy Analysis (3)**

Same as PPA 6000. Systematic development of a critical/analytic base for dealing with public policy.

**6411 Seminar in Policy Analysis (3)**

Prerequisite: Pol Sci 6410. Evaluation and criticism of contemporary public policies in selected areas.

**6414 Topics in Public Policy Analysis (3)**

Intensive analysis of a specific public policy area such as housing, budgeting, integration, planning, metropolitan reorganization. Course may be repeated.

**6415 Directed Readings and Research in Public Policy (1-10)**

Same as PPA 6150. Prerequisite: Consent of Instructor. Independent study through readings, reports, research projects, and conferences. May be repeated for credit, provided the subject matter is different.

**6416 Family Policy (3)**

Prerequisites: SW 5200 or equivalent or consent of instructor and graduate standing. Same as SW 5200 and Sociol 6200. Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and intended and protection, and child and youth development. Unintended consequences of existing policies on the family will be examined as well as future policy directions.

**6417 Income and Pension Policy for the Aged (3)**

Prerequisite: Graduate standing or consent of instructor. Same as Ger 6417 and PPA 6170 and SW 6417. MSW student normally take the social policy foundation course

prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

**6418 Social and Economic Development Policy (3)**

Prerequisites: SW 5200 or equivalent or consent of instructor and graduate standing. Same as SW 6250. Examines major trends and alternatives in social and economic development policy in state, national, and international perspectives. Students will develop skills in policy analysis and development.

**6419 Cases in Public Policy Analysis (3)**

Intensive analysis of several public policy cases. Cases will be problem-solving exercises in areas such as personnel management, program financing, budget preparation, and planning.

**6420 Proseminar in Public Law (3)**

Prerequisite: Graduate standing. Study of judicial systems and processes (judges, courts, litigants, and juries) and evaluation of legal policies (compliance, impact, and deterrence).

**6421 Seminar in Public Law (3)**

Research problems and designs, models and approaches to the study of public law. May be repeated for credit when the subject matter is different.

**6422 Law, Courts, and Public Policy (3)**

Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review, discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

**6425 Directed Readings and Research in Public Law (1-10)**

Independent study through readings, reports, research projects, and conferences.

**6430 Proseminar in American Politics (3)**

Study of individual and group political behavior, including socialization, participation, consensus formation, representation, and legislative and judicial behavior.

**6431 Seminar in American Politics (3)**

Research problems and design in American political process and behavior. May be repeated for credit when the subject matter is different.

**6432 Intergovernmental Relations (3)**

Prerequisite: Graduate standing. In the United States, nearly all domestic policy is implemented through an extremely complex intergovernmental system in which the federal government administers grants-in-aid or sets standards for states and localities that administer programs. This course will analyze this policy system by: (1) tracing the origins and evolution of American federalism; (2) analyzing the grants-in-aid system, especially the New Deal; (3) comparing the United States system with federal and unitary policy systems in other industrialized nations.

**6433 Elections, Public Opinion, and Public Policy (3)**

Prerequisite: Graduate standing. This course provides an opportunity for graduate students to examine electoral politics and democratic governance. It includes an historical review of the dynamics of the American party system, paying particular attention to the ways that politicians translate social and economic change into the political system. It surveys the scientific community's understanding about mass political behavior, covering such topics as the nature of political beliefs, partisanship, political trust, tolerance, ideology, motives for participation, and so on. Then it gives particular attention to the instruments that seem to shape public opinion - the family, the social peer group, and the mass media. Finally, it presents analyses of the contemporary political system in terms of the links between citizen preferences, electoral outcomes, and the government's provision of public policies.

**6435 Directed Readings and Research in American Politics (1-10)**

Independent study through readings, reports, research projects, and conferences.

**6440 Proseminar in Public Administration (3)**

Same as PPA 6400. Examination of major approaches to analyzing public policies and their administration. Emphasis is on the effects of administrative organization and procedures on policy decisions and their impacts. Specific topics may include administrative accountability, intergovernmental relations, public-private interaction, implementation processes, bureaucratic expertise, the legal environment of public policy administration, and public service and merit issues.

**6441 Seminar in Public Administration (3)**

Research problems and design in public administration. May be repeated for credit when the subject matter is different

**6442 The Policy Process (3)**

Prerequisite: Graduate standing. The course will require a major research project using federal documents and other primary sources of information about the United States policy process. Topics will include the sources of public policy; the policy agenda; policy design, legitimation, and implementation.

**6443 Health Care Policy (3)**

Prerequisite: Graduate standing or consent of instructor. Same as PPA 6430 Ger 6443 and SW 6443. (MSW students will normally take the social policy foundation course before enrolling in this course). Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

**6444 Seminar in Public Policy and Aging (3)**

Same as PPA 6444 and Ger 6444. Prerequisite: Consent of instructor. The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.

**6445 Directed Readings and Research in Public Administration (1-10)**

Independent study through readings, reports, research projects, and conferences.

**6446 Selected Topics in Health Care Policy (3)**

Same as PPA 6460 and Sociol 6446. Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

**6447 Seminar in Public Policy (3)**

Prerequisite: Graduate Standing. Research seminar aimed at producing a substantial research project in the areas of public policy processes and outcomes. The seminar may focus on specific policy processes such as agenda-setting, policy formulation, or policy adoption, or it may focus on the politics of specific policy areas such as environmental programs, social legislation or regulation. May be repeated for credit when the subject matter is different.

**6448 Political Economy and Public Policy (3)**

Prerequisite: Graduate standing. This course examines political economy in its contemporary manifestations as public choice and as the study of the ways in which institutional power shapes economic policies and performance. The course explores the origins and major concepts of political economy, the institutions of economic policy-making and economic policies in the U.S. It emphasizes the consequences of budget constraints, inflation, unemployment, and sectoral decline on the design and administration of public programs at all levels of government.

**6449 Human Resources in the Public Sector (3)**

Prerequisite: PPA 6600 or consent of instructor. Same as SW 6449 and PPA 6490. Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to

the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

**6450 Proseminar in Comparative Politics (3)**

Classification and topology of political systems; structural-functional analysis; political culture, ideology, affiliation and participation; decision-making processes; political roles; organization of authority.

**6451 Seminar in Comparative Politics (3)**

Research problems and design in comparative politics. May be repeated for credit when the subject matter is different.

**6452 Public Policy of Conservation and Sustainable Development (3)**

Same as Biol 6250. Prerequisites: Graduate standing in Political Science or Biology and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of environmental policymaking in developing and developed economies.

**6455 Directed Readings and Research in Comparative Politics (1-10)**

Independent study through readings, reports, research projects, and conferences.

**6457 Seminar in East Asian Politics (3)**

Prerequisite: Graduate standing or consent of instructor. Study of concepts and research on the political culture, ideology, groups, political processes and institutions, and policy outcomes in the Chinese and/or Japanese political systems.

**6458 Seminar in European Politics (3)**

Prerequisite: Graduate standing or consent of instructor. Study of national political cultures, ideologies, regional security issues, national as well as supranational political institutions, and policy processes in Europe, with emphasis on post Cold-War developments.

**6459 Seminar in Latin American Politics (3)**

Prerequisite: Graduate standing or consent of instructor. This course focuses on the twin issues of economic and political change in Latin America. It explores shifts from open free-market models and provides tools to assess recent transitions from authoritarianism to democracy.



Country cases include Mexico, Brazil, Argentina, Chile. Two Central American countries, El Salvador and Nicaragua plus Cuba also will receive attention.

**6460 Proseminar in Political Theory (3)**

Study of concepts and problems in normative political theory.

**6461 Seminar in Political Theory (3)**

Research problems and design in political theory. May be repeated for credit when the subject matter is different.

**6462 Political Theory and Public Policy (3)**

This course covers the ideological and ethical context of public policy and public policy analysis. Special attention is given to the way in which different contexts produce both different public policy and different ways of understanding public policy. Questions addressed include accountability, professionalism, freedom, justice, equality, and, in general, ethical issues faced by both the policy maker and the policy analyst.

**6465 Directed Readings and Research in Political Theory (1-10)**

Independent study through readings, reports, research projects, and conferences.

**6470 Proseminar in Urban Politics (3)**

Examination of the relationships among the social, economic, and political systems of urban areas. Urban political structure, patterns of influence, political participation, and communication and political change. Special attention to problems of access to and control of urban political systems.

**6471 Seminar in Urban Politics (3)**

Research problems and design in urban and regional politics. May be repeated for credit when the subject matter is different.

**6475 Directed Readings and Research in Urban Politics (1-10)**

Independent study through readings, reports, and conferences.

**6480 Proseminar in International Relations (3)**

Examination of various approaches to the study of international politics and foreign policy, focusing on studies of conflict, decision making, international political economy, and related topics. Included are realist, idealist, and Marxist perspectives.

**6481 Seminar in International Relations (3)**

Research problems and design in international politics. May be repeated for credit when the subject matter is different.

**6482 International Political Economy (3)**

Prerequisite: Graduate standing. This course will examine the theoretical and policy issues of international political economy. In particular, it will focus on the politics of international trade, finance and investment. It will also analyze the themes of interdependence, hegemony, and dependency, as well as consider relations between developed and developing countries. Finally, the relative usefulness of liberal, Realist and Marxist approaches to the study of international political economy will be weighed.

**6485 Directed Readings and Research in International Relations (1-10)**

Independent study through readings, reports, research projects, and conferences.

**6488 Studies in International Relations (1-6)**

Prerequisite: Graduate standing. Selected topics in international studies. May be repeated for credit provided the topic of the course is different each time.

**6490 Strategic and Program Planning for Nonprofit Organizations (3)**

Prerequisites: Graduate standing or consent of instructor. Same as PPA 6550 and SW 6491. Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, a vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

**6494 Thesis Research (1-10)**

Arranged.

**6495 Internship (1-6)**

Independent study involving work with an appropriate public or private agency.

**7499 Dissertation Research (1-10)**

Arranged

**Department of Psychology****Faculty**

**Robert J. Calsyn**, Professor\*, Chairperson  
Ph.D., Northwestern University

**Gary K. Burger**, Professor\* Emeritus  
Ph.D., Loyola University

**James A. Breough**, Professor\*+  
Ph.D., Ohio State University

**Michael Harris**, Professor\*+  
Ph.D., University of Illinois-Chicago

**Edmund S. Howe**, Professor Emeritus  
Ph.D., University of London

**Alan G. Krasnoff**, Professor Emeritus  
Ph.D., University of Texas

**Samuel J. Marwit**, Professor\*  
Ph.D., State University of New York at Buffalo

**Miles L. Patterson**, Professor\*,  
Ph.D., Northwestern University

**Jayne E. Stake**, Professor\*, Director, Doctoral Program in  
Clinical Psychology  
Ph.D., Arizona State University

**George T. Taylor**, Professor\*, Director, Doctoral Program  
in Experimental Psychology  
Ph.D., University of New Mexico

**Brian Vandenberg**, Professor\*  
Ph.D., University of Rochester

**James T. Walker**, Professor Emeritus  
Ph.D., University of Colorado

**Dominic J. Zerbolio, Jr.**, Professor Emeritus  
Ph.D., Michigan State University

**Carl Bassi**, Associate Professor\*'  
Ph.D., Vanderbilt University

**Steven E. Bruce**, Associate Professor,  
Director, Center for Trauma Recovery  
Ph.D., Virginia Commonwealth University

**Michael G. Griffin**, Associate Professor\*  
Ph.D., University of Missouri-St. Louis

**Therese M. Macan**, Associate Professor\*  
Director, Doctoral Program in Industrial/  
Organizational Psychology  
Ph.D., Rice University

**Paul W. Paese**, Associate Professor\*,  
Ph.D., University of Illinois

**Ann M. Steffen**, Associate Professor\*,  
Ph.D., Indiana University

**Mark E. Tubbs**, Associate Professor\*,  
Ph.D., University of Houston

**Terri D. Conley**, Assistant Professor,  
Ph.D., University of California – Los Angeles

**Thomas D. Fletcher**, Assistant Professor  
Ph.D., Old Dominion University

**Donald D. Lisenby**, Assistant Professor Emeritus  
Ph.D., Washington University

**Michael J. Stevens**, Assistant Professor+  
Ph.D., Purdue University

**Kamila S. White**, Assistant Professor  
Ph.D., Virginia Commonwealth University

**Robert N. Harris**, Clinical Professor\*  
Ph.D., University of Kansas

**Tara Galovski**, Research Assistant Professor  
Ph.D., University of Albany-State University of New York

**Jennifer Siciliani**, Affiliate Assistant Professor\*,  
Director, Undergraduate Advising  
Ph.D., University of Tennessee-Knoxville

**Dyan W. Harper**, Adjunct Professor,  
Ph.D., Northern Illinois University

**Gary A. Morse**, Adjunct Professor  
Ph.D., University of Missouri-St. Louis

**Larry O'Leary**, Adjunct Associate Professor  
Ph.D., Saint Louis University

**John W. Rohrbaugh**, Adjunct Associate Professor  
Ph.D., University of Illinois-Urbana Champaign

**David E. Smith**, Adjunct Associate Professor  
Ph.D., Colorado State University

**Alene S. Becker**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Lee Konzak**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Sandra K. Seigel**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**Mary K. Suszko**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**James H. Wallhermfecht**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**Audrey T. F. Wiener**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**David F. Wozniak**, Adjunct Assistant Professor  
Ph.D., Washington University

\* members of graduate faculty

+ Primary appointment in the College of Business  
Administration

' Primary appointment in College of Optometry

# Primary appointment in Kathy J. Weinman Children's  
Advocacy Centre

**General Information**

**Degrees and Areas of Concentration.** The Psychology department offers work leading to the B.A. degree in Psychology. In conjunction with course work in the department, students have the opportunity to do research in a variety of areas, including animal and human learning, physiological, industrial/organizational, cognitive, personality-social, developmental, clinical, and community psychology. Students should consult with their adviser in selecting a program of study. However, the department offers a number of focused areas of study as an aid to students in selecting courses. These include developmental psychology, community mental health, and industrial/organizational psychology.

The department also offers a terminal M.A., as well as three Ph.D. programs: clinical psychology, experimental psychology, and industrial/organizational psychology.

**Facilities.** Among the department's physical facilities are animal and human experimental laboratories and a wide range of research equipment, including portable videotaping systems.

**Minor in Psychology.** The department offers a minor in Psychology to students who have a special interest in this field but wish to major in another discipline.

### Undergraduate Studies

#### General Education Requirements

Majors must satisfy the university and college general education requirements. Courses in Psychology may be used to meet the social sciences requirement.

Majors may not take Psychology courses on a satisfactory/unsatisfactory basis.

#### Undergraduate Psychology Office

Advisers in the Undergraduate Psychology Office (110 Stadler Hall, 516-4561) are available to provide specific information on degree requirements and course offerings, answer questions about career options, and information about graduate work in Psychology.

### Degree Requirements

#### Bachelor of Arts in Psychology

At least 31, but no more than 45, hours must be completed in courses taught by or cross listed with the Psychology department. Candidates must have a cumulative grade point average of 2.0 or better in the major. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the major.

The following core curriculum is required:

**Psych 1003**, General Psychology  
**2201**, Psychological Statistics  
**2219**, Research Methods

**Note:** Students must fulfill the university's mathematical skills requirement before taking Psy 2201, Psy Statistics. Psy 2201 is a prerequisite for Psy 2219.

In addition to the core curriculum, at least 21 additional credit hours in Psychology must be taken. At least three of these courses totaling a minimum of 9 hours must be at the 3000 or 4000 level. Multiple enrollments in Psychology 3390, Directed Studies, count as no more than one 3000 or 4000 level course. No more than 6 hours of independent study courses Psy 3295, Selected Projects in Field Placement, and Psy 3390, Directed Studies may be counted toward the 31-hour minimum needed for graduation.

### Graduate School Preparation

In addition to the core curriculum, students planning to pursue doctoral studies in Psychology are advised to take Psych 4361, History and Systems of Psychology, and at least one laboratory course in psychology.

Students intending to pursue graduate programs in clinical psychology should, in addition, take courses from the following group:

**2160**, Social Psychology  
**2211**, Physiological Psychology  
**2212**, Principles of Learning  
**2216**, Personality Theory  
**2245**, Abnormal Psychology  
**2270**, Developmental Psychology: Infancy, Childhood & Adolescence  
**2272**, Developmental Psychology: Adulthood and Aging

Students are also encouraged to become involved in independent research Psych 3390, Directed Studies.

### Developmental Psychology

This focus area is ideal for double majors in education and Psychology and for Psychology majors with a general interest in the area of development. In addition to the core curriculum, students are advised to take at least five of the following Psychology courses with at least two at the 3000 or 4000 level:

**2216**, Personality Theory  
**2270**, Developmental Psychology: Infancy, Childhood & Adolescence  
**2272**, Developmental Psychology: Adulthood and Aging  
**3295**, Selected Projects in Field Placement  
**3340**, Clinical Problems of Childhood  
**4305**, Cognitive Development  
**4306**, Social Development  
**4349**, Human Learning and Memory  
**4356**, Thinking and Cognition  
**4373**, Psychology of Aging  
**4376**, Mental Health and Aging

### Community Mental Health

Designed for students interested in counseling and community programs, this focus area is especially suitable for double majors in another social science, particularly in social work and sociology. In addition to the core curriculum, students are advised to take at least five of the following courses in Psychology, with at least two at the 3000 or 4000 level:

**2160**, Social Psychology  
**2161**, Helping Relationships  
**2225**, Behavior Modification  
**2232**, Psychology of Victims  
**2245**, Abnormal Psychology  
**2256**, Environmental Psychology  
**3295**, Selected Projects in Field Placement  
**3340**, Clinical Problems of Childhood

3346, Introduction to Clinical Psychology  
4235, Community Psychology  
4365, Psychological Tests and Measurements  
4376, Mental Health and Aging

**Industrial/Organizational.** This focus area is designed for students interested in human resource management, performance assessment, personnel training, organizational behavior, and related fields. This area would be suitable for Psychology majors pursuing either a double major or a minor in business administration. In addition to the core curriculum, students are advised to take the following five Psychology courses.

2160, Social Psychology  
3317, Social Psychology of Conflict and Negotiation  
3318, Industrial and Organizational Psychology  
3320, Personnel Assessment  
4365, Psychological Tests and Measurement

Students interested in this area might also wish to consider one or two of the following courses which are offered outside the Psychology department:

BA 3600, Management as a Behavioral Science I  
BA 3611, Management as a Behavioral Science II  
BA 3622, Industrial and Labor Relations  
BA 3624, Employee Training and Development  
Sociology 4040, Survey Research Practicum

#### Requirements for the Minor

Candidates must take a minimum of 15 hours in courses taught by or cross-listed with the Psychology department, including at least 6 hours at the 3000 or 4000 level.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

#### Graduate Studies

##### Admission Requirements

In addition to meeting the general admission requirements of the Graduate School, applicants should have completed undergraduate courses in general psychology, psychological statistics, and research methods. Each doctoral program has additional admission requirements specific to the program.

##### Teaching Assistantships

Stipends for teaching assistantships are available for the doctoral programs only. Most educational fees are waived for teaching assistants.

##### Applications

Each program has its own deadline for completed applications. They are as follows:

#### Ph.D. in Psychology:

Clinical Psychology--January 15  
Industrial/Organizational Psychology--February 1  
Experimental Psychology--February 1

#### M.A. in General Psychology--February 1

#### Master of Arts in Psychology

The University of Missouri-St. Louis offers a flexible program of studies leading to the master of arts degree in general Psychology. Course work is possible, depending upon student demand, in several areas of experimental and applied Psychology (e.g., Psychobiology and behavioral neuroscience; human learning, memory, and cognition; industrial/organizational psychology). The M.A. degree does not constitute a license to practice in Missouri or elsewhere as a professional psychologist. The M.A. program does not offer course work in either counseling or clinical psychology.

There is no thesis or language requirement. Part-time or full-time enrollment is permissible. The M.A. degree is a terminal degree and is separate from the Ph.D. program in Psychology.

The M.A. in Psychology requires a total of 32 semester hours of course work. Students must take the following set of quantitative courses:

7421, Quantitative Methods I  
7422, Quantitative Methods II

Elective courses will constitute the remaining hours needed for the degree. All programs of study for M.A. students require the approval of a member of the departmental M.A. advisory committee.

#### Ph.D. in Psychology

The doctoral program is organized around courses and directed research experience that emphasize the scientific approach to the study of psychology. Courses in the areas of quantitative methods, design and methodology, personality, motivation, social psychology, learning, and cognition are focal in the program.

#### Ph.D. Programs

There are three distinct programs: Clinical, Experimental, and Industrial/Organizational. Each has its own specific course and research requirements. Handouts describing these requirements are available from the department on request. The following briefly describes each program.

**Clinical Psychology.** The clinical psychology program has been fully accredited by the American Psychological Association since 1977 and is patterned upon the scientist-practitioner model of clinical training. The clinical psychology program requires five years of full-time study. Students are not considered for admission on a part-time basis. Through the medium of courses, practicum, and

research experiences, this emphasis area prepares clinical psychologists for careers in research, teaching, and clinical practice.

Students in the clinical psychology program participate for three years in the Psychology Department's Community Psychological Service. This facility provides psychological services to the public and consultation to outside agencies. Students also receive clinical experience in clerkships and during a full-time year-long internship. Research requirements include an initial independent research project, a major critical review of research in a specialty area, and a dissertation.

**General Experimental Psychology.** The general experimental program provides opportunities for study and research in the areas of cognitive psychology and behavioral neuroscience. Full-time enrollment is encouraged, although part-time enrollment is possible.

**Industrial/Organizational Psychology.** The industrial/organizational psychology program is offered in cooperation with selected faculty from the College of Business to prepare students for careers in industry or academia. This emphasis provides "industrial" training in areas such as personnel selection, training, and test development/validation, as well as "organizational" training in areas such as work motivation, leadership, and group processes. Research and other training experiences in various settings are also incorporated.

### Certificate Programs

#### Clinical Psychology Respecialization-Advanced Graduate Certificate Program

This program is designed for graduates of accredited doctoral programs in psychology who wish to receive training in the specialty field of clinical psychology. Respecialization students are trained within the context of the UM-St. Louis Clinical Psychology Doctoral Program, which is accredited by the American Psychological Association. The program provides an integrated sequence of training experiences, including didactic course work and practicum placements. Core graduate-level psychology educational requirements not completed elsewhere are included in the respecialization student's course of study.

#### Graduate Certificate in Trauma Studies

The graduate certificate is awarded upon the completion of 18 credit hours of coursework on the topic of trauma studies. No more than nine hours of graduate level independent research or fieldwork may be used for the certificate. The coursework for the certificate must be taken in at least two departments and may include no more than three hours at the undergraduate 3000 or 4000 level. The courses meeting the requirements for the certificate include:

**Criminology 3325**, Gender, Crime, and Justice  
**Criminology 4350**, Victimology

**Criminology 6432**, Criminal Law  
**Criminology 6443**, Violent Crime  
**Criminology 6446**, Sex Crimes  
**Criminology 6448**, Victimization  
**Psychology 7447**, Trauma and Recovery  
**Psychology 7408**, Psychological Perspectives on Death and Dying  
**Psychology 4398/Social Work 4398**, Child Maltreatment: A Multidisciplinary Approach  
**Social Work 3601**, Child Abuse and Neglect  
**Psychology 4399/Social Work 4399**, Seminar: Child Sexual Abuse

### Career Outlook

The undergraduate major in Psychology can lead to further training at the graduate level, function as a major within a general liberal arts degree, or offer some degree of specialization in such areas as developmental psychology, industrial/organizational psychology, and community mental health. Job opportunities with a bachelor's degree include working in business, social welfare, and health care. For more career information see an adviser in the Undergraduate Psychology Office (Room 110 Stadler). To function specifically as a psychologist, a graduate degree is required. Students with such an interest should plan for this additional training. For additional information, visit the American Psychological Association web site ([www.apa.org/students](http://www.apa.org/students)).

### Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences and in that Bulletin: 1003, 1268, 2102, 2140, 2160, 2161, 2200, 2201, 2211, 2212, 2216, 2219, 2222, 2225, 2230, 2232, 2245, 2256, 2270, 2272, 3295, 3302, 3316, 3317, 3318, 3320, 3340, 3345, 3346, 4235, 4300, 4305, 4306, 4307, 4308, 4310, 4311, 4312, 4314, 4330, 4349, 4356, 4357, 4361, 4365, 4373, 4374, 4375, 4376, 4380, 4392, 4398.

#### 1003 General Psychology (3) [SS]

A broad introductory survey of the general principles of human behavior.

#### 1268 Human Growth and Behavior (3) [SS]

Prerequisite: Psych 1003. A survey course, designed for non-majors, of development over the lifespan, with an emphasis on the developmental tasks and hazards of each age period. Majors in psychology and students planning to pursue a career in psychology research, teaching, or practice are strongly encouraged to take Psych 2270 and/or Psych 2272 instead of this course.

**2102 Introduction to Women's Studies: Women, Gender, and Diversity (3)**

(Same as WGS 2102 and Sociol 2102). This core course is required for all Women's and Gender studies Certificate earners. This class introduces students to the cultural, political, and Historical issues of concern to women and familiarizes students with the diversity of women's experiences across lines of social class, race, sexuality, and culture. It excludes representations and women's contributions to multiple disciplines including anthropology, history, philosophy, politics, psychology, and sociology.

**2140 Female Sexuality (3)**

Prerequisites: Psych 1003, or Biol 1012, or its equivalent. This course will present a biological-psychological orientation toward the study of female sexuality. Topics include: sexual anatomy, hormonal influences on sexual behavior, psychosexual development, sexual attraction and relationships, sexual response and dysfunction, menstruation, pregnancy, menopause, reproductive health issues, and social issues in sexuality.

**2160 Social Psychology (3)**

Same as Sociol 2160. Prerequisite: Psych 1003 or Sociol 1010. Study of interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

**2161 Helping Relationships (3)**

Prerequisites: Psych 1003 and consent of instructor. Exploration of the basic elements contributing to effective helping skills. Course assignments include keeping a journal, writing papers, and a final exam. Readings, discussion, and guided experiences will be used to instill active listening and communication skills. Ethics of helping relationships will be emphasized.

**2200 Drugs and Behavior (3)**

Prerequisites: Psych 1003 and three other hours in psychology or biology. The course is designed to provide an introduction to the relationship between drugs and behavior. The emphasis will be on psychoactive drugs, alcohol, nicotine, as well as drug-like substances produced naturally in the body.

**2201 Psychological Statistics (4)**

(With Laboratory) Prerequisites: Psych 1003 and satisfaction of the university's mathematical skills requirement. Statistical methods in psychological measurement and analysis of psychological data. Frequency distribution analysis, sampling, test of significance, and correlation methods.

**2211 Introduction to Biological Psychology (3)**

Prerequisites: Psych 1003, Biol 1012 and 3 additional hours in Psychology or Biol. A fundamental course designed to introduce psychology students to the new findings for the biological bases of human behavior.

**2212 Principles of Learning (3)**

Prerequisite: Psych 1003. A consideration of critical findings in learning.

**2216 Personality Theory (3)**

Prerequisite: Six hours of psychology. Structural and dynamic aspects of the human personality considered in the context of selected theoretical systems.

**2219 Research Methods (3)**

(With laboratory.) Prerequisite: Psych 2201. Research methods and analysis techniques used in psychological inquiry. Special emphasis placed on the logic of research design. Includes laboratory study of, and analysis of, selected methods.

**2222 Group Processes in Organizations (3)**

Prerequisite: Psych 1003 or BA 3600. Topics include theory, research, and practice in coordination, conflict, and decision making in groups and organizations, as well as the role of influence, power, and leadership effectiveness in understanding interpersonal and group relations.

**2225 Behavior Modification (3)**

Prerequisite: Nine hours of psychology or consent of instructor. Methods, applications, and ethics of the use of behavior theory (primarily Skinner's operant conditioning) to the control of human behavior in a variety of settings including mental institutions, grade schools, universities, individual treatment, and communal living.

**2230 Psychology of Women (3)**

Prerequisite: Psych 1003. Evaluation of psychological theories and research regarding physiological, cognitive, and personality sex differences, female problems in adjustment, and clinical interventions for women.

**2232 Psychology of Victims (3)**

Prerequisite: Psych 1003. A review of the effects of crime, violence, natural disasters, and other traumas on psychological functioning with attention to the relationship between gender and victimization. Prevention and therapy techniques will also be discussed.

**2245 Abnormal Psychology (3)**

Prerequisite: Psych 1003. Introduction to major symptom complexes, theories of etiology, and treatment of behavior disorders.

**2256 Environmental Psychology (3)**

Prerequisite: Psych 2160 or Sociol 2160. Analysis of environmental influences on behavior and man's influence, in turn, on the environment. Topics will include a consideration of both individual processes relating to the environment (such as the perception, evaluation, and adaptation to the environment) and social processes relating to the environment (such as privacy, territoriality, and crowding).

**2270 Developmental Psychology: Infancy, Childhood & Adolescence (3)**

Prerequisite: Psych 1003. The theory and research surrounding cognitive, social, emotional, and physical development from conception through adolescence. Intended for students with career interests in the study, education, and/or treatment of children.

**2272 Developmental Psychology: Adulthood and Aging (3)**

Same as Ger 4280. Prerequisite: Psych 1003. Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

**3295 Selected Projects in Field Placement (3)**

Prerequisites: Junior standing, fifteen hours of psychology, and departmental approval. Selected options in field work placement experiences in various local agencies with training and supervision by faculty. May be repeated once for credit.

**3302 Computers in Psychology (3)**

Prerequisites: Nine hours of psychology including Psych 2201 and junior or senior standing. The course is organized around computer applications in the behavioral sciences for the Macintosh machine. The goals for the course include familiarization with (1) MAC environment to prepare the student for the explosion of computer applications now and in the future, (2) the hardware and software products available for the working psychologist, and (3) the software programs of choice in the field through hands-on, individual use of the MAC. Some modest level of computer (MAC, PC, or mainframe) experience is recommended.

**3316 Fundamentals of Leadership (3)**

Prerequisites: 9 hours of Psychology or consent of instructor. This course addresses concepts and methods for developing leadership skills in work and everyday settings. Contemporary approaches to leadership development are reviewed in relation to psychological and organizational theory. This course is designed to be relevant to the wide range of leadership opportunities that arise in work and daily life. Experiential exercises are used to help students discover and develop new leadership skills.

**3317 Social Psychology of Conflict and Negotiation (3)**

Same as Sociol 3317. Prerequisite: nine hours of psychology or nine (9) hours of sociology, including Psych 2160 or Soc 2160. The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

**3318 Industrial and Organizational Psychology (3)**

Same as BA 3623. Prerequisites: Psych 2201 or BA 3600. This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance appraisal, training, leadership, motivation, job satisfaction, and organizational design.

**3320 Personnel Assessment (3)**

Prerequisite: Psych 3318 or BA 3621. This course will provide an in-depth study of several topics in the area of personnel psychology. Consideration will be given to issues such as assessment centers, employment interviewing, personnel appraisal, employment test validity, and legal issues relevant to personnel assessment.

**3340 Clinical Problems of Childhood (3)**

Prerequisites: A total of twelve hours of psychology including Psych 1003 and Psych 2270. This course will address the clinical disorders and difficulties of children and the treatment of these disorders. Topics that will be addressed include autism, childhood schizophrenia, behavior disorders, drug abuse, enuresis, encopresis, and childhood co- compulsive and phobic reactions. Treatments designed for specific use with children, including behavioral, drug, and community mental health approaches will be addressed.

**3345 Lesbian Psychology (3)**

Prerequisites: Junior standing, 9 hours of psychology or Women's Studies, or consent of instructor. Explores psychological, social, cultural, and historical aspects of lesbianism. Topics include development of lesbian identity historically and individually, causes of sexual orientation, coming out, relationships and friendship, sexuality, roles, prejudice and discrimination, race and class, legal and economic issues, politics and feminism, health, and community.

**3346 Introduction to Clinical Psychology (3)**

Prerequisites: Nine hours of Psychology, including Psych 2216 or Psych 2245. A conceptual framework for research, description, and understanding of clinical phenomena. Assessment, interviewing, the clinical use of tests, and psychological approaches to treatment.

**3390 Directed Studies (1-5)**

Prerequisite: Consent of instructor. Directed reading and research. May be repeated for a maximum total of ten hours.

**4235 Community Psychology (3)**

Prerequisite: Psych 1003. The analysis of psychological problems in terms of the social and situational forces that produce them. Community psychology analyzes the situational problems in living. Epidemiology of mental illness; group, family, and crisis intervention; mental health-care delivery; program evaluation and demonstration project research; role of psychologist as

consultant and change agent; and utilization of nonprofessional manpower

### **4300 Neuropharmacology and Behavior (3)**

Prerequisites: Psych 2200 plus 6 additional hours of psychology. The course is designed for advanced undergraduate students interested in a career in psychopharmacology or related fields in the health sciences. Emphasis will be on (1) underlying neural processes, (2) traditional laboratory methods as they have been adapted to the study of drugs, and (3) the unique contributions made by psychopharmacologists to both areas.

### **4301 Advanced Statistics and Experimental Design (3)**

Prerequisites: Twelve hours of psychology, including Psych 2201. Statistical methods which are particularly useful in psychological research and the design of experiments appropriate to these methods.

### **4305 Cognitive Development (3)**

Prerequisites: Junior standing and Psych 2270, or consent of instructor. Data and theory concerned with how children's thinking changes over time. Discussion will include domain-general versus domain-specific theories, social and cultural influences on cognition, gains in memory, attention, problem solving, and metacognition, conceptual development, children's naïve theories, schooling, and various definitions and measures of intelligence.

### **4306 Social Development (3)**

Prerequisites: Junior standing and Psych 2270, or consent of instructor. Data and theory concerned with social behavior in infants, preschoolers, and school-aged children. Discussion will include emotional regulation, measurement and nature of temperament, formation and maintenance of attachment relationships, sex-role development, theories of aggression and the effects of socializing agents such as family, peers, media, and culture on development.

### **4307 Psychology of Oppression (3)**

Prerequisite: Nine (9) hours of psychology. Surveys the concept of oppression and psychology's contribution to an understanding of this human reality. Definitions and the assumptions, liabilities, and contributions of specific theories of oppression are considered. Finally, the course examines the psychological and mental health consequences of the individual's experience of oppression.

### **4308 African American Psychology (3)**

Prerequisites: 9 hours of Psychology or 6 hours of Black Studies minor, or consent of instructor. Provides an overview of the emergence of contemporary African American Psychology. It explores the implications of a psychological perspective specific to African Americans. Traditional research theories are explored from a historical perspective. African American identity, socialization,

personality, cognitive development, and mental health are discussed. Contemporary issues which impact African American behaviors and attitudes are also addressed.

### **4310 Motivation Theory (3)**

Prerequisites: Junior standing and twelve hours of Psychology, or consent of instructor. Survey of current theoretical material in the area of motivation.

### **4311 Psychology of Nonverbal Behavior (3)**

Prerequisite: Psych 2160 or Sociol 2160. Psychological perspective on the role of nonverbal behavior in social settings. Primary concerns of the course will include an analysis of a) functions of nonverbal behavior (e.g., communication, intimacy exchange, control), b) factors influencing nonverbal expression (e.g., culture, personality, relationships), and c) various theoretical views on nonverbal behavior and communication. Applications to various problems and settings in everyday life will also be pursued.

### **4312 Social Cognition (3)**

Prerequisites: Psych 2160 or Soc 2160. Research and theory on the role of cognitive processes in social behavior. Topics include attitudes and attitude change, social inference, schemas, and cognitive links to behavior and affect.

### **4314 Behavioral Neuroscience (3)**

Prerequisites: 9 hours of Psych and/or Biology: Psych 2211 is recommended but not required. A neuroscience course focusing on behavioral outcomes of brain function and dysfunction. Emphasis will be on modern research methods with animal models and humans. Topics discussed will include the classic findings in the field, but the emphasis will be on recent findings from human neuropsychology, neuroimaging, cognitive neuroscience, neuropharmacology and neuroendocrinology.

### **4330 Hormones, the Brain and Behavior (3)**

Prerequisites: 9 hours of Psychology or Biology, including at least one of the following: either Psych. 3200, Psych. 3211, Psych. 4330 or Psych 4315 or permission of instructor. Can be taken for graduate credit. It is now clear that the endocrine system influences a notable range of reproductive and non-reproductive behaviors including mood, stress responses, cognition, memory, violence, attachment, aging, weight control and athletic prowess. Emphasis of the class is on hormonal contribution to reproductive and non-reproductive behaviors and sex steroids influences on the brain from prenatal life to old age as well as their contribution to gender behavioral differences.

### **4349 Human Learning and Memory (3)**

Prerequisites: Nine hours of psychology or consent of instructor. A survey of contemporary research, theory, and facts pertaining to the acquisition, retention, and forgetting of information.



**4356 Thinking and Cognition (3)**

Prerequisites: Nine hours of psychology or consent of instructor. An introduction to modern analytical approaches to the psychology of thinking: problem solving, reasoning, categorizing, judgment, attention, and consciousness. Particular attention is paid to the mental structures and operations involved in the encoding, abstraction, representation, transformation, and retrieval of knowledge.

**4357 Psychology of Learning (3)**

(With laboratory.) Prerequisite: Psych 2219. Major theoretical positions and experimental conditions of learning. Includes laboratory study of selected problems.

**4361 History and Systems of Psychology (3)**

Prerequisites: At least fifteen hours of psychology. The course should be taken no sooner than the winter term of the junior year. Historical antecedents of contemporary psychology, including a survey of systems and schools of psychology.

**4365 Psychological Tests and Measurements (3)**

Prerequisites: Psych 2201 and Psych 2219, or consent of instructor. Survey of psychological tests and principles of reliability, validity, test construction, and test evaluation.

**4373 Psychology of Aging (3)**

Same as Ger 4373. Prerequisite: Nine hours of psychology or consent of instructor. This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.

**4374 Introduction to Clinical NeuroPsychology (3)**

Prerequisite: Nine hours of psychology. A survey of neuropsychological findings concerning relationships between brain and behavior. Topics will include brain function, neuroanatomy, neurological syndromes, and methods of neuropsychological assessment.

**4375 The Social Psychology of Disabilities (3)**

Prerequisite: Sociol 2160 or Psych 2160 or consent of instructor. Same as Sociol 4375. A social psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

**4376 Mental Health and Aging (3)**

Prerequisites: 9 hours of psychology, graduate standing, or consent of instructor. (Same as Ger 4376 and SW 4376). (MSW students normally take all foundation courses prior to enrolling in this course.) A survey of recent theory and research in mental health issues for older populations. The primary focus is on major

psychological disorders prevalent among the elderly and on treatment approaches for elders.

**4380 Psychology of Death, Dying, and End-of-Life Concerns (3)**

Prerequisite: Nine hours of psychology. Same as Ger 4380. This course will address the psychological aspects of and current research on, a variety of end-of-life issues, including death attitudes, funeral practices, ethics, grief theory, family communication practices, health care system approaches.

**4392 Selected Topics in Psychology (1-3)**

Prerequisites: Twelve hours of psychology and consent of instructor. A seminar of selected issues and methods in psychology. May be repeated once for credit.

**4398 Child Maltreatment: A Multidisciplinary Approach (3)**

Same as SW 4398. Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of psychology and social work are provided.

**4399 Seminar: Child Sexual Abuse (1)**

Same as SW 4399. Provides intensive study in interviewing, legal issues, assessment, medial issues, and therapeutic intervention in cases of child sexual abuse.

**5407 Psychopharmacology (3)**

Prerequisite: 12 units of graduate-level psychology courses and consent of instructor. An examination of the effects of drugs on the brain and on behavior. Primary emphasis is on those drugs used in the treatment of affective disorders, schizophrenia, and anxiety.

**5461 Seminar: Learning (3)**

A critical examination of contemporary problems in learning.

**5465 Seminar: Physiological Psychology (3)**

A critical examination of contemporary problems in physiological psychology.

**5468 Seminar: Cognitive Processes (3)**

Prerequisite: Admittance to doctoral program in psychology or consent of instructor. A critical examination of contemporary problems in cognitive processes

**5475 Introduction to Evaluation Research Methods (3)**

Same as Sociol 5475, PPA 6750, and CCJ 5475.

Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

**5610 Mechanisms of Aging I: The Aging Body (1)**

Prerequisite: Admission to Clinical Psychology program or permission of the instructor.. A critical examination of the clinical-experimental literature on psychopathology.

Etiologies of cognitive/affective functions and  
Prerequisites: Graduate standing and Biol 1102 or equivalent. (Same as SW 5610 and Ger 5610). (MSW students normally take all foundation courses prior to enrolling in this course.) Introduces students with a social sciences/humanities background to the normal changes in the biology and chemistry of the aging human body and how these changes affect behavior.

**5611 Mechanisms of Aging II: The Aging Brain (1)**

Prerequisites: Ger 5610 or SW 5610 or Psych 5610 or equivalent or consent of instructor. (Same as SW 5611 and Ger 5611). (MSW students normally take all foundation courses prior to enrolling in this course.)

Provides students with a social sciences/humanities background a basic introduction to the biology and chemistry of the aging human brain and nervous system and how these systems impact behavior.

**5612 Mechanisms of Aging III: Diseases of Aging (1)**

Prerequisites: Ger 5610 and Ger 5611 or SW 5610 and 5611 or Psych 5610 and Psych 5611 or equivalent or consent of instructor. (Same as SW 5612 and Ger 5612). (MSW students normally take all foundation courses prior to enrolling in this course.) Provides students with a social sciences/humanities background with information on how diseases associated with aging exacerbate the effects of aging on the human body, mind, and behavior.

**6441 Aging and Health Behavior (3)**

Prerequisites: Graduate standing. (Same as Ger 6441). This course examines sociocultural influences on health care practices of older adults. The role of social support and other social resources in the health behavior of older adults is emphasized. Topics include self care decisions, formal service utilization, family caregiving, and planned interventions for older adults.

**6444 Clinical Geropsychology (3)**

Prerequisite: Graduate standing or consent of instructor. This course examines major predictors of Psychosocial functioning in older adults. The emphasis is on assessment and research methods appropriate to studying developmental issues in late life. Topics include interpersonal relationships, mental health, and a critique of interventions designed to increase life satisfaction.

**6448 Multicultural Issues in Clinical Psychology (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. A survey of theoretical perspectives utilized in the treatment of various cultural groups. Their relationship to and implications for the treatment of members of various cultural groups will be explored. Strategies and ethical concerns in diagnosis, test interpretation, and treatment are considered.

**6466 Seminar: Developmental Psychology (3)**

A critical examination of contemporary problems in developmental psychology.

**7403 Psychopathology (3)**

Prerequisite: Admission to Clinical Psychology program or permission of the instructor. A critical examination of the clinical-experimental literature on psychopathology.

Etiologies of cognitive/affective functions and dysfunctions are explored, and implications for therapeutic intervention are considered.

**7404 Introduction to Clinical Assessment I (3)**

Prerequisite: Admission to Clinical Psychology program. Fundamentals of clinical assessment with emphasis on interviewing and the measurement of cognitive functioning.

**7405 Personality (3)**

Prerequisite: Admission to Clinical Psychology program or permission of the instructor. Current theories and research in personality. Major psychodynamic, trait, phenomenological, cognitive, and social learning approaches are covered, with a focus on personality structure and individual differences, personality processes and dynamics, development, psychopathology, and change.

**7406 Introduction to Clinical Assessment II (3)**

Prerequisite: Psych 7404. Theory and techniques of personality assessment with emphasis on projective personality tests.

**7408 Psychological Perspectives on Death and Dying (3)**

Prerequisite: Graduate standing. Addresses a variety of end-of-life issues including death attitudes, funeral practices, ethics, grief theory, family communication patterns, and health care systems. Research findings and theoretical approaches will be emphasized.

**7410 Women and Mental Health (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will focus on contemporary research on the psychology of women pertaining to mental health issues. Etiology and treatment of disorders disproportionately affecting women will be emphasized.

**7412 Social Psychology (3)**

Prerequisite: Admittance to psychology doctoral program or consent of instructor. A review of key areas in contemporary theory and research in social psychology.

**7418 Seminar in Human Sexuality (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Review of theory and research in human sexuality from physiological, psychological, and social perspectives. Implications for the

assessment and treatment of sexual dysfunction are considered.

**7419 Existential Issues in Clinical Psychology (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will review existential thought in psychology and its application to understanding clinical problems and treatment. Particular attention will be given to how Psychotherapy can be understood within an existential framework that focuses on the issues of death, freedom, responsibility, and isolation.

**7421 Quantitative Methods I (4)**

(With laboratory) A comprehensive study of the use of analysis of variance procedures in analyzing data. Topics include completely randomized designs, randomized blocks, factorial designs, and the analysis of covariance.

**7422 Quantitative Methods II (4)**

(With laboratory) A comprehensive study of the use of multivariate statistics in data analysis. Topics include multiple regression, canonical correlation, factor analysis, discriminant analysis, and the multivariate analysis of variance.

**7429 Psychometric Theory (3)**

Prerequisite: Consent of instructor. A consideration of test reliability, validity, and construction from the standpoint of modern psychometric theory and a survey of unidimensional and multidimensional scaling procedures.

**7431 Clinical Supervision (1-3)**

Prerequisite: Admission to Clinical Psychology program. Supervised experience in clinical practice. May be repeated six times for credit.

**7432 Mental Health Administration and Professional Issues I (3)**

Prerequisites: Admittance to Clinical Psychology Program. Review of current issues in professional psychology.

**7434 Seminar: Introduction to Psychotherapy (3)**

Prerequisite: Admittance to Clinical Psychology program and Psych 7406. This course considers theories of personal change and their practical application in psychotherapy. Topics include the development of the therapist-client relationship, case management, process and outcome research, and ethical principles for the psychotherapist.

**7439 Summer Supervision (1)**

Prerequisite: Psych 7431. Supervision experience in clinical practice at all graduate year levels during the summer months. Can be repeated for credit.

**7440 Principles of Family Therapy (3)**

Prerequisite: Psych 7434. Survey of research and theory underlying models of family interaction. Practical

application of specific techniques to the family system is emphasized.

**7441 Seminar: Cognitive and Behavior Theories (3)**

Prerequisite: Admission to Clinical Psychology program or permission of instructor. A course on cognitive and behavioral theories and their applications to clinical populations. Emphasis is on a critical review of research on cognitive and behavioral therapy procedures.

**7442 Seminar: Cognitive and Behavior Therapy (3)**

Prerequisites: Psych. 7434. The practice of behavior therapy. Students will learn to implement behavioral assessment and therapy strategies in clinical settings.

**7447 Trauma and Recovery (3)**

Prerequisites: Graduate Trauma Studies Certificate. A comprehensive seminar on the psychological effects associated with exposure to potentially traumatic events. The course will include information on the history of trauma studies; definitions of stressful and traumatic events; common responses to these events; theoretical models for conceptualizing traumatic responses; information on specific types of traumatic events; and issues in treatment.

**7449 Research Methods in Applied Psychology (3)**

Prerequisite: One graduate course in statistics. This course focuses on the basics of conducting research in applied psychology. Topics include: philosophy of science; reliability and validity; experimental, quasi-experimental, and nonexperimental designs; power; and meta-analysis.

**7450 Clinical Internship I (1)**

Prerequisite: Consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

**7451 Clinical Internship II (1)**

Prerequisites: Psych 7450 and consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

**7454 Seminar: Personnel Psychology (3)**

An analysis of theories and research in personnel and industrial psychology. Topics include testing, assessment centers, performance appraisal, and interviewing.

**7455 Seminar: Organizational Psychology (3)**

An analysis of theories and research in organizational psychology. Topics include theories of motivation, leadership, job design, group process decision making, organizational effectiveness, and the relation between organizations and their environment.

**7457 Seminar: Special Topics in Industrial Psychology (3)**

A seminar of selected issues and methods in personnel psychology.

**7458 Seminar: Special Topics in Organizational Psychology (3)**

A seminar of selected issues and methods in organizational psychology.

**7459 Practicum in Industrial/Organizational Psychology (1-4)**

Supervised experience in personnel or human resource management.

**7460 Internship in Industrial/Organizational Psychology (1-4)**

Prerequisite: Consent of adviser and admission to the graduate program in I/O Psychology. Supervised field experience in human resource management or organizational psychology areas following completion of at least two years of course work.

**7472 Special Topics in Psychology (3)**

A seminar of selected issues and methods in psychology.

**7474 Clinical Research in Applied Settings (3)**

Prerequisite: Psych 7421 and 7422. This course provides information on the design and implementation of research in applied settings (e.g., human service agencies). Topics include program evaluation, consultation models, risk factor analysis, presentation and health promotion, and quality control.

**7476 Seminar in Clinical Child Psychology (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Introduction to principles, theory, and methods of study in the field of clinical child psychology. Emotional and behavioral dysfunctions are considered from developmental and socialization perspectives.

**7477 Principles of Child Psychotherapy (3)**

Prerequisites: Psych 7434 and 7476. The course will focus on treatments for children with clinical problems. Play therapy, family therapy, and behavioral therapy techniques will be reviewed. Special attention will be given to differentiating when to use each modality, as well as how they can be effectively combined.

**7478 Directed Research in Industrial/Organizational Psychology (1-4)**

Independent study of an issue in industrial/ organizational psychology through the application of research techniques.

**7479 Directed Readings in Industrial/Organizational Psychology (1-4)**

Independent literature review of a topic in industrial/ organizational psychology.

**7480 Research Methods in Clinical Psychology (3)**

Prerequisite: Psych 7421 or equivalent. An overview of research methods that are appropriate for clinical and other nonlaboratory settings.

**7482 Ethics for Psychologists (1)**

Prerequisite: Admittance to doctoral program in Clinical Psychology. A study of ethical standards as they relate to teaching, research, and professional practice.

**7483 Directed Research (1-10)****7484 Directed Readings (1-10)****7485 Research Team I (2)**

Prerequisite: Admittance to doctoral program in Clinical Psychology. Group supervision of beginning research leading to the Independent Research Project.

**7486 Research Team II (1)**

Prerequisite: Completion of Independent Research Project or Third Year standing in doctoral program in Clinical Psychology. Group supervision of advanced research leading to the dissertation proposal.

**7491 M.A. Thesis Research (1-10)****7492 Ph.D. Thesis Research (1-10)****7494 Integrative Research Seminar in Gerontology (3)**

Same as Ger 6494. Prerequisite: A graduate level research methods course (e.g., PPA 6010). This seminar requires students to critically examine research in gerontology in terms of methodology. Topics covered include: reliability and validity of measures; internal and external validity; needs assessment; treatment implementation and process evaluation; and qualitative methods.

## School of Social Work

### Faculty

**Lois Pierce**, Professor\*, Director  
Ph.D., Washington University  
**Uma Segal**, Professor\*  
Ph.D., Washington University  
**Margaret Sherraden**, Professor\*  
Ph.D., Washington University  
**Norman Flax**, Associate Professor Emeritus\*  
Ph.D., Saint Louis University  
**Joan Hashimi**, Associate Professor Emeritus\*,  
Ph.D., Washington University  
**Sharon Johnson**, Associate Professor  
Ph.D., Washington University  
**Baoroug Guo**, Assistant Professor  
Ph.D., Washington University  
**Lia Nower**, Assistant Professor  
Ph.D., Washington University  
**Joseph Pickard**, Assistant Professor  
Ph.D., Washington University  
**Shirley Porterfield**, Assistant Professor  
Ph.D., University of Wisconsin - Madison  
**Patricia Saleeby**, Assistant Professor  
Ph.D., Washington University  
**Lori Curtis**, Lecturer  
M.S.W., Washington University  
**Patricia Rosenthal**, Lecturer  
M.S.W., Washington University  
**Beverly Sporleder**, Lecturer  
M.S.W., Washington University  
**Linda Vawter**, Lecturer  
M.S.W., Washington University  
**Linda Wells-Glorer**  
M.S.W., Washington University

\* members of Graduate Faculty

The School of Social Work faculty is committed to excellence in teaching and scholarly research in a wide range of specialties. These include child welfare, gerontology, community organization, addictions, social service policy, and international social work. Faculty also serve on the executive and advisory boards of many area social service agencies.

### General Information

#### Degrees and Areas of Concentration

The School of Social Work offers courses leading to a bachelor of social work (B.S.W.), a master of social work (M.S.W.), and a minor in social work. The B.S.W. and the M.S.W. programs are fully accredited by the Council on Social Work Education. The programs stress the critical, empirical, and applied aspects of social work, incorporating a liberal arts perspective throughout the curriculum. There is a strong accent on community and agency field work as an integral part of the program.

Professional social work education enables students to integrate the knowledge, values, and skills of the profession into competent practice.

Students must apply for admission into the B.S.W. and the M.S.W. programs. Undergraduate social work majors and Master's students should obtain a copy of the *Student Handbook* (available on the social work department's Web page <http://www.umsl.edu/~socialwk>). BSW students must meet with a social work adviser for advisement each semester. Students in the B.S.W. or the M.S.W. program must set up an appointment with the practicum office one semester prior to enrolling in the practicum and attend a series of prepracticum orientation sessions.

### Undergraduate Studies

#### General Education Requirements

Majors must satisfy the university and college general education requirements, except that proficiency in a foreign language is recommended but not required.

Courses required for the B.S.W. degree may not be taken on a satisfactory/unsatisfactory basis except Social Work 4800 and Soc Wk 4850.

#### Admission Requirements

Students entering UM-St. Louis as freshman and as transfer students should indicate a pre-social work major. Students must apply to the program concurrently with SW 3100. Admission to the program is conditional upon the successful completion of all necessary requirements.

#### Requirements for Admission to the Social Work program:

Junior standing

#### Submission of:

Application for admission to social work program.

Transcripts of all university work.

Two letters of reference: one from a college or university professor and one other, preferably from a work or volunteer experience supervisor.

Completion of Social Work 1100, 1200, and 1201 or their equivalents or completion of an A.A. in Human Services.

Satisfactory completion of all courses listed as prerequisites for Soc Wk 3100, 3150, and 3400.

Applicants may be asked to meet with the social work admissions committee.

### Undergraduate Studies

#### Bachelor of Social Work

Students must have a minimum GPA of 2.5 in social work and related-area requirement courses to enter field practicum. Candidates for this degree program must complete the core requirements including the following social work courses:

1100, Social Work and Social Problems

1200, Social Welfare as a Social Institution

**1201**, Social Welfare as a Social Institution Laboratory  
**3100**, Introduction to Interventive Strategies for Social Work Practices  
**3150**, Human Behavior in the Social Environment  
**3200**, Interventive Strategies for Social Work with Individuals, Families, and Groups  
**3300**, Interventive Strategies for Social Work with Organizations and Communities  
**3400**, Social Issues and Social Policy Development  
**4100**, Diversity and Social Justice  
**4800**, and **4850**, Supervised Field Experience in Social Work I and II  
**4801** and **4851**, Integrative Field Experience Seminar I and II

A minimum of 37 hours or a maximum of 50 hours must be taken in social work. A minimum of 30 hours is required in related area departments.

Evaluation of social work transfer credits will be done by a social work adviser on an individual basis.

#### Related Area Requirements

The following courses, or their alternatives, are required:

#### Biology

One course from the following:

**1102**, Human Biology  
**1131**, Human Physiology and Anatomy I  
**1141**, Human Physiology and Anatomy II  
**1202**, Environmental Biology  
**Econ 1000**, Introduction to the American Economy  
**Pol Sci 1100**, Introduction to American Politics  
**Psych 1003**, General Psychology  
**Sociology:**  
**1010**, Introduction to Sociology  
**2160**, Social Psychology  
**3220**, Sociological Statistics, 2201, Psych Stats, 2220, CCJ Stats  
**Either:**  
**Social Work 3500**, Research Design in Social Work  
**Sociology 3230**, Research Methods or 2219 Psychology, 2210 Criminology

At least 9 additional hours must be taken in social work, sociology, political science, psychology, women's and gender studies, anthropology, criminology and criminal justice, or economics at the 2000 level or above. Hours taken in social work will apply toward the maximum of 50 hours that may be taken in social work courses. The social work department may require students to pass a placement test to enroll in the next level course, provided this test or its equivalent is administered to all students seeking to enroll in that course.

Social work majors must have a cumulative grade point average of 2.5 or better in all course work specifically required for the major, with satisfactory grades in practicum.

**Note** Taking anthropology, biological sciences, economics, and Spanish courses is strongly recommended by graduate schools of social work.

#### Requirements for the Minor in Social Work

Candidates must complete the following social work courses:

**1100**, Social Work and Social Problems  
**1200**, Social Welfare as a Social Institution  
**3100**, Interventive Strategies in Social Work Practice  
**3400**, Social Issues and Social Policy Development  
**and one additional social work course at the 3000 level or above.**

#### Graduate Studies

##### Master of Social Work

##### Admission Requirements

Admission to the M.S.W. Program requires admission to the University of Missouri-St. Louis Graduate School and acceptance by the School of Social Work. Applicants to the program must meet the following requirements to be considered for admission:

Completion of a bachelor's degree from a college or university accredited by a recognized regional accrediting organization.

Completion of a liberal arts education including courses in the humanities, the social and behavioral sciences, and the physical sciences, including a course in human biology and a course in statistics.

Attainment of a cumulative grade point average of at least 2.75 on a 4.0 scale for all undergraduate course work and attainment of at least a grade point average of 2.75 on a 4.0 scale in the major field.

Submission of the following documents by the admission deadline:

Three letters of reference. – One from a professor in the undergraduate field of study, one from a work or volunteer supervisor or other professional reference.

A completed application to the UM-St. Louis Graduate School and a completed M.S.W. supplemental application

Three written essays.

Official transcripts from all colleges and university attended.

Applicable fees.

##### Application Deadline

The deadline for application to the MSW program is January 15 for admission in the following fall semester.

##### Admissions to the Advanced Standing Program

Applicants with a B.S.W., B.A.S.W., or B.S.S.W., from an accredited social work program may be given up to 24 credit hours of advanced standing for foundation social work courses. Admission to the advanced standing program is available to applicants who meet the general admission requirements and who: (1) have earned a

bachelor's degree in social work accredited by the Council on Social Work Education within five years of applying to the M.S.W. Program, and (2) have earned a grade point average of at least 3.0 on a 4.0 scale in the social work foundation curriculum, and no less than a B in all courses that are applicable.

#### Course Waivers

A student who does not have a bachelor's degree in social work but who can document successful completion (with at least a B) of foundation courses from an accredited B.S.W. program within the last five years will be given course waivers and be allowed to take electives instead of these courses.

Students from nonaccredited B.S.W. programs or students who have taken comparable course work in other undergraduate programs may take place-out examinations for select foundation courses; waivers will be given if students successfully pass place-out examinations. The waiver does not provide graduate credit; it is a mechanism for allowing elective courses to be substituted for required foundation courses.

Academic credit cannot be given for life experience and previous work experience, in whole or in part, in lieu of field practicum or foundation year courses.

#### Degree Requirements

The M.S.W. is a two-year program comprising a foundation year and a concentration year. All students are required to take the foundation year courses. These provide a common base of knowledge across all practice settings and populations. Beyond the general requirements of the Graduate School, the department requires a minimum of 60 semester hours of course work, of which 45 must be at the 4000 or 5000 level and 45 must be in social work or crosslisted with social work, including the following foundation courses:

- 4100, Diversity and Social Justice
- 4200, Foundations of Human Behavior in the Social Environment
- 4250, Social Work and Human Service Organizations
- 4400, Research Methods and Analysis I
- 5100, Generalist Social Work Practice
- 5200, Social Policy and Social Services
- 5300, Community Practice and Social Change
- 5400, Research Methods and Analysis II
- 5801, Graduate Field Practicum Seminar
- 5800, Graduate Field Practicum I

Upon completion of the 30 credits of foundation year requirements, students move into a year of specialization, called the concentration. The concentration year requires 30 hours of course work that includes 9 hours of elective graduate-level courses approved by the adviser. Students plan their degree program to reflect their career interests in the following concentration areas:

Family Practice  
Organizations and Community Development  
Gerontology

To remain in good standing, students must maintain a cumulative GPA of 3.0 or better.

The field practicum is an integral part of the concentration year. Students will complete 300 hours (two days of full-time work each week) of M.S.W. supervised practice in an agency during the Winter semester of the foundation year, and 660 hours total (three days of full-time work per week) in the concentration year.

A student must receive a grade of B or better in the first-year field instruction course in order to be eligible to enter the second year field practicum.

#### Part Time Status

Students who enter the program as part-time students complete the foundation year in two years and the concentration course work in an additional two years. All students must complete the M.S.W. in four years.

#### Career Outlook

The bachelor of social work program prepares persons for entry-level employment in social welfare agencies, schools, hospitals, correctional institutions, social action and community organizations, and day care, geriatric, or rehabilitation and residential centers. The master of social work program prepares professionals for advanced social work practice with individuals, families, groups, organizations, and communities. Individuals currently working in social welfare can develop skills and increase employment and job advancement opportunities with the B.S.W. and M.S.W. degrees.

#### Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institution(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following social work courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin:  
1100, 1200, 3100, 3150, 3400, 3602, 3900, 4100, 4601, 4900, 4950, 5600

#### 1100 Social Work and Social Problems (3)

Prerequisite: Soc 1010 or Psych 1003. Examination of the network of social programs and services developed in response to social problems in modern urban communities and the various roles and functions performed by helping professions. Introduction to basic values, skills, and training involved in a helping relationship, as well as characteristics of clients seeking help and professionals engaged in the helping process.

#### 1200 Social Welfare as a Social Institution (3)

Prerequisite: Soc Wk 1100 or consent of instructor. A study of the: 1) development of social welfare services and the philosophy underlying the present practices and

systems; 2) present social welfare programs with particular emphasis given to public income-maintenance provisions; 3) special welfare needs of blacks, aged, women, Hispanics, and Native Americans; and 4) the development of social work as a profession. This course may be taken by non-social work majors.

**1201 Social Welfare as a Social Institution Laboratory (1)**

Prerequisites: Simultaneous with Soc Wk 1200. The lab session will be used for field trips to social agencies. This course is required for all Social Work majors.

**2170 Aging in America: Concepts and Controversies (3)**

Same as ID 2170, Sociology 2170, and Ger 2170. This course examines the major theoretical and service issues connected to the study of older adults and their families, using multidisciplinary perspectives. Students are provided with an introduction to the field of aging through an examination of current social issues and controversies. This course emphasizes student involvement through class discussion, and is appropriate for students in the arts and sciences, business, communication, education, and nursing.

**3100 Introduction to Interventive Strategies for Social Work Practice (3)**

Prerequisites: Soc Wk 1200, Soc 1010 and Psych 1003, or permission of instructor. A presentation of basic knowledge, skills, and theory used for entry-level professional practice, such as problem assessment, interviewing skills, crisis intervention, and referral procedures. The course objectives also will be to teach students how to help clients negotiate systems effectively, and to use resources, services, and opportunities.

**3150 Human Behavior in the Social Environment (3)**

Prerequisite: Biol 1012 and Soc 2160 or Psych 2160 or permission of instructor. This course will focus on the normative stages in the life span, specifically how human development is affected by the physical environment and social status characteristics. Empirical information and theoretical views on human development will be included. Human development will be viewed as a complex interaction of individual developmental stages with family, social, and community systems.

**3200 Interventive Strategies for Social Work with Individuals, Families, and Groups (3)**

Prerequisites: Soc Wk 3100, and Soc Wk 3150. This course continues the presentation of basic knowledge and practice skills for entry level professional practice begun in SW 3100. It builds on the generalized helping model, incorporating specialized skills for working with specific groups of clients (e.g., children, aged, mentally ill, and physically handicapped), with families and small groups.

**3300 Interventive Strategies for Social Work with Organizations and Communities (3)**

Prerequisites: Soc Wk 3400 taken prior to or concurrently, senior standing. Continuation of basic practice skills with emphasis given to analysis and intervention at the organization and community levels. Includes assessment of available services, organization of client groups, efforts to modify resources for a client group unable to intervene effectively on its own behalf. Also emphasis on helping the practitioner evaluate the impact of intervention.

**3400 Social Issues and Social Policy Development (3)**

Prerequisites: Soc Wk 1200, Pol Sci 1100, and Econ 1000. The identification of issues concerning governmental provisions to meet contemporary social needs, with analysis of the principles and values underlying alternative solutions. A study of the processes by which citizen opinions and public policies evolve and are implemented in areas such as income maintenance, crime and delinquency, employment, family and child welfare, and public mental health.

**3500 Research Design in Social Work (3)**

Prerequisites: Satisfaction of Math Proficiency requirement and Soc 3220. Students explore research concepts and procedures (hypothesis testing, sampling, measurement, and design) emphasizing issues in social work research. Students learn to collect, analyze and present data.

**3601 Abused and Neglected Children (3)**

Prerequisite: Soc Wk 3150 or equivalent. This course explores the major concepts necessary for understanding abused and neglected children and their families. Emphasis is placed on (1) defining the problem, including societal stresses which contribute to the abuse and neglect; (2) examining existing practice methods; and (3) understanding the role of the social worker on interdisciplinary teams.

**3602 Child Welfare Practicum Seminar (3)**

Prerequisites: Soc Wk 4800, and consent of instructor. This seminar allows students to integrate previous course work with their experience in child welfare agencies. Classroom discussion will emphasize core competencies needed for child welfare practice.

**3900 Selected Topics in Social Work Practice (3)**

Prerequisite: Soc Wk 3100 or Soc Wk 3400, or consent of instructor. A course examining special topics in social work practice. Relative theories, strategies, and skills will be presented for topics selected. Course may be taken more than once for credit as different topics are offered.

**4100 Diversity and Social Justice (3)**

Same as Soc 4100. Prerequisite: Soc 1010 or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse



groups in American society. Examines theoretical models and practice principles for work with diverse groups.

**4200 Foundations of Human Behavior in the Social Environment (3)**

Prerequisites: Soc Wk 3150 or equivalent or admission to the MSW program. Focuses on theoretical and empirical understanding of human behavior in the social environment using a life-span perspective. Introduces biological, behavioral, cognitive, and sociocultural theories of individuals, families, and small groups, and their implications for the professional social worker's understanding of socioeconomic status, gender, disability, ethnicity, race, and sexual orientation.

**4250 Social Work and Human Service Organizations (3)**

Prerequisites: Soc Wk 3150 and 3300 or Psych 3318 or BA 3611 or equivalent or admission to the MSW program. Students develop theoretical and empirical understanding of groups and organizations, including concepts such as power and authority, structure, goals, membership, leadership, motivation, technology and organizational culture. Using organizations as settings for social work practice and as targets for change, students learn strategies and skills for assessment and intervention.

**4376 Mental Health and Aging (3)**

Prerequisites: 9 hours of psychology, graduate standing, or consent of instructor. (Same as Ger and Psych 4376). (MSW students normally take all foundation courses prior to enrolling in this course.) A survey of recent theory and research in mental health issues for older populations. The primary focus is on major Psychological disorders prevalent among the elderly and in treatment approaches for elders.

**4398 Child Maltreatment: A Multidisciplinary Approach (3)**

Same as Psych 4398. Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of Psychology and social work are provided.

**4399 Seminar: Child Sexual Abuse (1)**

Same as Psych 4399. Provides intensive study in interviewing, legal issues, assessment, medical issues, and therapeutic intervention in cases of child sexual abuse.

**4400 Social Work Research Methods and Analysis I (3)**

Prerequisites: Soc Wk 3500 or Soc 3230 and 3231 or equivalent and Soc 3220 or equivalent or admission to the MSW program. The first of a two-course sequence designed to provide students with the knowledge base and skills for using scientific method to advance social practice, knowledge and theory. Focuses on research methods at different levels (e.g., individual, group, organization, and community). Covers quantitative and qualitative methods, research design, sampling,

measurement, use of results, impact of research, and ethical considerations.

**4601 Women's Social Issues (3)**

Prerequisite: Soc Wk 3150 or equivalent. This course will help students become more sensitive to the social and welfare concerns of women. The topics include work, education, family responsibilities, violence against women, and special health and mental health service needs. Emphasis will be placed on understanding how social action can be used to bring about positive change.

**4650 Forensic Issues in Mental Health (3)**

(Same as CCJ 4650)

This is an intensive course, investigating the intersection between the legal system and mental health. Students will explore issues involved in civil and criminal trial proceedings such as insanity defenses, diminished capacity, and competency to stand trial, civil commitment, battered women and rape trauma syndrome, sexual abuse of children, child custody, and domestic violence. In addition, the course will examine the roles of mental health practitioners as forensic evaluators, trial consultants, and expert witnesses in a variety of mental health related cases.

**4800 Supervised Field Experience in Social Work I (4)**

Prerequisites: Soc Wk 3200 must be taken prior to or concurrently, Soc Wk 4801 must be taken concurrently, consent of instructor. This course provides students practice experience in social service agencies. Students work at the agencies approximately 20 hours per week. The purpose of this experience is to familiarize students with agency operations. Selection of the agency is based on student education needs.

**4801 Integrative Field Experience Seminar I (2)**

Prerequisites: Consent of instructor and concurrent registration in Soc Wk 4800. This seminar provides an opportunity for students to integrate previous course work with their experience in social work agencies. Classroom discussion will emphasize direct practice issues.

**4850 Supervised Field Experience in Social Work II (4)**

Prerequisites: Soc Wk 4800, Soc Wk 4801, and consent of instructor. This is a continuation of agency practice experience. Students work at the agency approximately 20 hours per week and may continue at the same agency as Soc Wk 4801, or change agencies with the consent of the instructor.

**4851 Integrative Field Experience Seminar II (2)**

Prerequisites: Consent of instructor and concurrent registration in Soc Wk 4850. This seminar is a continuation of Soc Wk 4801. Classroom discussion will emphasize administration and community organization issues.

**4900 Special Study (1-10)**

Prerequisite: Consent of instructor. Independent study through advanced readings in method and philosophy on a topic of particular interest, or field research in an agency.

**4911 Management Issues in Nonprofit Organizations: Staff Management Issues (1)**

Prerequisite: Junior Standing. Same as Pol Sci 4911 and PPA 4911. This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; legal issues that affect these processes.

**4912 Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)**

Prerequisite: Junior Standing. Same as Pol Sci 4912 and PPA 4912. This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

**4913 Management Issues in Nonprofit Organizations: Financial Issues (1)**

Prerequisite: Junior Standing. Same as Pol Sci 4913 and PPA 4913. This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

**4940 Leadership and Management in Nonprofit Organizations (3)**

Prerequisite: Junior standing. Same as PPA 4940, Pol Sci 4940, Soc 4940. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

**4950 Seminar in Social Work Issues (1-3)**

Prerequisite: Consent of instructor. A variable-credit course examining current and future considerations in designing and implementing social work service and

delivery arrangements. Issues will be selected according to interests of the class. Course may be taken more than once for credit as different topics are offered.

**4960 American Philanthropy and Nonprofit Resources Development (3)**

Prerequisite: Junior standing or consent of instructor. Same as Pol Sci 4960 and PPA 4960. This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, from planning through donor relations.

**5100 Generalist Social Work Practice (3)**

Prerequisite: SW 3200 or equivalent or admission to the MSW program. Using a problem-solving approach, students develop theoretical and empirical understanding and practical application of generalist social work methods. Students gain knowledge and skills that include interviewing, assessment, crisis and short-term intervention, contracting, resource development, and case documentation needed for competent direct practice with diverse populations.

**5200 Social Policy and Social Services (3)**

Prerequisite: Soc Wk 3400 or Pol Sci 2420 or Pol Sci 3460 or equivalent or admission to the MSW program. Covers the history and development of social welfare policies, legislative processes, and existing social welfare programs. Examines frameworks for social policy analysis, analyzes how social and economic conditions impact the process of social policy development and implementation, and introduces policy practice in social work.

**5300 Community Practice and Social Change (3)**

Prerequisites: Soc Wk 3300 or Soc 4344 or equivalent or admission to the MSW program. Focuses on economic, social, and political theory and research on communities and social change. Examines conceptual models of community practice within the generalist model and develops skills in organizing, advocacy, and planning.

**5400 Social Work Research Methods and Analysis II (3)**

Prerequisites: Soc Wk 4400 or equivalent. Advanced course, focusing on analysis of qualitative and quantitative data to advance social work practice, knowledge and theory. Students learn to use and interpret various statistical procedures for analyzing quantitative data, including bivariate and multivariate analysis, and content and statistical analysis for qualitative data. Students apply these analytic techniques to social work case material using computer software applications.

**5610 Mechanisms of Aging I: The Aging Body (1)**

Prerequisites: Graduate standing and Biol 1102 or equivalent. (Same as Ger 5610 and Psych 5610). (MSW Students normally take all foundation courses prior to enrolling in this course.) Introduces students with a social sciences/humanities background to the normal changes in the biology and chemistry of the aging human body and how these changes affect behavior.

**5611 Mechanisms of Aging II: The Aging Brain (1)**

Prerequisites: Soc Wk 5610, Ger 5610, Psych 5610 or equivalent or consent of instructor. (Same as Ger 5611 and Psych 5611). (MSW students normally take all foundation courses prior to enrolling in this course.) Provides students with a social sciences/humanities background a basic introduction to the biology and chemistry of the aging human brain and nervous system and how these systems impact behavior.

**5612 Mechanisms of Aging III: Diseases of Aging (1)**

Prerequisites: Soc Wk 5610 and Soc Wk 5611 or Ger 5610 and Ger 5611 or Psych 5610 and Psych 5611 or equivalent or consent of instructor. (Same as Ger 5612 and Psych 5612). (MSW students normally take all foundation courses prior to enrolling in this course.) Provides students with a social sciences/humanities background with information on how diseases associated with aging exacerbate the effects of aging on the human body, mind, behavior.

**5620 Theory and Practice with Older Adults (3)**

(MSW students normally take all foundation courses prior to enrolling in this course.) Examines theory and empirically-based assessment and intervention models for work with the elderly. It includes the life circumstances of older adults and how that differs from younger adult populations; how ethnicity, gender, social class, and sexual orientation interact with age and create special intervention issues; discussion of ethical and value issues (e.g., client autonomy, rationing of health care); examination of family and community resources in providing care, and interventions with physically or mentally disabled elders and elders in residential settings.

**5630 Diagnosis and Related Pharmacology for Social Work Practice (3)**

Prerequisites: Soc Wk 5100 or equivalent or consent of instructor. Designed for social work students, course will provide overview of development and treatment of selected mental health disorders classified by the *Diagnostic and Statistical Manual of Mental Disorders*. In particular, course will examine, from a systems perspective, psychological and neuropsychological etiologies of mood, psychotic, personality, and other disorders and their preferred pharmacological treatment.

**5640 School Social Work (3)**

Prerequisites: Soc Wk 5100 or equivalent or graduate standing and consent of instructor. Examines role of social

worker in school settings and includes work with youth, families, and communities in relation to the child or adolescent's functioning in school.

**5800 Graduate Field Practicum I (2-4)**

Prerequisites: Graduate standing and consent of instructor. Provides integrative field experience in generalist social work practice. May be taken for 2-4 hours' credit depending on time in agency during semester; 75 contact hours=1 credit hour. May be repeated once.

**5801 Foundation Field Practicum Seminar (2)**

Prerequisite: Graduate standing and consent of instructor. Integrates academic content from foundation course work and experiential learning in field placements. Goals are to conceptualize the problem solving process in field practice, synthesize theory into a social work approach that encourages creative use of self, and underscore ethics and service to diverse groups in practice.

**6100 Theory and Practice with Children and Youth (3)**

Prerequisite: Soc Wk 5100 or equivalent or consent of instructor and graduate standing. Examines theory and empirically-based assessment and intervention models for work with children and adolescents. The effects of family, peers, and societal context (e.g., poverty, racism) will be stressed in understanding youth problems such as drug abuse, academic failure, delinquency, adolescent pregnancy, and gang participation. The course will emphasize a multi-disciplinary approach using inter-agency collaboration and negotiation skills.

**6150 Theory and Practice with Families (3)**

Prerequisites: Soc Wk 5100 or equivalent, graduate standing and departmental approval. Examines theoretical approaches to social work with families, including the impact of the social environment. Skills will include assessment, and multidisciplinary intervention with multi-problem families. Special emphasis will be given to poverty, chemical dependency, intra-familial violence, physical and mental illnesses, and working with family members of diverse cultures, socioeconomic backgrounds, races, sexual orientation, and ability. Values and ethics will be emphasized.

**6160 Advanced Interventive Strategies Across the Life Span (3)**

Prerequisites: Soc Wk 5100 or equivalent or consent of instructor. Examines theory and empirically-based assessment and intervention strategies for diverse populations across the life span. Students will gain basic mastery of behavioral, cognitive-behavioral, brief therapeutic and supportive psychotherapeutic techniques and their appropriate use with children, adolescents, and young, middle, and older adults. The course will also consider the effects of family, peers and societal context (e.g., poverty, racism, and ageism) in understanding psycho-social stressors particular to each life era, including academic failure and delinquency, substance abuse,

physical and mental illness, family disruption and instability, and grief and loss issues.

### **6200 Family Policy (3)**

Prerequisites: Soc Wk 5200 or equivalent or consent of instructor and graduate standing. Same as Pol Sci 6416 and Soc 6200. Examines policy development, implementation and impact of social policies on children, youth, and families. International, focus, including topics such as economic support, health national, and state policies that affect basic family needs will be the care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

### **6250 Social and Economic Development Policy (3)**

Prerequisites: Soc Wk 5200 or equivalent or consent of instructor and graduate standing. Same as Pol Sci 6418. Examines major trends and alternatives in social and economic development policy and practice in state, national, and international perspectives. Students will develop skills in policy analysis and development.

### **6400 Practice and Program Evaluation (3)**

Prerequisites: Soc Wk 4400 and 5400 or equivalent or consent of instructor and graduate standing. Provides specialized knowledge in the use of qualitative and quantitative research skills to evaluate the effectiveness of social work practice. Topics will include single system design, group designs, and program evaluation. Students will design and conduct a research project associated with their advanced social work practicum. Results will be presented to the class and the agency. Value and ethical issues, particularly those relevant to client race and gender, will be emphasized as students develop and conduct their research.

### **6417 Income & Pension Policy for the Aged (3)**

Prerequisites: Graduate standing or consent of instructor. Same as PPA 6417, Ger 6417 and Pol Sci 6417. (MSW students normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

### **6443 Health Care Policy (3)**

Prerequisites: Graduate standing or consent of instructor. Same as Pol Sci 6443, Ger 6443 and PPA 6430. (MSW students will normally take the social policy foundation course prior to enrolling in this course.) Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

### **6449 Human Resources in the Public Sector (3)**

Prerequisites: PPA 6600 or consent of instructor. Same as Pol Sci 6449 and PPA 6490. Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

### **6450 Gerontological Assessment (3)**

Prerequisites: Graduate Standing. This course provides an overview of psychosocial assessment with older adults and their family caregivers. Major areas of gerontological assessment practice are considered, including dementia, mood disorders, suicide, grief, alcoholism, elder abuse/neglect, family caregiving, and interdisciplinary team issues.

### **6491 Strategic and Program Planning for Nonprofit Organizations (3)**

Prerequisites: Graduate standing or consent of instructor. Same as Pol Sci 6490 and PPA 6550. Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

### **6800 Graduate Field Practicum II (2-6)**

Prerequisites: Soc Wk 5801 and Soc Wk 5800. Provides integrative field experience in students' graduate social work practice concentration. May be taken for 2 to 6 hours' credit depending on time in agency during semester; 55 contact hours=1 credit hour. May be repeated once and/or taken concurrently with Soc Wk 6850.

### **6850 Graduate Field Practicum III (2-6)**

Prerequisites: Soc Wk 6800. Provides advanced integrative field experience in students' graduate social work practice concentration. May be taken for 2 to 6 hours' credit depending on time in agency during semester; 55 contact hours=1 credit hour. May be repeated once and/or taken concurrently with SW 6800.

### **6900 Directed Study in Professional Social Work (1-10)**

Prerequisites: Graduate standing and consent of instructor. Independent graduate-level study on a topic of particular interest through readings, reports, and field work under faculty supervision.

**6950 Advanced Seminar in Professional Social Work  
(1-3)**

Prerequisites: Graduate standing and consent of instructor.  
Focused study on selected issues, concepts, and methods  
of professional social work practice. May be taken more  
than once for credit provided the course topic is different  
each time.

**Department of Sociology****Faculty**

**Nancy Shields**, Associate Professor\*, Chairperson

Ph.D., Southern Illinois University-Carbondale

**George J. McCall**, Professor Emeritus\*

Ph.D., Harvard University

**Herman W. Smith**, Professor Emeritus\*

Ph.D., Northwestern University

**Harry H. Bash**, Associate Professor Emeritus\*

Ph.D., University of Pennsylvania

**Sarah L. Boggs**, Associate Professor Emerita\*

Ph.D., Washington University

**Chikako Usui**, Associate Professor\*

Ph.D., Stanford University

**Teresa J. Guess**, Associate Professor

Ph.D., University of Missouri-Columbia

**Susan Tuteur**, Adjunct Assistant Professor

Ph.D., University of Chicago

**Linda Benson**, Lecturer

M.A., UM-St. Louis

**Robert Keel**, Lecturer

M.A., Washington University

\*members of Graduate Faculty

The faculty prides itself on its commitment to high standards of teaching and sound scholarly research. Systematic course evaluations by students each semester are taken seriously, and individual faculty have been singled out as nominees and recipients of university Excellence in Teaching awards. The ongoing scholarly research of the faculty is reflected in the department's upper-level and graduate courses, as well as in the numerous publication credits of faculty in journals and books or presentations at national and international meetings. Information on current academic activities of the faculty is posted on the departmental Web page <http://www.umsl.edu/~sociolog>.

**General Information****Degrees and Areas of Concentration**

The sociology department offers courses leading to the B.A. in sociology and the B.S. in sociology; in cooperation with the College of Education, the B.A. in sociology with teacher certification; in cooperation with the College of Business Administration, the B.A. in sociology with a business option; and cooperative minor or certificate programs in American studies, black studies, legal studies, urban studies, religious studies, women's and gender studies, and international studies.

Students completing the B.A. or B.S. degree in sociology are well-prepared for graduate study in sociology or careers in industry, health and social services, and urban, intergroup, political, or community issues. Since the

sociology department also offers work leading to the M.A. degree in sociology (see below), opportunities are available for graduate-level instruction to selected undergraduate students. The graduate emphasis areas include (1) demography and population; (2) social problems and social change; (3) social and family networks; and (4) applied analysis, measurement, and program evaluation.

In addition to a balanced program of basic undergraduate to advanced graduate courses, the department provides a range of opportunities for students to develop specialized research methods seminars, and internship placements are offered in support of this goal and are typically designed around the ongoing research interests of department faculty. The department provides students with opportunities for intensive direction and guidance from faculty. Students and faculty working in particular subject areas consult freely with members working in other areas. Research interests of sociology faculty extend beyond the department into a wide variety of joint projects with faculty in other departments and programs, including criminology and criminal justice, engineering, political science, trauma studies, women's and gender studies, gerontology, public policy research centers, and the Center for International Studies.

A minor in sociology at UM-St. Louis is available to students majoring in related areas.

**Undergraduate Studies****General Education Requirements**

Students must satisfy the university and college general education requirements. Courses in sociology may be used to meet the social science requirement. The foreign language requirement for the B.A. degree may be satisfied in any language. Not more than 12-15 hours of community college transfer credit may be applied toward the combined minimum of required credit hours for the B.A. (30 credit hours) or B.S. (36 credit hours) major. No course in which a grade below a C- is received will count toward satisfying the core requirement.

**Satisfactory/Unsatisfactory Restrictions**

Sociology majors may not take courses counting toward their major requirements on a satisfactory/unsatisfactory basis.

**Degree Requirements****Bachelor of Arts in Sociology**

In addition to specific baccalaureate degree requirements of the College of Arts and Sciences, candidates must complete 30 hours of sociology course credit including the following required core courses:

**1010**, Introduction to Sociology  
**3210**, Sociological Theory

**3220, Sociological Statistics, or Math 1310, Elementary Statistical Methods, or Math 1102, Finite Mathematics I, or Math 1105, Basic Probability and Statistics 3230, Research Methods**

**Note:** The core requirements should be completed as early as possible, preferably by the end of the junior year. Sociological Statistics is a prerequisite for research methods. Only 45 hours of sociology can be applied to the 120 hour total required for a degree from the University of Missouri-St. Louis.

For the B.A. in sociology candidates are required to take the core courses and at least 18 additional hours of sociology courses, selected according to career objectives, with at least six hours at the 4000 level (no more than three hours of either Soc 4350, Special Study or Soc 4385, Internship in Sociology may be applied to this 4000 level requirement). No more than three hours in sociology below the 2000 level can count towards this 18-hour requirement. Applied training through one or more research courses may be used as part of the requirement for the major.

#### **Bachelor of Science in Sociology**

For the B.S. in Sociology, candidates are required to take the core courses and complete the following requirements.

Eight additional sociology courses (24 hours), chosen with the approval of the student's faculty advisor, are required for the B.S. in Sociology, including a minimum of four courses (twelve hours) at the 4000 or 5000 level (no more than three hours of either Soc 4350 Special Study or Soc 4385, Internship in Sociology may be applied to the 4000 or 5000 level requirement). No more than three hours in sociology below the 2000 level can count toward this 24-hour requirement.

#### **Related Area Requirements:**

Candidates for the B.S. in sociology also must complete five courses from at least four of the following nine areas: computer science, economics, mathematics, philosophy, political science, probability and statistics, psychology, public policy administration, and international studies. Specific course selections must be approved by a faculty advisor.

#### **Combined Degree: Bachelor of Science in Civil Engineering and Bachelor of Science in Sociology**

Students pursuing the combined degree are simultaneously enrolled in the College of Arts and Sciences and the Joint Undergraduate Engineering Program. They have an engineering faculty adviser as well as a faculty adviser in the Department of Sociology.

A program of 159 semester hours is required for the B.S. in civil engineering and the B.S. in sociology. Earned alone, the B.S. in engineering requires 137 semester hours.

Because of the overlap in required courses for the two curricula, the combined degree program requires only 22 additional semester hours.

For additional information, see the section in this *Bulletin* labeled UM-St. Louis/Washington University Joint Undergraduate Engineering Program or contact: Associate Dean of the Joint Undergraduate Engineering Program, 228 Benton Hall, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121.

#### **B.A. or B.S. in Sociology with Teacher Certification**

Students must complete the B.A. or B.S. in sociology requirements, as well as the requirements for teacher certification. (See the College of Education section of this *Bulletin*.)

#### **B.A. or B.S. in Sociology with an Interest in Business**

The following courses are suggested for students seeking careers in sales, market research, and so forth. In addition to the B.A. or B.S. in sociology requirements, the following core courses are suggested:

**Econ 1001, Principles of Microeconomics**  
**BA 2400, Fundamentals of Financial Accounting**  
**Sociology 4646, Demographic Techniques**

Students may then choose to complete **one** of the following three sets of courses:

#### **1) Marketing Management**

**3700, Basic Marketing**  
**3740, Marketing Intelligence**  
**3760, Industrial Marketing**

#### **2) Financial Management**

**3500, Financial Management**  
**3501, Financial Policies**  
**3520, Investments**

#### **3) Accounting**

**2410, Managerial Accounting**  
**3401, Intermediate Accounting I**  
**3411, Cost Accounting**

#### **Requirements for the Minor**

Students must apply for the minor in sociology. Candidates must complete at least 15 hours of departmental course work in sociology, of which at least 9 must be completed at UM-St. Louis' department of sociology and must be beyond those applied to the candidate's major. At least 6 hours must be at the 4000 level (no more than 3 hours of either Soc 4350, Special Study, or Soc 4385, Internship may be applied to this 4000 level requirement).

Candidates who anticipate that their background in sociology may play a substantial role in their career plans are strongly encouraged to take some or all of the core requirements.

Candidates must have a cumulative grade point average of 2.0 or better in all courses pertaining to the minor.

Department courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

#### Department Awards

The department offers several annual awards to outstanding students on the basis of merit.

**The Ray Collins Alumni Award** is given annually by the Sociology Alumni Association to the top graduating senior. The awardee is selected by the faculty on the basis of GPA, and the award consists of first-year membership dues in the Sociology Alumni Association and a cash award.

**Honors Program Student Association Awards** are given annually to exceptional students. The awards include student affiliate memberships in the Honors Program Student Association of the American Sociological Association to aid the establishment of a network of colleagues who are at similar points in their career development.

**The Alumni Agent Scholarship** and the **Sociology Alumni Scholarship** are given to deserving sociology majors annually. The awardees are selected by the faculty on the basis of merit.

A series of undergraduate awards are given to outstanding students. The Freshman Sociology Award is given to the outstanding freshman student in lower-division sociology course work; the Outstanding Junior Sociology Major Award is given to the outstanding junior sociology major; the Outstanding Sociology Minor Award is presented to the graduating student with the most outstanding minor GPA record; and the Outstanding Sociological Statistics and Methods Award is given to the sociology major with the best overall record in Soc 3220, 3230, and 3231. This award carries a stipend for the student to serve as an undergraduate course assistant for Soc 3220, or 3230 and 3231.

#### Department Honors

The sociology department will award department honors for those B.A. and B.S. degree candidates in sociology with an overall grade point average of 3.2 or better. They must also successfully complete an independent study through Soc 4350, Special Study.

#### Graduate Studies

##### 2+3 B.A. and M.A. in Sociology

The 2+3 combined B.A./M.A. program in sociology provides an opportunity for students of recognized academic ability and educational maturity to fulfill integrated requirements of the undergraduate and master's degree programs from the beginning of their junior year. Because of its accelerated nature, the program requires the

completion of some lower-division requirements of (12 hours) before entry into the three-year portion of the program. When all the requirements of the B.A. and M.A. programs have been completed, the students will be awarded both the baccalaureate and master's degrees. A carefully designed program can permit a student to earn both degrees within as few as ten semesters.

The combined program requires a minimum of 137 hours, of which 30 must be at the 4000 or 5000 levels. In qualifying for the B.A., students must meet all University and college requirements, including the requirements of the undergraduate major described previously. During the junior and senior years, students normally take a 4000 level research practicum course, Soc 5400, Soc 5402, and Soci 5404. In qualifying for the M.A., students must meet all University and Graduate School requirements, including satisfactory completion of a minimum of 30 graduate credit hours. Up to 12 graduate credit hours may be applied simultaneously to both the B.A. and M.A. programs. Any 4000 level course applied to the M.A. requirements will require additional work to qualify for graduated credit.

Students should apply to the Graduate Director of the Department of Sociology for admission to the 2 + 3 combined degree program in sociology the semester they will complete 60 undergraduate degree credit hours, but no later than the accumulation of 90 credit hours. A cumulative grade point average of 3.0 or higher, and three letters of recommendation from faculty are required for consideration. Students will be admitted to the 2 + 3 programs under provisional graduate status until they have completed 30 credit hours with a grade point average of 3.0 or higher. After completion of the provisional period, and with recommendation of the Graduate Director, students can be granted full admission into the program. Students must maintain a grade point average of 3.0 or higher throughout the combined program. Students who officially withdraw from the 2 + 3 combined degree program will be awarded the B.A. degree when they have successfully completed all the requirements for the degree.

The following requirements must be completed prior to enrolling in the 2 + 3 program:

**1010**, Introduction to Sociology and three additional sociology courses.

The following UNDERGRADUATE courses are required for majors in the 2 + 3 program:

**3210**, Sociological Theory

**3220**, Sociological Statistics (or an approved statistics course)

**3230**, Research Methods

GRADUATE SOCIOLOGY REQUIREMENTS FOR STUDENTS IN THE 2 + 3 PROGRAM



The following GRADUATE courses are required at the 300 to 499-level:

1. **Sociology 5400**, Proseminar in Sociology
2. **Sociology 5402**, Advanced Quantitative Techniques
3. **Sociology 5404**, Advanced Methodology
4. **Five additional courses (15 hours) that have been approved by the Graduate Director**

#### Graduate Exit Requirements:

A student's program must include one of the following exit projects: a 6-hour internship (Soc 5480, Individual Study) or a 6-hour preparatory sequence and an approved paper (Soc 5490, Supervised Research). Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

#### M.A. in Sociology

The department offers a flexible program of studies leading to the Master of Arts degree in sociology. Course work combines intensive examination of the core areas of sociology with acquisition of the analytical skills of sociological investigation. A variety of career options are available to the master's-level graduate, including: program evaluation and research; field or casework related to community issues; administrative roles in social agencies and planning organizations; or doctoral studies in sociology or related fields.

The curriculum is designed to serve the needs of full-time students as well as working students who are able to engage only in part-time studies. This design allows pre-career and mid-career students to prepare for employment in education, service agencies, community organizations, government agencies, or businesses. The curriculum also invites students to take advantage of the university's urban setting through integration of selected work experiences with practicum courses and academic seminars under faculty guidance. The curriculum emphasizes theoretical, analytic, and substantive approaches to urban-related problem solving.

#### Admission Requirements

Individuals with at least the equivalent of the department's B.A. or B.S. degree in sociology may be admitted to the Graduate School as candidates for the M.A. degree. Students with bachelor's degrees in fields other than sociology may be admitted to pursue graduate sociology studies under the condition that they make up core deficiencies prior to graduate work.

In addition to meeting the general admission requirements of the Graduate School, a student should ordinarily have:

- A baccalaureate degree with a minimum grade point average of 3.0.

- At least 15 hours in the social sciences, of which 12 should be in upper-level courses.
- Three letters of recommendation from persons qualified to judge the candidate's potential for success in the program.
- A statement describing the applicant's interest in graduate study in sociology.

Students who do not meet these requirements may be provisionally admitted upon approval of the department and the dean of the Graduate School. Admission and financial aid decisions are made on the basis of past academic record, program performance, and career commitment. Students wishing to continue regular employment outside the university may enroll on a part-time basis. Requests for further information about the program should be sent to:

Director of Graduate Studies  
Department of Sociology  
University of Missouri-St. Louis  
One University Blvd.  
St. Louis, MO 63121-4499

#### Degree Requirements

##### Master of Arts in Sociology

Each student shall prepare an adviser-approved course of study during the first semester of enrollment. Candidates for the M.A. degree shall complete a minimum of 30 hours of approved study, at least 21 of which must be taken in courses offered by the department.

#### Core Curriculum

**5400**, Proseminar in Sociology  
**5402**, Advanced Quantitative Techniques  
**5404**, Advanced Methodology

The sociology department participates in a joint quantitative techniques and methodology series of courses with the other social sciences which can be substituted for the above.

**Concentration** The department offers opportunities for intensive work in one of the several research areas of department faculty members, which allows the flexibility for comprehensive and coherent exposure to the methods and insights of the discipline. Matriculating students are encouraged to plan, with their advisers, a coherent program of studies consistent with their career interests.

**Exit Requirements** A student's program must include one of the following exit projects: a 6-hour internship; **Soc 5480**, Individual Study or a 6-hour preparatory sequence and an approved paper **Soc 5490**, Supervised Research. Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

## Career Outlook

The following career information is adapted from the American Sociological Society Web site. For more information, see <http://www.asanet.org/>.

A B.A. or B.S. in sociology is excellent preparation for graduate work in sociology for those interested in an academic or professional career as a professor, researcher, or applied sociologist.

The undergraduate degree provides a strong liberal arts preparation for entry level positions throughout the business, social service, and government worlds. Employers look for people with the skills that an undergraduate education in sociology provides. Since its subject matter is intrinsically fascinating, sociology offers valuable preparation for careers in journalism, politics, public relations, business, or public administration fields that involve investigative skills and working with diverse groups. Many students choose sociology because they see it as a broad liberal arts base for professions such as law, education, medicine, social work, and counseling. Sociology provides a rich fund of knowledge that directly pertains to each of these fields.

The M.A. offers students access to an even wider variety of careers. Sociologists become high school teachers or faculty in colleges and universities, advising students, conducting research, and publishing their work. Over 3000 colleges offer sociology courses. Sociologists enter the corporate, non-profit, and government worlds as directors of research, policy analysts, consultants, human resource managers, and program managers. Practicing sociologists with advanced degrees may be called research analysts, survey researchers, gerontologists, statisticians, urban planners, community developers, criminologists, or demographers. Some M.A. sociologists obtain specialized training to become counselors, therapists or program directors in social service agencies.

Today, sociologists embark upon literally hundreds of career paths. Although teaching and conducting research remains the dominant activity among the thousands of professional sociologists today, other forms of employment are growing both in number and significance. In some sectors, sociologists work closely with economists, political scientists, anthropologists, psychologists, social workers and others reflecting a growing appreciation of sociology's contributions to interdisciplinary analysis and action.

## Course Descriptions

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill

the Social Sciences breadth of study requirements as described in that Bulletin:

1010, 1040, 1999, 2100, 2102, 2103, 2160, 2180, 3200, 3202, 3210, 3214, 3220, 3224, 3230, 3231, 3241, 3245, 3250, 3262, 3264, 3268, 3270, 3278, 3280, 3286, 3290a, 3290b, 3290c, 4040, 4100, 4300, 4310, 4312, 4314, 4316, 4317, 4320, 4331, 4336, 4338, 4340, 4342, 4344, 4646, 4350, 4352, 4354, 4356, 4360, 4361, 4370, 4375, 4378, 4380, 4940

### 1010 Introduction to Sociology (3) [V, SS]

An introduction to sociological approaches to human behavior, including types of social organizations, patterns of social interaction, and social influences on individual conduct.

### 1040 Social Problems (3) [V, SS]

Conditions defined by society as social problems, as well as potential solutions, are examined from various sociological perspectives. Emphasis is given to problem issues prevalent in metropolitan settings. Analyses focus on victims and beneficiaries of both problem conditions and alternative solutions.

### 1999 The City (3) [MI, V, SS]

Same as Pol Sci 1990, and ID 1990. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is for freshmen and sophomores. It is open to juniors and seniors with the consent of instructor.

### 2100 Women in Contemporary Society (3)

Prerequisite: Soc 1010 or ID 50 or consent of instructor. An introduction to the sociological analysis of the status of women in society, including their work, family, and political roles. Socialization, education, and the women's movement will also be considered, as these affect the position and participation of women in a variety of social arenas.

### 2102 Introduction to Women's, Studies: Gender, and Diversity (3)

Same as IWGS 2102 and Psych 2102. This core course is required for all Women's and Gender Studies Certificate earners. This class introduces students to the cultural, political, and historical issues of concern to women and familiarizes students with the diversity of women's experiences across lines of social class, race, sexuality, and culture. It includes representations and women's contributions to multiple disciplines including anthropology, history, philosophy, politics, psychology and sociology.

### 2103 Gender Roles in Society (3)

Prerequisite: Soc 1010 or WGS 1012 or consent of instructor. The study of social processes through which gender roles are developed and acquired; the impact of

gender roles on personal identity and social conduct; the relationship between gender roles and social inequality; and individual and social consequences of changing gender roles in contemporary society.

**2160 Social Psychology (3)**

Same as Psych 2160. Prerequisite: Soc 1010 or Psych 1003. Study of the interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

**2170 Aging in America: Concepts and Controversies (3)**

Same as ID 2170 and Ger 2170. This course examines the major theoretical and service issues connected to the study of older adults and their families, using multidisciplinary perspectives. Students are provided with an introduction to the field of aging through an examination of current social issues and controversies. This course emphasizes student involvement through class discussion, and is appropriate for students in the arts and sciences, business, communication, education, and nursing.

**2180 Alcohol, Drugs, and Society (3)**

Same as CCJ 2180 Prerequisite: Soc 1010 or Psych 1003. This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.

**3200 Sociology of Deviant Behavior (3)**

Prerequisite: Soc 1010 or consent of instructor. Theories of the nature, causes, and control of deviance as a social phenomenon. Application of theories to specific substantive areas, such as mental disorder, delinquency, drug abuse, suicide, unconventional sexuality, and physical disability.

**3202 Urban Sociology (3)**

Prerequisite: Soc 1010 or consent of instructor. Urbanization as a world phenomenon; urban social and ecological structures and changing life styles; the decision-making processes in urban problem-solving.

**3210 Sociological Theory (3)**

Prerequisite: Soc 1010 or consent of instructor. The nature of sociological theory. An investigation of theory from Comte through contemporary developments. Contributions made by theorists in related disciplines.

**3214 Juvenile Delinquency and Youth Crimes (3)**

Prerequisite: Three hours of 2000 level sociology. A theoretical and research-oriented approach to delinquency and youth crime, including types, trends, causation, correction, and prevention.

**3220 Sociological Statistics (3)**

Prerequisites: Soc 1010 and Math 1020 or 1030. Issues and techniques of statistical analyses relevant to quantitative sociological research, e.g., elementary probability, measurements of central tendency and dispersion, measures of relationships including linear regression and correlation, inferential statistics.

**3224 Marriage and the Family (3)**

Same as Nurs 3224. Prerequisite: Soc 1010 or consent of instructor. The study of patterns of close relationships, and how these relationships are influenced by larger social forces. Topics include: love, dating, mate selection, cohabitation, alternative lifestyles, working families, parenting, single mothers, families in crisis, domestic violence, and divorce. Universal and variable aspects of family organization, family role systems, and changes in family social structure.

**3230 Research Methods (3)**

Prerequisites: Soc 1010 and satisfaction of mathematics proficiency requirement and Soc 3220 or consent of instructor. Research planning and interpretation, principles of research design, measurement, and sampling. Techniques for the collection, analysis, and presentation of data. The course also includes an introduction to the Statistical Package for the Social Sciences (SPSS) and lab exercises.

**3241 Selected Topics in Macro-sociology (1-3)**

Prerequisite: Soc 1010 or consent of instructor. Examination of a specific topic that focuses on large-scale social systems and the structural relationships among social organizations and institutions. May be taken more than once for credit provided the topic of the course is different each time.

**3245 Sociology of South Africa (3) [CD]**

Prerequisite: Soc 1010 or consent of instructor. An analysis of South African society as a sociocultural system, with attention to its demographic, ecological, and social structures; its distinctive social institutions and life styles; and the social dynamics of modernization, urbanization, and ethnicity. This course satisfies the Cultural Diversity requirement.

**3250 Sociology of Victimization (3)**

Prerequisites: Soc 1010. Examines the role of social factors in a wide range of kinds of victimization--crime, violence, natural disasters, accidents, disease, etc. The topic of social reactions to various kinds of victimization is also covered. Sociological theories of victimization are emphasized.

**3262 Social Psychology of Urban Life (3)**

Prerequisites: Soc 1010 or Psych 1003. Examines how people experience and give meaning to their lives as urban dwellers. Topics include: cognitive maps, crowding, sensory overload, lifestyle diversity, strangers, urban

tolerance, social networks, segmentation of personal life, and quest for identity.

### **3264 The Sociology of Religion (3)**

Prerequisite: Soc 1010 or consent of instructor. Religion as a universal social institution, its development, forms, and influence in the world, including Western and Eastern religions. Sociological analysis of the effects of religion upon the individual and societies. Religion, its roles in social change, and contemporary trends.

### **3268 The Sociology of Conflict (3)**

Prerequisite: Soc 1010 or consent of instructor. The conditions under which social conflicts arise, develop, and are terminated (or in some cases resolved) are examined. The functions of different levels of conflict are studied to determine the potential effects and outcomes of planned intervention.

### **3270 Socialization (3)**

Prerequisite: Soc 1010 or consent of instructor. Analysis of the structural and social psychological aspects of roles and the self as a product of social interaction.

### **3278 Sociology of Law (3)**

Prerequisite: Soc 1010 or consent of instructor. A study of law and society with emphasis on the sociological analysis of specific problems of legal doctrines and legal institutions. The law is examined as an instrument of social control through study of the courts, the legal profession, the police, and various social institutions. Consideration is given to law as an instrument of social change.

### **3280 Society and Technology (3)**

Prerequisite: Soc 1010 or consent of instructor. Technology in industrial and post-industrial societies. The social shaping of technological systems. The role of technology in social change.

### **3286 Society, Arts, and Popular Culture (3)**

Same as Anth 3286. Prerequisite: Soc 1010 or Anth 1011. The relationship of artists, writers, and musicians; their traditions and modes of artistic expression to variant social structures and institutions; and social pressures and rewards.

### **3290a, 3290b, 3290c Undergraduate Seminar in Sociological Issues (3)**

Prerequisites: Soc 1010 and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by other undergraduate courses. May be taken up to three times for nine hours of credit, provided the subject matter is different each time the seminar is taken.

### **3298 Practicum in Field and Laboratory Research (1-3)**

Prerequisites: Soc 3220 and Soc 3230, or consent of instructor. Intensive field or laboratory research to be

taken subsequent to, or concurrent with, a specific substantive course. May be taken twice for credit.

**Note: Any 4000 level course taken for major elective credit requires prior completion of two of the following: Soc 3210, Soc 3220, or Soc 3230.**

### **4040 Survey Research Practicum (3)**

Same as Econ 4140 and Pol Sci 4040. Prerequisites: Junior standing, Soc 3220, Soc 3230, and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results. May be taken more than once for credit provided the course topic is different each time.

### **4100 Diversity and Social Justice (3)**

Same as Soc Wk 4100. Prerequisites: Soc 1010 or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse groups in American society. Examines theoretical models and practice principles for work with diverse groups.

### **4300 Communities and Crime (3)**

Same as CCJ 4300. Prerequisite: CCJ 1110, 1120, 1130, 2210, 2220, or consent of instructor. Analysis of the sources, consequences, and control of crime within communities. Emphasis on social and ecological theories of crime and on population instability, family structure, and the concentration of poverty as causes of crime. Community crime prevention efforts are also addressed.

### **4310 Selected Topics in Sociological Theory (1-3)**

Prerequisite: Soc 3210. Focused examination of selected issues, the contributions of individual theorists, and methodological implications in the study of sociological theory. May be taken twice for credit.

### **4312 Sociology of Wealth and Poverty (3)**

Prerequisites: Soc 1010 and junior standing or consent of instructor. Theory and research on social stratification and inequality in contemporary societies.

### **4314 Social Change (3)**

Prerequisites: Soc 1010 and junior standing, or consent of instructor. Theories of social change applied to the analysis of small and large social systems, including the planning of change and projecting of alternative futures.

### **4316 Power, Ideology, and Social Movements (3)**

Prerequisite: Soc 1010 and Junior Standing or consent of instructor. Effect of events and social processes on thought and action in the twentieth century. Social functions of ideologies as expressed in movements and formal and informal organizations seeking social change.

**4317 Social Psychology of Conflict and Negotiation (3)**

Same as Psych 3317. Prerequisite: nine (9) hours of Psychology or nine (9) hours of sociology, including Psych 2160 or Soc 2160. The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

**4320 Forms of Criminal Behavior (3)**

Same as CCJ 4320. Prerequisite: CCJ 1110, 1120, 1130, 2210, 2220, or consent of instructor. Examination of major types of criminal behavior including violent, property, public order, and organizational offenses. Emphasis on theories of, and responses to, these crimes.

**4330 Field Research in Crime and Deviance (2-4)**

Prerequisites: Soc 3214. Students will participate in individual or group research projects involving systematic data collection and sociological analysis concerning the causation or societal reaction to crime, delinquency, or related forms of deviance. One option available to students will be an opportunity to study organizations dealing with juvenile or adult offenders.

**4331 Qualitative Methods in Social Research (3)**

Prerequisite: Soc 3220 and Soc 3230, or their equivalent, or consent of instructor. This course is devoted to such qualitative methods as participant observation, intensive interview, content analysis, and oral history, among others. The place of these kinds of techniques in social research, as well as the issues raised by them, will be considered. Students will participate in individual or group research projects using one or more of the methods discussed.

**4336 Organizations and Environments (3)**

Prerequisites: Soc 1010 and junior standing or consent of instructor. Internal and external forces that influence the structures, adaptive flexibility, and actions of public and private organizations and agencies are examined. Specific foci include: organizational responses to environmental opportunities, constraints, and contingencies; sources of conflict and impediments to organizational goal attainment; and strategies for increasing organizational effectiveness, efficiency, and chances for survival.

**4338 Sociology of Health (3)**

Same as Nurs 4338. Prerequisites: Soc 1010 and junior standing. Exploration of social dimensions and issues related to health and illness, such as access to the health care delivery system; factors influencing prevention, utilization and compliance; changing relationships among health care providers and consumers; health care costs, trends, and cross-cultural variations.

**4340 Race, Crime, and Justice (3)**

Same as CCJ 4340. Prerequisite: CC J 1110, 1120, 1130, 2210, 2220, or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies.

**4342 World Population and Ecology (3)**

Prerequisites: Soc 1010 and junior standing or consent of instructor. Sociological theories and research relating people to their ecological environments. Topics include fertility and population change in the non-Western world. Emphasis is directed to population policies in e.g., Africa and India and China.

**4344 Problems of Urban Community (3)**

Prerequisites: Soc 1010 and junior standing, or consent of instructor. The urban community as an area of social action and problem solving with emphasis on the sociological aspects of urban problems.

**4350 Special Study (1-10)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and field work.

**4354 Sociology of Business and Work Settings (3)**

Prerequisites: Soc 1010 and junior standing, or consent of instructor. The sociology of work and occupations in America, Europe, and Asia; organization structures and worker participation; worker attitude, behaviors, and commitment; the socialization of the worker; determinants of worker behavior; social problems of work and business; and the impact of community on work place and business behavior.

**4356 Sociology of Education (3)**

Prerequisite: Soc 1010 and junior standing, or consent of instructor. Education as a social institution, its role as an agent of socialization, and its effect upon the processes of social change and social mobility. The relationship between the school and its community.

**4360 Sociology of Minority Groups (3)**

Prerequisites: Soc 1010 and junior standing or consent of instructor. The study of dominant-subordinate group relations. Religion, ethnicity, race, and gender as factors in the unequal distribution of power.

**4361 Social Gerontology (3)**

Same as Ger 4361. Prerequisites: Soc 1010 and junior standing, or consent of instructor. Topics include: sociological theories of aging, technological and social change and its effects on the environment of older people, and prejudice and discrimination against the elderly.

### **4370 Selected Topics in Techniques of Sociological Research (1-3)**

Prerequisite: Soc 3220, 3230, or consent of instructor. The study of a specific research technique used in sociological analyses. May be taken more than once for credit provided the course topic is different each time.

### **4375 The Social Psychology of Disabilities (3)**

Prerequisite: Soc 2160 or Psych 2160 or consent of instructor. Same as Psych 4375. A social Psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

### **4378 Selected Topics in Social Psychology (1-3)**

Prerequisite: Psych 2160 or Soc 2160, or consent of instructor. Focused examination of selected issues, concepts, and methods in the study of social interaction. May be taken twice for credit.

### **4380 Selected Topics in Social Policy (1-3)**

Prerequisite: Soc 1010, Junior standing or consent of instructor. Examination of a specific sociological topic of current relevance in the community. May be taken more than once for credit provided the course topic is different each time.

### **4385 Internship in Sociology (1-6)**

Prerequisite: Junior standing and consent of instructor. Students participate in supervised placements in a position related to the profession of sociology.

### **4646 Demographic Techniques (3)**

Prerequisites: Soc 3220 and Soc 3230, or consent of instructor. Practicum experience with computation and analysis of major demographic measures of population size, growth, and shape; fertility; mortality; immigration; emigration; and morbidity. Special attention to comparisons of standard Western and non-Western demographic models, with emphasis on computer modeling.

### **4940 Leadership and Management in Nonprofit Organizations (3)**

Same as Soc Wk 4940, Pol Sci 4940, and PPA 4940. Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and

management of NPOs; resource mobilizations; and program development management and evaluation.

### **5400 Proseminar in Sociology (3)**

Required of all entering graduate students in the fall semester of the first year of residency. An overview of the field of contemporary sociology, with emphasis on the major theories, issues, research approaches, and ethical problems in the field today, and an introduction to theory construction, measurement, and design strategies.

### **5402 Advanced Quantitative Techniques (3)**

Prerequisite: Soc 3220 or consent of instructor. A study of advanced quantitative analysis of sociological data, focusing on problems of multivariate analysis, sampling theory and techniques, and the use of electronic data processing in approaching these problems.

### **5404 Advanced Methodology (3)**

Prerequisite: Soc 3230 or consent of instructor. A study of methodological problems on an advanced level, focusing on contemporary issues in the processes of inquiry with particular emphasis on the applicability of different modes of research to various types of theoretical problems. Consideration of ethical problems in social research.

### **5406 Research Practicum (3)**

Prerequisites: Soc 5400 and consent of instructor. Involvement of students in an individual or group project culminating in a report, in order to provide firsthand experience in integration of theoretical concerns, methodological principles, and appropriate research techniques in an empirical study, the subject of which shall be determined in collaboration with the instructor.

### **5410 Comparative Social Structures (3)**

Prerequisite: Soc 5400 or consent of instructor. Social institutions in selected societies are examined in terms of their similarities and differences. Typically, non-American and American social structures such as religion, education, politics, family, and economy are compared, along with population dynamics and change, myths, values, and norms. Societies are selected depending on specialty of faculty and interests of students. May be repeated for credit if the topic is different.

### **5415 Foundations of Criminological Theory (3)**

Same as CCJ 5415. Prerequisites: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

### **5420 Theories of Conflict (3)**

Prerequisite: Soc 5400 or consent of instructor. The conflict perspective in sociology is contrasted with consensus models of society. Conflict theorizing is traced from the Classical social thought tradition in Western civilization to its modern Marxist and non-Marxist

formulations in contemporary sociology. Ethical implications for social conflict intervention are considered.

**5422 Family and Interpersonal Conflict Resolution (3)**

Prerequisite: Soc 5420 or consent of instructor. The sources and functions of interpersonal conflict in family and neighborhood settings are analyzed. Mediation and conciliation strategies are developed in relation to primary and secondary structures, role systems, and social change.

**5424 Conflict Management in Organizations (3)**

Prerequisite: Soc 5420 or consent of instructor. Intrinsic sources of inter- and intraorganizational conflict and related methods of mediation are examined. Conflict management strategies and situational manifestations of conflict are analyzed within the context of antecedent conditions, such as domain dissensus, differential interests and goals, previously unresolved disputes, unbalanced power relations, structural barriers to communications, internal and external competition for resources, and environmental change.

**5426 Community and Regional Conflict Intervention (3)**

Prerequisite: Soc 5420 or consent of instructor. Community and regional conflicts are examined, with emphasis on paradigms for analyzing power, policy, and social change, and on developing intervention skills through simulation exercises. Intervention roles and approaches, such as mediation, conciliation, arbitration, and advocacy are discussed.

**5430 Policy Mediation Processes (3)**

Prerequisite: Soc 5426 or consent of instructor. Sociological theories of conflict are applied to public issues and policy-making, with an emphasis on building analysis and practice skills. Processes of mediated problem solving are studied and applied to conflict between jurisdictions, between citizens and governments, and between public and private sectors.

**5432 Survey Research Methods (3)**

Same as Ed Rem 6712, Pol Sci 6406. Prerequisites: An introductory statistics course such as Soc 3220 or consent of instructor. A course on the principles and procedures for conducting survey research. Topics include: forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

**5440 Seminar in Urban Sociology (3)**

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

**5444 Social Policy and Community Planning (3)**

Prerequisite: Consent of instructor. Analysis of the formulation of policy as a social process with concentration on political as well as technical-rational elements. Relation of social policy formation to planning at the community level and analysis of the elements and

dynamics of community planning. Analysis of and exposure to planning agencies in the St. Louis metropolitan area.

**5449 Issues in Retirement (3)**

Same as Ger 5449. Prerequisite: Graduate standing. This course examines macro and micro issues of retirement in the United States--its processes, causes, and consequences--in relation to economic market conditions, demographic changes, and programs and policies that are targeted to support the elderly (e.g., Social Security). It also examines issues relating to older women and retirement.

**5450 Seminar in Social Psychology (3)**

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

**5451 Negotiating Workplace Conflict (3)**

Same as Mgt. 5612 and PPA 6680. Prerequisites: PPA/Mgt. 6600, and Graduate Standing. Examines conflict and cooperation between individuals, groups, and organizations over control of work. A central theme is how this conflict is expressed, controlled, and resolved. Students participate in exercises to learn basics of two-party negotiations.

**5460 Seminar in Deviant Behavior (3)**

Prerequisites: Nine hours of undergraduate course work in sociology and consent of the instructor. Advanced theories of the nature, causes, and control of deviance as a social phenomenon.

**5461 Law and Social Control (3)**

Same as CCJ 6430. Prerequisites: Graduate standing and consent of instructor. Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

**5470 Seminar in Sociological Issues (1-3)**

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by one of the other 5000 level courses. May be taken up to three times for up to nine hours of credit, provided the subject matter is different each time the seminar is taken.

**5475 Introduction to Evaluation Research Methods (3)**

Same as Psych 5475, PPA 6750, and CC J 5475. Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

**5476 Research Practicum in Evaluation Research Methods (3)**

Prerequisites: Soc 5475 and consent of instructor. Instruction in, and supervision of, research design and data collection for evaluation of social-deviance action program research report. Concurrent with on-site participant observation.

**5480 Individual Study (3)**

Prerequisite: Consent of adviser and instructor. Designed to give the student the opportunity to pursue particular interests within the discipline and/or to study areas not currently covered by formal courses. Guided by faculty with appropriate interests. May be taken only twice.

**5490 Supervised Research (1-10)**

Prerequisites: Graduate standing and consent of instructor. Individual supervision of research leading to the preparation of a thesis, research paper, or publishable article, in which the student demonstrates skills in the discipline of sociology.

**5492 Advanced Sociological Theory (3)**

Prerequisite: Soc 3210 or consent of instructor. Recent and current developments in sociological theory in light of its tradition and methodological issues. The state of modern theory with regard to specific conceptual, substantive, and methodological concerns.

**5495 Sociological Reporting (3)**

Prerequisites: Soc 5400, Soc 5402, and Soc 5404. As part of the M.A. degree exit requirement, the seminar offers directed practice in the interpretation and reporting of sociological data in a wide range of styles, including those appropriate for research reports, journal articles, policy papers, nontechnical magazines, books, and monographs, as well as oral reports to diverse consumers. Ethical dimensions of interpretation and dissemination are explored.

**5498 Advanced Seminar in Gerontology (3)**

Prerequisite: Graduate standing. This course will provide in-depth analysis of specialized topics in Ger which are not covered in required courses. (Course may be repeated for a maximum of nine credits, assuming topics are different.)

**6200 Family Policy (3)**

Same as Pol Sci 6416 and SW 6200. Prerequisites: SW 5200 or equivalent or consent of instructor and graduate standing. Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

**6442 Minority Aging (3)**

Same as Ger 6442. Prerequisite: Soc 4361 or consent of instructor. The experience of aging for racial and ethnic minority elderly will be examined in the context of their families, communities, and society. Key questions concerning minority elderly frame the course, such as the relative importance of culture versus social structure, and the applicability of gerontological theory to the minority aging experience.

**6445 Sociological Dimensions of Chronic Illness (3)**

Same as Ger 6445. Prerequisite: Soc 5400 or consent of instructor. The consequences of chronic illness for social roles, family and organizational dynamics, and the functioning of society are examined. Chronic illness is presented as both a medical problem and a social phenomenon that is shaped by the changing age structure of society.

**6446 Selected Topics in Health Care Policy (3)**

Same as PPA 6460 and Pol Sci 6446. Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.



### Minors in Interdisciplinary Studies

The College of Arts and Sciences offers a number of interdisciplinary programs leading to either Bachelor of Liberal Studies degree or a minor or a certificate in a designated area of study. There are also a number of courses which are designated as interdisciplinary and which may or may not be part of a particular interdisciplinary minor or certificate program.

**These interdisciplinary courses and programs bring together the resources of two or more subject areas to focus on topics that benefit from being studied from the point of view of more than one discipline. In some cases, faculty from several departments teach as a team, giving students the opportunity to experience faculty dialogue in a cross disciplinary fashion.**

### Bachelor of Liberal Studies (BLS)

The Bachelor of Liberal Studies is a degree program that enables students to combine structured academic emphases in ways more relevant to their interests than the standard academic major.

Students who participate in this program must declare their areas of study (two minors or minor and certificate) at the time they declare that BLS is their intended degree. The plan of study should be approved at the beginning of the program.

To obtain a Bachelor of Liberal Studies (BLS), a student must complete:

- UM-St. Louis General Education Requirements General Education (consult General Education section of course listings)

Communication Skills	6 credit hours
Managing Information	3 credit hours
Valuing Skills	3 credit hours
Social and Behavioral Sciences	9 credit hours
Humanities	9 credit hours
Math/Science	<u>12</u> credit hours
	42 credit hours

In addition, students must complete the **State Requirement (3) and Cultural Diversity Requirement (3)** if not met in General Education course selection

- The campus requirement of proficiency in English Composition  
English 1100 - Freshman Composition  
English 3100 - Advanced Expository Writing
- The campus requirement of proficiency in Mathematics (to be completed in 1<sup>st</sup> 24 hours at the University)
- A Liberal Studies Concentration (33-41 hours)

The requirement for designated (identified) BLS Minors in participating departments or other units (minimum of 15 hours each)

**Or**

A designated minor and a designated multi-disciplinary certificate (minimum of 15 hours in each, with no course being used more than once to complete the concentration)

**And**

A capstone course (minimum of 3 hours)

Note: (Not all Departments have capstone courses so students must be careful to pair minors and certificates so that they have a capstone course.)

### Also Required

- Minimum of 45 credit hours in Junior and Senior level course work (3000 and 4000 level)
- Electives 28-42
- A minimum of 120 credit hours
- Overall GPA of 2.0 with minimum GPA of 2.0 in major areas
- Residency requirement, in addition to campus residency, unless otherwise specified, 9 graded hours in each minor and certificate at 2000 level or above and one capstone course

The College of Arts and Sciences (CAS), Fine Arts and Communication (CoFAC) and Business Administration (BA) have joined together to make available Liberal Studies combinations involving the following units:

Department of Anthropology	(CAS)
Department of Art History	(CoFAC)
Minor in Art History or Studio Art	
Department of Biology	(CAS)
College of Business Administration	(BA)
Minor in Business Administration only	
Department of Chemistry and Biochemistry	(CAS)
Department of Communication	(CoFAC)
Department of Criminology and Criminal Justice	(CAS)
Department of Economics	(CAS)
Department of English	(CAS)
Department of Foreign Languages and Literature	(CAS)
Department of Mathematics and Computer Science	(CAS)
Department of Music	(COFAC)
Department of Philosophy	(CAS)
Department of Physics and Astronomy	(CAS)
Department of Political Science	(CAS)
Department of Psychology	(CAS)
Department of Sociology	(CAS)
Institute of Women's and Gender Studies	(CAS)

**Bachelor of Liberal Arts: Capstone and Other Restrictions**

A. The School of Social work, as well as the Colleges of Education, Nursing, and the Joint Engineering Program are not participants.

B. The College of Business is participating but only the General Business Minor may be used, and they will not offer a capstone course, so students selecting the Business Minor as one of the components for the BLS must select the other minor from or a department that does offer a capstone.

C. The Studio Arts Department of Art and Art History will not develop a capstone as they do not feel that a student with only 18 hours of Studio Art has sufficient training for a capstone. So again, students selecting a Studio Art Minor will have to pair it with a department that does have a capstone.

D. Undergraduate certificates and Interdisciplinary Minors may be paired with a minor to form a BLS core; however, since certificates and interdisciplinary minors will not have capstone courses, they must be paired with a minor that does have a capstone.

E. Capstone courses cannot be used to make up the required courses for the minor. The capstone will be in addition to the courses presented for the minor.

F. No course can be used more than once in the core.

The following departments have identified a Capstone:

- Anthropology:** Anthropology 4301-Ideas and Explanations in Anthropology  
**Art & Art History:** Art 3395-Sophomore/Junior Seminar: The Methods of Art History  
**Biology:** Biology 4889-Senior Seminar  
**Chemistry/Biochemistry:** Chemistry 3022-Introduction to Chemical Literature (1) and Chemistry 3905-Chemical Research (1) and Chemistry 4897-Seminar (1)  
**Communication:** Communication 3330-Research Methods I  
**Criminology & Criminal Justice:** Criminology 4390-Seminar in Criminology & Criminal Justice  
**Economics:** Economics 4100-Introduction to Econometrics [If this course is used to complete the minor, then student must take an additional 4000 level Economic course]  
**English:** Additional 4000 level English Literature course [Student must identify themselves as using the additional 4000 level course as a Capstone so additional requirements can be assigned]  
**Foreign Languages and Literatures:**  
 French 3211-Contemporary French Culture  
 German 3210-German Culture and Civilization

Spanish 3210-Hispanic Culture and Civilization: Spain [or] Spanish 3211-Hispanic Culture and Civilization: Spanish America

**History:** History 4004-Senior Seminar (5) credits

**Mathematics/Computer Science:**

**Computer Science:** 4000 Level Course in Computer Science, which was not counted as one counted as one of the electives towards the minor.

**Mathematics:** 4000 Level Course in Mathematics, which was not counted as one counted as one of the electives towards the minor.

**Statistics:** There will be no Capstone course in Statistics. The student will have to choose a capstone course from the other area of concentration.

**Music:** Music 4000-Directed Studies (3) credits [Under the Music History and Literature, Music Theory and Composition, Music Pedagogy, or Music Practicum curricular destination]

**Philosophy:** Philosophy 4491-Senior Seminar

**Physics:** Physics 4381-Directed Readings in Physics

**Political Science:** Political Science 3950-Senior Seminar in Political Science

**Psychology:** An additional 4000 level Psychology course beyond Psychology courses present for the Minor

**Sociology:** Sociology 4350-Special Study in Sociology

**Interdisciplinary Minors and Certificates****Minor in American Studies**

American Studies is an internationally recognized academic field which involves an interdisciplinary approach to the study of the culture(s) of the United States, its colonial antecedents, and its indigenous peoples.

Students interested in this minor should contact the coordinator of American Studies for advice and information.

Candidates must have a cumulative grade point average of 2.0 or better in the 18 credit hours required for the minor. Three hours of the minor may be taken on a satisfactory/unsatisfactory basis. Candidates wishing to take American Studies courses from the Honors College (see below) must be members of the Honors College or must have a 3.0 cumulative grade point average.

**Requirements for the minor.**

Completion of the American Studies minor requires at least 18 semester credit hours, including at least two courses (6 hours) from Section A and at least two courses (6 hours) from Section B. The other 6 hours may be chosen from Section A, B, and/or C. Please read the special requirements below.

**A. Core courses in American Studies** (all courses are 3 credits except where otherwise indicated).

At least two of the following core courses are required to qualify for the minor. Of this minimal requirement, one course must be chosen from either American Studies or

English and the other from either History or Political Science. Students may take up to two additional courses from this group, and these may be chosen from any department or discipline.

#### **Anthropology**

2120, Native Peoples of North America

#### **Art and Art History**

1104, Indigenous Arts of North America

2270, American Art to 1876

2279, American Architecture

#### **English**

1170, American Literary Masterpieces

1700, African-American Literature

1710, Native American Literature

2710, American Literature I

2720, American Literature II

#### **History**

1001, American Civilization (to the mid-nineteenth century)

1002, American Civilization (from the mid-nineteenth century)

1003, African-American History

1004, The History of Women in the United States

#### **Honors**

1210, American Traditions: Humanities

1220, American Traditions: the Fine and Performing Arts

1230, American Traditions: Social Sciences

1310, Non-Western Traditions: Humanities

1320, Non-Western Traditions: the Fine and Performing Arts

1330, Non-Western Traditions: Social Sciences

(Admission to these Honors Seminars requires consent of the dean of the Honors College: note that depending on instructor and content, Honors 1210 can fulfill the requirements from this group in literature/American Studies and Honors 1230 can fulfill the History/Political Science requirement. Honors 1310-1330 can qualify as additional Group A choices when their focus is on Native American traditions.

#### **Music**

1002, Introduction to African American Music

1060, Introduction to Jazz

#### **Philosophy**

3347, American Philosophy

#### **Political Science**

1100, Introduction to American Politics

1990, The City

2300, State Politics

2350, Introduction to Urban Politics

2650, American Political Thought

2900, Studies in Political Science (when appropriate).

#### **Sociology**

1990, The City

**B. Optional courses in American Studies** (all courses are 3 credits except where otherwise indicated). To complete the American Studies minor, students must choose at least two courses from this group, from any department or discipline, and may choose up to four courses in this group. Courses chosen from this group must be chosen from at least two departments.

#### **Anthropology**

3250, American Folklore

3291, Current Issues in Anthropology (when appropriate).

#### **Art and Art History**

3360, Photography and Society (same as ID 3360)

4475, Topics in American Art

4481, Topics in Contemporary Art (when appropriate)

#### **Communication**

1050, Introduction to Mass Media

2243, Communications in American Politics

3350, Mass Communication History

3352, Mass Media Criticism

#### **Economics**

2800, History of American Economic Development (same as Hist 2800)

#### **Education**

Ed Fnd 3251, Black Americans in Education

Ed Fnd 4330, History of American Education

Ed Fnd 4332, Progressivism and Modern Education

#### **English**

3800, Topics in Women and Literature (when appropriate)

4610, Selected Major American Writers I

4620, Selected Major American Writers II

4640, American Fiction to World War I

4650, Modern American Fiction

4930, Studies in Women and Literature (when appropriate)

4950, Special Topics in Literature (when appropriate)

#### **History**

3042, U.S. Social Movements in the 20<sup>th</sup> Century

2800, History of American Economic Development (Same as Econ 2800)

3051, African-American History: From Slavery to Civil Rights

3052, African-American History: From Civil Rights to Black Power

2219, U.S. Labor History

4013, United States History for the Secondary Classroom

3000, Selected Topics in History (when appropriate)

3012, The Indian in American History

3031, History of Women in the United States

3021, U. S. Urban History

3053, African-American Women's History

3043, History of Crime and Justice

**4004, Senior Seminar (5 credits: when appropriate)****Honors College**

(When topics are appropriate, any of the seminars below can qualify as an "option" course for the American Studies minor. Admission to these courses requires the consent of the dean of the Honors College.)

- 2010, Inquiries in the Humanities
- 2020, Inquiries in the Fine and Performing Arts
- 2030, Inquiries in the Social Sciences
- 2070, Inquiries in Education
- 3010, Advanced Seminar in the Humanities
- 3020, Advanced Seminar in the Fine and Performing Arts
- 3030, Advanced Seminar in the Social Sciences
- 3070, Advanced Seminar in Education
- 3510, Research Seminar: Humanities
- 3520, Research Seminar: Fine and Performing Arts
- 3530, Research Seminar: Social and Behavioral Sciences
- 3570, Research Seminar: Education

**Interdisciplinary**

- 3360, Photography and Society (same as Art 3360)

**Philosophy**

- 4410, Significant Figures in Philosophy (when appropriate)

**Political Science**

- 2280, Judicial Politics and Policy
- 3300, The American Presidency
- 3331, Congressional Politics
- 2320, African Americans and the Political System
- 3340, Politics and the Media
- 3450, Political Parties and Elections
- 2380, Women in U. S. Politics
- 3200, Constitutional Law
- 3210, Civil Liberties
- 3390, Studies in American Politics (when appropriate)

**Sociology**

- 1040, Social Problems
- 2100, Women in Contemporary Society
- 3268, The Sociology of Conflict
- 4316, Power, Ideology and Social Movements
- 4360, Sociology of Minority Groups
- 4380, Selected Topics in Social Policy (when appropriate)

**C. American Studies elective courses** (courses are 3 credit hours unless otherwise indicated). Up to two courses from this group may be used for the American Studies minor. When two courses are chosen from this group, they must be chosen from different departments.

**Anthropology**

- 2126, Archaeology of Historic St. Louis
- 2131, Archaeology of Missouri
- 2132, Archaeology of North America
- 2138, African-American Archaeology

**Art and Art History**

- 2281, Art Since 1945

**Communication**

- 2218, Public Policy in Telecommunication
- 3332, Intercultural Communications
- 3343, The Rhetoric of Protest
- 3355, Media Law and Regulation

**Criminology and Criminal Justice**

- 2240, Policing
- 4340, Race, Crime and Justice

**English**

- 4060, Adolescent Literature
- 4770, Modern Poetry
- 4760, Modern Drama
- 4740, Poetry since World War II

**History**

- 3001, United States History: Colonial America to 1763
- 3002, United States History: Revolution and the New Nation, 1763 - 1815
- 3003, United States History: Nationalism and Sectionalism, 1815 to 1860
- 3004, United States History: 1860-1900
- 3005, United States History: 1900-1940
- 3006, United States History: 1940 to the Present
- 3031, History of Women in the United States
- 3041, Topics in American Constitutional History
- 3044, American Military History to 1900
- 3045, American Foreign and Military Affairs, 1900-Present

**Political Science**

- 2260, Law and the Individual
- 2290, Women and the Law
- 2420, Introduction to Public Policy
- 2820, United States Foreign Policy
- 3330, Introduction to Political Behavior
- 3370, Mock Constitutional Convention
- 3410, The Politics of Business Regulation
- 3460, The Politics of Poverty and Welfare

**Social Work**

- 1200, Social Welfare as a Social Institution
- 3400, Social Issues and Social Policy Development

**Sociology**

- 1040, Social Problems
- 2180, Alcohol, Drugs and Society
- 3202, Urban Sociology
- 4354, Sociology of Business and Work Settings

In addition, courses with variable topics such as Topics in..., Studies in..., and seminars may be taken when the topics are appropriate. When in any doubt, see the coordinator of American Studies; such courses must be approved for inclusion in your American Studies minor before the semester registration deadline.

### Minor in Black Studies

The minor in black studies is open to all undergraduate students at UM-St. Louis, whatever their major field. This minor is an interdisciplinary course of studies intended to provide a focus for new and existing courses in the area of black and African diaspora studies. A faculty member with expertise in black or diaspora studies is designated as coordinator. Students interested in pursuing the minor should consult the coordinator for advisement. For appropriate referral, please contact the advising office at the College of Arts and Sciences, 303 Lucas Hall.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor. Courses applied to the minor may not be counted for a major.

Any courses relevant to black or African diaspora studies, offered by a humanities or social science department, may be taken when approved by the coordinator for the minor. Special topics courses, directed studies or readings may also be included for credit if relevant to the minor.

#### Requirements

1. Students must take **one** of the following:  
**History 1063**, The African Diaspora to 1800  
**History 1064**, The African Diaspora Since 1800
2. A minimum of **two** courses from the following:  
**Anth 1005**, Human Origins  
**Anth 2124**, Cultures of Africa  
**Art 1105**, Introduction to The Arts of Africa  
**English 1700**, African-American Literature  
**History 1003**, African American History  
**History 1061**, African Civilization to 1800  
**History 1062**, African Civilization Since 1800  
**Music 1002**, Introduction to African-American Music
3. Students should select a minimum of **three** courses from the following list. **One course must be a social science and one must be a humanities course.**  
**Anth 3234**, Cultural Continuity and Change in Subsaharan Africa  
**Anth 3235**, Women in Subsaharan Africa: A Contemporary Perspective  
**History 3053**, African American Women's History  
**History 3050**, Topics in African-American History  
**History 3301**, West Africa to 1800  
**History 3302**, West Africa Since 1800  
**History 3303**, African Diaspora to 1800  
**History 3304**, African Diaspora since 1800  
**Pol Sci 2320**, African Americans and the Political System  
**Pol Sci 2580**, African Politics  
**Psych 4392**, Selected Topics in Psychology: African American Psychology (Note: Students should only take Psych 392 when the topic is African American Psychology).  
**Sociology 3245**, Sociology of South Africa

**Sociology 4360**, Sociology of Minority Groups  
**Comm 3332**, Intercultural Communication

### Minor in Classical Studies

The minor in classical studies is an interdisciplinary course of studies intended to encourage undergraduates in various disciplines to come to a fuller awareness of the cultures of ancient Greece and Rome and of the classical tradition that underlies much of modern Western civilization. In addition to appealing to any student's curiosity about the early stages of society in the West, the minor provides an especially valuable supplement to those who are majoring in many liberal arts areas including history, literature, philosophy, foreign languages, and art.

Students pursuing the minor will acquire a foundation in either Greek or Latin. They may choose to use either sequence to fulfill the foreign language requirement in the College of Arts and Sciences.

#### Requirements

Candidates for the minor must complete 19 credit hours of course work including:

**Latin 1001**  
**Latin 1002** or  
**Ancient Greek 1001**  
**Ancient Greek 1002**  
and **three** courses from the following list and any other course approved by the coordinator:  
**Ancient Greek 1001**, Intermediate Ancient Greek Language and Culture  
**Art 2211**, Art and Archeology of the Ancient World  
**Art 2212**, Greek Art and Archeology  
**Art 2213**, Roman Art and Archeology  
**Art 4411**, Topics in Ancient Art and Archeology  
**English 1200**, Myth  
**English 2200**, Classical Literature in Translation  
**History 3081**, Rome: The Republic and Empire  
**Latin 2101**, Intermediate Latin Language and Culture  
**Phil 3301**, Ancient Philosophy  
**Phil 4402**, Aristotle  
**Phil 4401**, Plato

### Minor in Legal Studies

The minor in legal studies is open to all undergraduate students at UM-St. Louis, whatever their major field. It offers a secondary field of concentration in one of the most important areas of social life. Students may use the minor as a complement to their major, as an additional qualification for career opportunities, or as general education.

This interdisciplinary minor coordinates liberal arts courses related to law. A faculty member in Legal Studies will advise students and will work with their major advisers in planning appropriate courses.

**Candidates must take:**

**Interdisciplinary 1200**, Foundations of Law: An Introduction to Legal Studies (crosslisted as Pol Sci 1200 and CCJ 1200),

and five courses from the following list. At least three courses must be taken at the 3000 level and above. No more than two courses from a single discipline may be included in the minor.

CCJ 1075, Crime and Punishment  
 CCJ 1100, Introduction to Criminology and Criminal Justice  
 CCJ 1130, Criminal Justice Policy  
 CCJ 2226, Law and the Individual  
 CCJ 2227, Urban Law: Poverty and the Justice System  
 CCJ 3345, Rights of the Offender  
 Comm 3355, Media Law and Regulation  
 Econ 3650, Law and Economics  
 History 3041, Topics in American Constitutional History  
 History 3071, Medieval England  
 Phil 5533, Philosophy of Law  
 Phil 4487, Seminar in Philosophy of Law  
 Pol Sci 2290, Women and the Law  
 Pol Sci 2260, Law and the Individual (cross listed as CCJ 2226)  
 Pol Sci 2280, Judicial Politics and Policy  
 Pol Sci 3200, Constitutional Law  
 Pol Sci 3210, Civil Liberties  
 Pol Sci 3260, Judicial Decision Making  
 Pol Sci 3290, Studies in Public Law  
 Pol Sci 4850, International Law  
 Soc 2175, Women, Crime, and Society  
 Soc 3278, Sociology of Law

**Minor in Public Affairs Journalism**

The minor in public affairs journalism provides students with an overview of media operations, including basic writing and reporting skills, as well as a specialty area of advanced study. Ordinarily the specialty or cognate area focuses on a particular field, such as consumer affairs, economics, or political science -- areas in which a journalist would specialize. Cognate areas are proposed by students seeking the minor and approved by a faculty committee.

A minimum grade point average of 2.0 is required in the minor. No more than 3 hours credit may be taken on a satisfactory/unsatisfactory basis. A total of 18 hours is required for the minor. At least 12 of the 18 required hours must be taken at UM-St. Louis.

**Requirements**

**A. 9 hours in communication/English professional training:**

English 3140 or Comm 3214, News Writing  
 English 3180, Reporting or Comm 2212, Broadcast Writing and Reporting

English 4890, Independent Writing Project, or  
 Comm 3394, 3396 or 3397, Internship

**B. 9 hours in public affairs at the 3000 level or above**

1. Students earning a writing certificate or majoring in communication with a mass communication emphasis must take 15 hours (at least 9 of these at the 3000 level or above) in economics, political science, or sociology.

2. Students majoring in economics, political science, or sociology must take 9 hours (in addition to the required English/communication courses) at the 3000 level or above in addition to English/communication courses chosen from those listed above and/or in the two cognate areas outside their major (i.e., economics, political science, or sociology).

A list of courses applicable to the minor is available from the coordinator.

**Minor in Urban Studies**

A minor in urban studies includes 18 hours of course work. Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor. Special topics courses relevant to urban studies may be included in the minor when approved in advance by the coordinator of the urban studies minor.

**Requirements**

Students must take:

**Interdisciplinary 1990**, The City  
 and five courses selected from the following list, at least three courses at the 3000 level or above. No more than two courses from a single discipline may be included in the minor.

**Courses Applicable to the Minor**

Anth 3242, The Culture of Cities  
 Anth 3250, American Folklore  
 Art 2279, American Architecture  
 Art 3365, The Artist and the City  
 CCJ 2230, Crime Prevention  
 CCJ 4300, Communities and Crime  
 Econ 3700, Urban and Regional Economics  
 Econ 3510, Public Finance: State and Local  
 Geography 2100, Urban Geography  
 Geography 2110, Location Theory  
 History 3000, Selected Topics in History (when urban or St. Louis history)  
 Pol Sci 2350, Introduction to Urban Politics  
 Pol Sci 3450, Urban Administration  
 Pol Sci 4470, Urban Planning and Politics  
 Psych 2256, Environmental Psychology  
 Psych 4235, Community Psychology  
 Soc 1040, Social Problems  
 Soc 3202, Urban Sociology  
 Soc 4344, Problems of Urban Community

### Course Descriptions

In addition to regular departmental offerings, the College of Arts and Sciences also offers several interdisciplinary courses, listed below. These courses bring together the resources of two or more disciplines to focus on topics that benefit from being studied from the point of view of more than one discipline. In many cases faculty from several departments teach an interdisciplinary course together, giving students the opportunity to experience faculty dialogue on issues in a cross-disciplinary fashion. Most interdisciplinary courses have no prerequisites. Freshman and sophomore students are especially encouraged to take these courses.

Students who have earned 24 or more semester hours of credit at any accredited post-secondary institutions(s) before the start of the fall 2002 semester must meet the general education requirements stipulated in the UM-St Louis 2001-2002 Bulletin. The following courses fulfill the Social Sciences breadth of study requirements as described in that Bulletin: 1075, 1200, 1450, 1160, 1990, 1001, 2102, 1220, 2150++, 3690\*. The following courses fulfill the Humanities breadth of study requirement: 70, 1000, 1165, 4465.

\*These courses may fulfill the Humanities or Social Sciences breadth of study requirements.

++ Depending on topic.

#### 160 Monday Noon Cultural Seminar (2)

An interdisciplinary examination of topics in the Humanities. Students will attend the Monday Noon Cultural Series program of the Center for the Humanities each week and meet as a group to explore the nature and background of each presentation, e.g., fiction reading, musical event, presentation of scholarly research in the arts or culture, or social and historical analysis.

#### 1000 Special Topics (3)

Topics may vary from semester to semester, however, they will all focus in the cultural heritage of Great Britain with material taken from art, theater, literature, and selected topics in philosophy.

#### 1001 Special Topics (3)

Topics may vary from semester to semester, however, material will be selected which will focus in the social, economic, historical or political institution of Great Britain.

#### 1075 Crime and Punishment (3)

(Same as CC J 1075 and Soc 1075. An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

#### 1200 Foundations of Law: An Introduction to Legal Studies (3)

(Same as CCJ 1200 and Pol Sci 1200). As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

#### 1220 Special Topics in Gerontology (1-3)

(Same as Ger 1220). Selected topics dealing with various aspects of gerontology. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with permission of the Gerontology director.

#### 1450 Introduction to Labor Studies (3)

(Same as Pol Sci 1450). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and media.

#### 1990 The City (3)

(Same as Pol Sci 1990, and Soc 1999) Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

#### 2102 Introduction to Women's Studies (3)

(Same as Soc 2102 and Psy 2102) An introduction to the study of women's roles in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. This course explores issues of power, identity, and relationship in women's lives.

#### 2150 Special Topics in Women's and Gender Studies (3)

An introduction to a particular topic area in women's studies (topics will be announced prior to registration), drawing on the theories and methods of such disciplines as sociology, Psychology, political science, history, philosophy, art history, and others to examine particular aspects of women's experience in social and cultural life. Course may satisfy the distribution requirement for Humanities or Social Sciences depending on the topic.

**2170 Aging in America: Concepts and Controversies (3)**

(Same as Soc 170, SW 2170, and Ger 2170). This course examines the major theoretical and service issues connected to the study of older adults and their families, using multidisciplinary perspectives. Students are provided with an introduction to the field of aging through an examination of current social issues and controversies. This course emphasizes student involvement through class discussion, and is appropriate for students in the arts and sciences, business, communication, education, and nursing.

**3220 Science for the Middle School Teacher I (5)**

Prerequisites: Chem 1111, Bio 1811 and either Chem 1011 or Bio 1202. This course is intended to provide science content and pedagogical methods to students preparing to teach science at the middle school level. Science content in the first semester may include investigations of the properties of solids and solutions, chemical changes and conservation of matter, forces and simple machines, food webs, the environment and ecosystems, heat and radiation, waves and diffraction, static electricity and currents, but other topics from the middle school science curriculum could be substituted. Students will be expected to develop grade appropriate teaching materials, and complete individual and group investigations. Two hours of lecture, one hour of discussion, and two two-hour laboratory sessions per week.

**3221 Science for the Middle School Teacher II (5)**

Prerequisites: ID 3220. This course is intended to provide science content and pedagogical methods to students preparing to teach science at the middle school level. Science content in the second semester may include the atmosphere and climate, rocks and minerals, water resources, cells, and living systems, reproduction and genes, biodiversity and adaptation, water cycles, the solar system, and earth as a planet, but other topics from the middle school science curriculum could be substituted. Students will be expected to develop grade appropriate teaching materials and complete individual and group investigations. Two hours of lecture, one hour of discussion, and two two-hour laboratory sessions per week.

**3352 Independent Studies in Women's and Gender Studies (1-3)**

Prerequisite: Junior standing; two courses in Women's and Gender Studies, including 2102; and consent of the instructor and the Institute. Directed independent work in selected Women's and Gender Studies topics through readings, research, reports and/or conferences. Course may satisfy the distribution requirement for the Humanities, Social Sciences or Math/Science depending on topic.

**3360 Photography and Society (3)**

(Same as Art 3360). A study of photography as a means of information and expression, as an influence on culture, and

as a reflection of concepts in politics, science, morality, and art.

**3690 The Marxist Heritage (3)**

(Same as Phil 3369, and Pol Sci 3690). Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

**4465 Topics in Photographic Studies (3)**

(Same as Art 4465). Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

**5350 Topics in Women's and Gender Studies (3)**

Prerequisite: Junior standing and one Women's and Gender Studies course. This course will focus on a particular aspect of women's conditions (to be announced prior to registration) and will draw upon recent theoretical and methodological work in the field of women's and gender studies from a variety of disciplines. Course may satisfy the distribution requirement for Humanities or Social Sciences depending on the topic.

**5351 Theories of Feminism (3)**

Prerequisites: Junior standing and one Women's and Gender Studies course preferably ID 2102 or consent of instructor. An analysis of contemporary theories of feminism, including liberal, radical, socialist, and women-of-color perspectives, and an exploration of the underpinnings of feminist theory in major systems of thought.

**5353 Internship in Women's and Gender Studies (3)**

Prerequisite: 90 hours. 2.5 GPA, 12 WGS hrs. Internship would place the student in a profit or nonprofit setting for approximately ten hours a week in an internship structured and supervised by the Institute; consent of Director required; may include biweekly seminar. Student must present appropriate course background for either option, plus the above pre/co-requisites.

**6401 Inquiries in Women's and Gender Studies (3)**

Introduces graduate students to the field of women's studies, with particular focus on its vocabulary and evolution, its location within and relationship to the academy, and its predominant theoretical and methodological frameworks. Specific content will vary year to year. Strongly encouraged for graduate students in Women's and Gender Studies.

**6450 Seminar in Women's and Gender Studies (3)**

Critical examination of advanced topics in the humanities, social sciences, or natural sciences from women's and gender studies perspectives. May be taken more than once provided that the subject matter is different each time the seminar is taken.



**6452 Special Readings in Women's Studies/Gender Studies (3)**

Prerequisite: Admission to Graduate Certificate program and consent of instructor. Directed independent work on a selected Women's and Gender Studies topic through readings, research, reports, and/or conferences.

**Certificate Programs**

The University College offers a wide variety of certificates, which provide our students the opportunity to develop expertise in subjects other than their major field. These programs usually combine course offerings from several departments so the subject is examined from a multidisciplinary approach. While most persons who earn certificates do so in the process of completing their undergraduate degree, a certificate may be completed by non-degree seeking students.

Students wishing to earn a graduate certificate must seek formal admission to the Graduate School.

To find the descriptions of the courses within a specific certificate program, refer to the individual department from which the courses are drawn. Following is a list of certificate programs offered by the University, with only the program requirements listed for those which are interdisciplinary.

**Graduate Certificate Programs:**

Biotechnology, Business Administration, Electronic Commerce, Forensic Economics, Gerontology, Human Resources Management, Information Resource Management, Information Systems Development, Institutional Research, International Studies, Logistics and Supply Chain Management, Managerial Economics, Marketing Management, Museum Studies, Non Profit Organization Management and Leadership, Psychology-Clinical Respecialization, Taxation, Telecommunications Management, Trauma Studies, Tropical Biology and Conservation, Women's and Gender Studies, Writing, Gateway Writing Project

**Undergraduate Certificate Programs:**

African Studies (African Studies or African Diaspora Studies), Archaeology, Biochemistry, Biotechnology, Conservation Biology, East Asian Studies, European Studies, Greek Studies, International Business, International Studies, Labor Studies, Latin American Studies, Non Profit Organization Management and Leadership, Photographic Studies, Studies in Religions, Trauma Studies, Women and Gender Studies, Writing, Writing with Technical Emphasis

**Africana Studies Certificate**

Students seeking the Africana studies certificate have two options: an emphasis in African studies and an emphasis in African diaspora studies.

**I. African Studies:**

1) At least **one** course in **two** of the following four areas for a total of 9 hours:

**Area 1: Anthropology**  
2124, Cultures of Africa

**Area 2: Art and Art History**

2105, Introduction to The Arts of African

**Area 3: History**

1061, African Civilization to 1800

1062, African Civilization Since 1800

**Area 4: Political Science**

2580, African Politics

2) **One** course in **two** of the following areas, a total of 6 hours:

**Area 1: Anthropology**

3234, Cultural Continuity and Change in Sub-Saharan Africa

3235, Women in Sub-Saharan Africa: A Contemporary Perspective

**Area 2: Art and Art History**

4405, Topics in the Arts of Africa

**Area 3: History**

3301, West Africa to 1800

3302, West Africa Since 1800

**Area 4: Sociology**

3245, Sociology of South Africa

3) An independent study course (3 hours) in which a research paper will be written on some aspect of African Studies

**II. African Diaspora Studies**

**One** course from **each** of the following areas, a total of 6 hours.

**Area 1: Africa****Anthropology**

2124, Cultures of Africa

**History**

1061, African Civilization to 1800

1062, African Civilization Since 1800

**Area 2: Diaspora****Anthropology**

1005, Human Origins

**History**

1003, African-American History

1063, The African Diaspora to 1800

1064, The African Diaspora Since 1800

3052, African-American History: From Civil Rights to Black Power

3. At least one course from each of the following areas, a total of 6 hours:

**Area 1: Africa**

**Anthropology**

3234, Cultural Continuity and Change in Sub Saharan Africa

3235, Women in Sub-Saharan Africa: A Contemporary Perspective

**Art**

1105, Introduction to the Arts of African

**History**

3301, West Africa to 1800

3302, West Africa Since 1800

**Political Science**

2580, African Politics

**Sociology**

3245, Sociology of South Africa

**Area 2: Diaspora**

**Communication**

3332, Intercultural Communication

**English**

1700, African-American Literature

**History**

3050, Topics in African-American History

3303, African Diaspora to 1800

3304, African Diaspora Since 1800

**Music**

1002, Introduction to African-American Music

**Political Science**

2320, African Americans and the Political System

**\*Psychology**

4392, Selected Topics in Psychology: African American Psychology

**Sociology**

4360, Sociology of Minority Groups

- **Note:** Students should take Psychology 4392 only when the African American Psychology topic is offered.

**Biochemistry Certificate**

(Refer to the Biology section of this Bulletin.)

**Biotechnology Certificates**

(Refer to the Biology section of this Bulletin.)

**Business Administration Certificate**

(Refer to the Business Administration section of this Bulletin.)

**Conservation Biology Certificate**

(Refer to the Biology section of this Bulletin.)

**East Asian Studies Certificate**

1) First- and second-year Chinese, Japanese, Korean, or other appropriate Asian language (20 hours taken in four semesters).

2) **History 1041 and History 1042**, East Asian Civilization

3) **One** course in three of the following six areas, a total of nine hours:

**Area 1: Anthropology**

2110, Cultures of Asia

**Area 2: Art and Art History**

1109, The Arts of China

1110, The Arts of Japan

4408, Topics in Asian Art

**Area 3: History**

3101, Modern Japan: 1850 to Present

3102, Modern China: 1800 to Present

\*4004, Senior Seminar

\***Note** Students should take History 4004 only when the topic is appropriate to East Asia.

**Area 4 Music**

1080, Non-Western Music I

1090, Non-Western Music II

**Area 5: Philosophy**

1120, Asian Philosophy

**Area 6: Political Science**

2550, East Asian Politics

\*3590, Studies in Comparative Politics

\*3890, Studies in International Relations

\***Note** Students should take Pol Sci 3590 or Pol Sci 3890 only when the specific topic is appropriate.

**Electronic Commerce Certificate**

(Refer to the Business Administration section of this Bulletin.)

**European Studies Certificate**

1) Four semesters of college work or the equivalent in a modern European foreign language.

2) **History 1032**, Topics in European Civilization: 1715 to the Present.

3) **One** course **each** from at least **four** of the following eight areas, a total of 12 hours. Students should consult advisers at the Center to determine how these courses can best be arranged to meet their interests.

**Area 1: Art and Art History**

- 2235, Italian and Northern European Renaissance Art  
 2245, Baroque Art and Architecture  
 4435, Topics in Renaissance Art  
 4445, Topics in Seventeenth- and Eighteenth-Century European Art  
 4455, Topics in Modern Art

**Area 2: Economics**

- 3310, Comparative Economic Systems

**Area 3: English**

- 2280, The Contemporary World in Literature  
 2320, English Literature II  
 4920, Continental Fiction  
 4410, Restoration and Eighteenth-Century Drama  
 4450, The Eighteenth-Century English Novel  
 4540, The Nineteenth-Century English Novel  
 4580, Literature of the Late Nineteenth and Early Twentieth Centuries  
 4750, Modern British Fiction

**Area 4: History**

- 1031, Topics in European Civilization: Emergence of Western Europe to 1715  
 3085, The Age of the Renaissance  
 3086, The Age of Reformation  
 3092, Europe 1900 - 1950: War and Upheaval  
 3093, Europe, 1950 - Present: Peace and Prosperity  
 3094, France in the Modern Age  
 3095, Germany in the Modern Age

**Area 5: Foreign Languages and Literatures****FRENCH**

- 2110, Modern French Literature in Translation  
 2150, European Literature in Translation: Special Topics  
 3211, Contemporary French Culture  
 3281, French Literature II: Nineteenth and Twentieth Centuries  
 4341, Seventeenth-Century French Theatre and Poetry  
 4342, Seventeenth-Century French Prose  
 4353, Eighteenth-Century French Literature  
 4354, Eighteenth-Century French Theatre and Novel  
 4362, Nineteenth-Century French Novel  
 4371, Twentieth-Century French Novel  
 4375, Modern French Theatre

**GERMAN**

- 2110, Masterpieces of German Literature in Translation  
 2150, European Literature in Translation: Special Topics  
 3201, Masterpieces of German Literature  
 3202, The German Novelle and Drama  
 3210, German Culture and Civilization  
 4315, German Classicism and Romanticism  
 4320, German Realism and Naturalism  
 4345, Modern German Literature  
 4397, Survey of German Literature Part I  
 4398, Survey of German Literature Part II

**SPANISH**

- 2110, Spanish Literature in Translation  
 2150, European Literature in Translation: Special Topics  
 4310, Spanish Literature from 1898 to 1939  
 4315, Spanish Literature from 1939 to the Present  
 4320, Realism and Naturalism in the Nineteenth-Century Spanish Novel  
 4321, Poetry and Drama of the Nineteenth Century  
 4325, Poetry and Drama of the Golden Age

**Area 6: Music**

- 4220, Music of the Renaissance  
 4230, Music of the Baroque  
 4240, Music of the Classic Period  
 4250, Music of the Romantic Period

**Area 7: Philosophy**

- 3303, Early Modern Philosophy  
 3304, Kant and Nineteenth-Century Philosophy  
 3305, Twentieth-Century Philosophy  
 4405, The Rationalists  
 4406, The British Empiricists

**Area 8: Political Science**

- 2510, Comparative Politics of Europe  
 2560, Russia and the New Republics  
 3840, European International Relations  
 \*4510, Comparative Public Policy and Administration  
 \*3590, Studies in Comparative Politics  
 \*3890, Studies in International Relations  
 \*Note Students should take PolSci 4510, 3590, or 3890 only when the topic is appropriately European.

**Forensic Economics Certificate**

(Refer to the Economics section of this Bulletin.)

**Gerontology Certificate**

(Refer to the Graduate School-Gerontology section of this Bulletin.)

**Greek Studies Certificate**

Students seeking the Greek Studies Certificate must complete both a language studies component and a focus area component. Courses are 3 credit hours unless noted otherwise.

**I. Greek Language.** Students must complete at least 9 credit hours from the following courses.

**Ancient Greek**

- 1001, Ancient Greek 1 (5)  
 1002, Ancient Greek 2 (5)  
 2101, Intermediate Ancient Greek Language and Culture  
 2190, Greek and Latin in English Today  
 2151, Special Readings (1-3)

**Modern Greek**

- 1001, Modern Greek I (5)  
 1002, Modern Greek II (5)

2101, Intermediate Modern Greek Language and Culture  
2150, Modern Greek Literature in Translation  
2190, Special Readings (1-3)

**II. Focus Area.** Students must complete at least 9 credit hours in one of the following focus areas.

#### Literature and Culture

**Anthropology**  
4350, Special Study\*

**English**  
1200, Myth  
2200, Classical Literature in Translation

**History**  
1030, The Ancient World  
2115, Greek History and Culture (same as Anthropology 2115)  
Modern Greek [Mod. Gr. 2772]  
2150, Modern Greek Literature in Translation\*\*  
2190, Special Readings (1-3)\*\*

**Music History and Literature**  
4270, A History of Byzantine Music and Hymnography

**Philosophy**  
3301, Ancient Philosophy  
4401, Plato  
4402, Aristotle

#### Archaeology and Art History

**Anthropology**  
2190, Special Topics in Archaeology\*  
4309, Archaeological Field School (3-6)\*  
4350, Special Study (1-3)\*

**Art History**  
2211, Art and Archaeology of the Ancient World  
2212, Greek Art and Archaeology  
4411, Topics in Ancient Art and Archaeology\*  
3390, Special Study (1-10)\*  
4490, Special Study (1-10)\*

**Notes:**  
\*Must be taken only when appropriate to Greek Studies.

\*\*These courses will count for either the language requirement or the focus area requirement but not for both.

**Human Resource Management Certificate**  
(Refer to the Business Administration section of this Bulletin.)

**Information Resource Management Certificate**  
(Refer to the Business Administration section of this Bulletin.)

**Information Systems Development Certificate**  
(Refer to the Business Administration section of this Bulletin.)

#### International Business Certificate

- 1) Students must complete a minimum of 12 hours in the Business Internship Program in London or in some other approved overseas study program.
- 2) One course from Area 1 and one from Area 2 a total of six hours.

#### Area 1: Business Administration:

3780, International Marketing  
3680, International Management  
3580, International Finance

#### Area 2: International Studies:

Anth 3238, Culture and Business in East Asia  
Econ 3300, International Economic Analysis  
Econ 3301, International Finance  
Econ 3310, Comparative Economic Systems  
Econ 3320, Economic Development  
Pol Sci 3830, International Political Economy  
Pol Sci 3890, Studies in International Relations (International Relations of East Asia)  
Sociology 3241, Selected Topics in Macro-sociology. (Work and Industry in Japan)  
Sociology 4354, Sociology of Business and Work Settings

In lieu of a course from Area 2, students may substitute one course (3 hours) at the advanced level of a foreign language. Advanced level is defined as a course beyond the 13 hour introductory language sequence.

3) An independent study course is not required for this certificate option.

**Note:** Students participating in other approved overseas study programs such as Hogeschool Holland Business School, Ecole Supérieure de Commerce de Saint Etienne, or Université Jean Moulin, may also qualify to apply 12 credit hours toward the International Business Certificate.

#### Graduate Certificate in Institutional Research

The Post-Master's Certificate Program in Institutional Research (CPIR) is for academics who want training in Institutional Research in preparation for working in an IR Office at a postsecondary institution, a government agency, or a private education organization. The program consists of 18 hours and may be taken as part of a doctoral program. Of the 18 hours, 12 are in the required core (6 hours are in research methods and 6 hours in IR seminar), plus a 3-hour Higher Education (HIR ED) or an Educational Research (ED REM) elective and a 3-hour capstone. Students may transfer up to 6 hours of post-Master's work into the program with the approval of the advisor.

**Graduate Certificate in International Studies**

A Graduate Certificate in International Studies is a program of study featuring advanced, multidisciplinary course work designed for individuals, including teachers and other professionals, who wish to expand their knowledge and understanding of international and cross-cultural affairs. The Certificate is sponsored by the Center for International Studies, and the Departments of Economics, History, Foreign Languages and Literatures, and Political Science. A broad set of course offerings is available in these and other departments, with the flexibility for students to tailor the program to their particular interests and needs. The program has been developed as a vehicle for bringing together the resources of a distinguished faculty in international studies and for providing an opportunity for further graduate learning. Applicants to the Certificate program must meet the general requirements for admission to Graduate School as explained in the graduate study section of this Bulletin. The Certificate is awarded after completion of 18 hours, including a minimum of 12 hours drawn from a list of core courses and an additional six hours selected from a wide variety of offerings in eight different disciplines. No more than 12 hours may be from any one discipline. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the Certificate when appropriate.

**Requirements**

Students must complete at least 12 hours chosen from the following list of core courses:

**Anthropology**

- 5428, Peoples and Cultures of Southeast Asia
- 5440, Global Refugee Crisis

**Business Administration**

- 6580, International Finance, Investment, and Commercial Relations
- 5280, International Business Operations
- 5480, International Accounting

**Economics**

- 6300, International Trade
- 6301, International Monetary Analysis

**History**

- 6111, Readings in European History to 1715
- 6112, Readings in European History Since 1715
- 6113, Readings in East Asian History
- 6114, Readings in Latin American History
- 6115, Readings in African History

**Political Science**

- 6450, Proseminar in Comparative Politics
- 6451, Seminar in Comparative Politics
- 6480, Proseminar in International Relations
- 6481, Seminar in International Relations
- 6488, Studies in International Relations

**Sociology**

- 5410, Comparative Social Structures

Students may complete an additional six hours chosen from the following:

**Business Administration**

- 3780, International Marketing
- 3680, International Management
- \* 3580, International Finance

\* **Note:** Students may not count both Bus. Admin. 6530 and 3580.

**Communication**

- 3332, Intercultural Communication
- 3354, Comparative Telecommunication Systems
- 3356, International Communication

**Criminology and Criminal Justice**

- 3305, Comparative Criminology and Criminal Justice

**Economics**

- 4301, International Economic Analysis: Finance
- 4980, Special Readings

**English**

- 4920, Continental Fiction

**History**

- 3045, American Foreign and Military Affairs, 1900-Present
- 3092, Europe 1900-1950: War and Upheaval
- 3093, Europe, 1950-Present: Peace and Prosperity
- 3094, France in the Modern Age
- 3095, Germany in the Modern Age
- 3097, History of Spain
- 3101, Modern Japan: 1850 to Present
- 3102, Modern China: 1800 to Present
- 3202, History of Latin America: Since 1808
- 3302, West Africa: Since 1800
- 4001, Special Readings

**Foreign Languages and Literatures**

- French** 4362, Nineteenth-Century French Novel
- French** 4365, Modern French Poetry
- French** 4371, Twentieth-Century French Novel
- French** 4375, Modern French Theatre
- German** 4315, German Classicism and Romanticism
- German** 4320, German Realism and Naturalism
- German** 4345, Modern German Literature
- German** 4398, Survey of German Literature Part II
- Spanish** 4310, Spanish Literature from 1898 to 1939
- Spanish** 4315, Spanish Literature from 1939 to Present
- Spanish** 4320, Realism and Naturalism in the Nineteenth-Century Spanish Novel
- Spanish** 4321, Poetry and Drama of the Nineteenth Century
- Spanish** 4340, Spanish-American Literature of the Nineteenth Century
- Spanish** 4341, Modernismo
- Spanish** 4345, Spanish-American Literature of the Twentieth Century
- Spanish** 4351, Spanish-American Fiction in the Twentieth Century
- Spanish** 4360, Spanish-American Poetry from Modernismo to the Present

**Music**

- 4250, Music of the Romantic Period
- 4260, Music of the Twentieth Century

**Political Science**

- 4510, Comparative Public Policy and Administration
- 3590, Studies in Comparative Politics

4850, International Law  
3860, Studies in War and Peace  
3890, Studies in International Relations  
6485, Directed Readings and Research in International Relations  
**Sociology**  
4342, World Population and Ecology

**Graduate Certificate in Logistics and Supply Chain Management**  
(Refer to the Business Administration section of this bulletin.)

**Labor Studies Certificate**  
The Labor Studies Certificate is designed for students who are interested in a focused specialty in labor studies. The 18 credit hour curriculum consists of six credit courses offered over a three-semester period.  
**Pol Sci 1450**, Introduction to Labor Studies  
**Pol Sci 3220**, Labor Law  
**Pol Sci 3430**, Union Leadership and Administration  
**Pol Sci 3470**, Collective Bargaining  
**Hist 2219**, U.S. Labor History  
**Econ 3900**, Selected Topic in Economics

**Latin American Studies Certificate**

- 1) Thirteen credit hours or the equivalent in Spanish.
- 2) **Either History 1051**, Latin American Civilization, or **Spanish 3211**, Hispanic Culture and Civilization: Spanish America.
- 3) A total of 12 hours from at least three of the following areas:

**Area 1: Anthropology**  
2134, Archaeology of the Inca, Aztec, and Maya

**Area 2: Art and Art History**  
1103, Pre-Columbian Art of Mexico and Central America

**Area 3: History**  
3201, History of Latin America: To 1808  
3202, History of Latin America: Since 1808

**Area 4: Political Science**  
2530, Political Systems of South America  
2540, Political Systems of Mexico, Central America, and the Caribbean  
\*3590, Studies in Comparative Politics

\*Note Students should take Pol Sci 3590 only when the topic is appropriate to Latin America.

**Area 5: Spanish**  
2110, Spanish-American Literature in Translation  
3211, Hispanic Culture and Civilization: Spanish America  
3281, Introduction to Hispanic Literature: Spanish America

4340, Spanish-American Literature of the Nineteenth Century  
4341, Modernismo  
4345, Spanish-American Literature of the Twentieth Century  
4351, Spanish-American Fiction in the Twentieth Century  
4360, Spanish-American Poetry from Modernismo to the present

**Managerial Economics Certificate**  
(Refer to the Economics section of this Bulletin.)

**Marketing Management Certificate**  
(Refer to the Business Administration section of this Bulletin.)

**Museum Studies Certificate**  
(Refer to the History section of this Bulletin.)  
**Non-Profit Organization Management and Leadership Certificate**  
(Refer to the Graduate School-Public Policy Administration section of this Bulletin.)

**Non-Profit Organization Management and Leadership Certificate (Undergraduate)**  
The university offers an undergraduate certificate program for students who want to become professional staff, board members, or other leaders of nonprofit and voluntary organizations, as well as those who are currently in the field.

The certificate requires the completion of 18 semester hours. Nine of these hours must be the following core courses:

**Political Science**  
3940, same as Soc or SW 4940 (3 hours)  
**Political Science and Social Work 4911**, Management Issues in Nonprofit Organizations: Staff Management Issues  
**Political Science and Social Work 4912**, Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations  
**Political Science and Social Work 4913**, Management Issues in Nonprofit Organizations: Financial Issues  
**Political Science and Social Work 4960**, American Philanthropy and Nonprofit Resource Development

The remaining 9 hours of electives can be selected from the following courses:

**Business Administration**  
3700, Basic Marketing  
3600, Management and Organizational Behavior  
3621, Human Resource Management  
3611, Advanced Management and Organizational Behavior

**Communication**

2228, Public Relations Writing (Same as English 3280)

2230, Small Group Communication

2231, Communication in the Organization

2240, Persuasive Communication

3358, Communication in Public Relations

**English**

3120, Business Writing

3130, Advanced Business and Technical Writing

**Political Science**

3420, Public Personnel Management

3440, Public Budgeting

**Psychology**

2222, Group Processes in Organization

3320, Personnel Assessment

**Social Work**3300, Intervention Strategies for Social Work with  
Organizations and Communities**Sociology**

3268, The Sociology of Conflict

3280, Society, Arts and Technology

4312, Sociology of Wealth and Poverty

4314, Social Change

4336, Organizations and Environments

**Photographic Studies Certificate**

(Refer to the Art and Art History Section of this Bulletin.)

**Psychology – Clinical Respecialization Certificate**

(Refer to the Psychology section of this Bulletin.)

**Studies in Religions Certificate**

A certificate in studies in religions requires the completion of 18 hours with a grade of C or better.

Courses must be chosen from two or more departments (interdisciplinary offerings excluded), and the program must include two or more courses which focus on different major religious traditions. (Courses which fulfill this requirement are marked with an asterisk [\*] in the list below.)

In addition, students are encouraged to broaden their understanding of religions and religious experience by enrolling in several courses in which these subjects are studied in philosophical or cultural contexts.

Students must obtain the approval of the coordinator of studies in religions before completing 12 hours toward this certificate.

**Requirements**

Students must take 18 hours chosen from the following list in accordance with the guidelines above:

**Anthropology**

2173, Archaeology and Cultures of the Biblical World

3244, Religion, Magic, and Science

**Art**

\*2214, Early Christian and Byzantine Art

2225, Medieval Art

**English**

\*1130, Topics in Literature

\*2230, Jewish Literature

\*2240, Literature of the New Testament

\*2250, Literature of the Old Testament

\*4940, Special Topics in Jewish Literature

\*4950, Special Topics in Literature

**History**

\*3082, History of the Church: The Middle Ages

**Music**

1030, Music in Religion

**Philosophy**

1120, Asian Philosophy

1185, Philosophy of Religion

3302, Medieval Philosophy

3385, Issues in Philosophy of Religion

4485, Topics in Philosophy of Religion

**Political Science**

2610, Ancient and Medieval Political Thought

2650, American Political Thought

**Sociology**

3264, The Sociology of Religion

**Taxation Certificate**

(Refer to the Business Administration section of this Bulletin.)

**Telecommunications Management Certificate**

(Refer to the Business Administration section of this Bulletin.)

**Trauma Studies Certificate**

(Refer to Psychology section of this Bulletin for Graduate Certificate, Undergraduate information follows.)

**Trauma Studies Certificate**

The trauma studies certificate is designed for students who are interested in a focused specialty in trauma studies or victim services in addition to their own major. It is appropriate for students in the College of Arts and Sciences or any of the schools of the university. It is particularly appropriate for students wishing to pursue careers in psychology, social work, sociology, criminology, law, public health, or nursing.

**Requirements**

A student may earn a trauma studies certificate by completing 18 hours with a GPA of 2.0 or better from at least three departments from the following courses:

Students must complete at least 12 hours from the following group:

**CCJ**

1120, Criminal Law

4300, Communities and Crime

4350, Victimology



## **Nursing**

**4770, Topics in Nursing (Women at Risk: Women and Safety)**

## **Psychology**

**2232, Psychology of Victims**

**3295, Selected Projects in Field Placement: Helping Victims of Crime (for three credits only toward certificate).**

**3390, Directed Studies, if trauma-related topic (for three credits only toward certificate). Please seek approval of the Coordinator of the Trauma Studies Certificate in advance**

**4380, The Psychology of Death Dying, and End-of-Life Concerns**

## **Social Work**

**3601, Abused and Neglected Children**

**3602, Child Welfare Practicum Seminar**

**4399, Child Sexual Abuse**

## **Sociology**

**3250, Sociology of Victimization**

**3278, Sociology of Law**

**3375, Social Psychology of Disabilities**

**Only one** of the following highly recommended courses may be counted toward the trauma studies certificate:

**Psychology 2161, Helping Relationships**

**Social Work 3100, Introduction to Interventive Strategies for Social Work Practice**

Students may count up to 6 hours from the following group toward the trauma studies certificate:

## **CCJ**

**2230, Crime Prevention**

**2240, Policing**

**4340, Race, Crime, and Justice (same as Soc 4340)**

## **Political Science**

**2400, Public Administration**

**2420, Introduction to Public Policy**

**4940, Leadership and Management in Nonprofit Organizations (same as SW 4940 and Soc 4940)**

## **Psychology**

**2160, Social Psychology (same as Soc 2160)**

**2230, Psychology of Women**

**4235, Community Psychology**

**2245, Abnormal Psychology**

## **Social Work**

**4940, Leadership and Management in Nonprofit Organizations (same as Pol Sci 4940 and Soc 4940)**

**4601, Women's Social Issues**

## **Sociology**

**2102, Women, Gender and Diversity**

**2160, Social Psychology (same as Psych 2160)**

**3214, Juvenile Delinquency and Youth Crimes**

**3268, The Sociology of Conflict**

**4940, Leadership and Management in Nonprofit Organizations (same as Pol Sci 4940 and SW 4940)**

**4340 Race, Crime, and Justice (same as CCJ 4340)**

Special Topics courses relevant to trauma studies may be included in the certificate when approved in advance by the coordinator of the trauma studies certificate.

## **Tropical Biology and Conservation Certificate**

(Refer to the Biology section of this Bulletin.)

## **Writing Certificates**

(Refer to English section for Undergraduate Writing and Writing with Technical Emphasis; and the English and College of Education (Teaching and Learning) section for the Graduate Certificate in the Teaching of Writing.)

## **Institute for Women's and Gender Studies**

### **Faculty**

**Kathy Gentile**, Associate Professor of English,\* Director  
Ph.D., University of Oregon  
**Yael Even**, Professor of Art  
Ph.D., Columbia University  
**Susan Feigenbaum**, Professor Economics  
Ph.D., University of Wisconsin  
**Barbara Harbach**, Professor of Music  
Ph.D., Eastman School of Music  
**Janet Lauritsen**, Professor of Criminology and Criminal  
Justice  
Ph.D., University of Illinois-Urbana  
**Zuleyma Tang Martinez**, Professor of Biology  
Ph.D., University of California-Berkeley  
**Lois Pierce**, Professor of Social Work  
Ph.D., Washington University  
**Stephanie Ross**, Professor of Philosophy  
Ph.D., Harvard University  
**Jayne Stake**, Professor of Psychology  
Ph.D., Arizona State University  
**Diane Touliatos**, Professor of Music  
Ph.D., Ohio State University  
**Anne Winkler**, Professor of Economics  
Ph.D., University of Illinois-Urbana  
**Jeanne Morgan Zarucchi**, Professor of French and Art  
History  
Ph.D., Harvard University  
**Ruth Bohan**, Associate Professor of Art History  
Ph.D., University of Maryland  
**Susan Brownell**, Associate Professor of Anthropology  
Ph.D., University of California, Santa Barbara  
**Sheilah Clarke-Ekong**, Associate Professor of  
Anthropology  
Ph.D., University of California; Los Angeles  
**Sally Barr Ebest**, Associate Professor of English  
Ph.D., Indiana University  
**Joan Hashimi**, Associate Professor of Social Work,  
Emeritus  
Ph.D., University of Illinois-Urbana  
**Margo-Lea Hurwicz**, Associate Professor of  
Anthropology  
Ph.D., University of California-Los Angeles  
**Barbara Kachur**, Professor of English  
Ph.D., Ohio State University  
**Jody Miller**, Associate Professor of Criminology and  
Criminal Justice  
Ph.D., University of Southern California  
**Joyce Mushaben**, Professor of Political Science,  
Ph.D., Indiana University  
**Gerda Ray**, Associate Professor of History  
Ph.D., University of California-Berkeley  
**Uma A. Segal**, Associate Professor of Social Work  
Ph.D., Washington University  
**Margaret Sherraden**, Associate Professor of Social Work  
Ph.D., Washington University

**Ann Steffen**, Associate Professor of Psychology  
Ph.D., Indiana University  
**Nanora Sweet**, Associate Professor of English,\*  
Ph.D., University of Michigan  
**Deborah Cohen**, Assistant Professor of History\*  
Ph.D., University of Chicago  
**Terri Conley**, Assistant Professor of Psychology\*  
Ph.D., University of Wisconsin-Madison  
**Farida Jalazai**, Assistant Professor of Political Science  
Ph.D. University of Buffalo - Suny  
**Susan Kendig**, Assistant Professor, Nursing  
MSN,WNP University of Missouri-Kansas City  
**Tivoli Majors**, Assistant Professor of English  
Ph.D., University of Texas at Austin  
**Virginia Navarro**, Assistant Professor in Educational  
Psychology  
Ph.D., Washington University  
**Laura Westhoff**, Assistant Professor of History and  
Education  
Ph.D., Washington University  
**Lori Curtis**, Lecturer in Social Work  
M.S.W., Washington University  
**Deborah Henry**, Lecturer, Director of Continuing  
Education and Outreach  
Ph.D., University of Minnesota  
**Margaret Phillips**, Lecturer in Foreign Languages  
Ph.D., Saint Louis University

### **\*Joint appointees in Women's and Gender Studies**

The Institute for Women's and Gender Studies (IWGS) draws upon the rich body of interdisciplinary feminist scholarship to investigate emerging theories and research on women and gender. Courses examine women's lives, roles, and contributions among different cultures and times, enabling students to broaden their educational experience and develop new insights into their own lives and aspirations. The program offers both day and evening courses.

The faculty and students affiliated with IWGS believe in cooperative education. Classes promote the exchange of knowledge among women and men of different classes, races, sexual orientations, and social conditions. The Women's and Gender Studies program offers an undergraduate certificate that is similar to a minor. (For graduate study, see listing for Institute for Women's and Gender Studies Graduate Certificate.) A certificate is meant to supplement a student's traditional academic major, to encourage a reassessment of gender and women's roles in society, and to facilitate career goals that focus on gender issues. The opportunity to earn a certificate is available to all undergraduates pursuing a degree at UM-St. Louis and to individuals with a bachelor's degree from any university.

Women's and Gender Studies courses are open to all students, whether or not they are working toward a certificate.

Candidates for the certificate should register with the Institute for Women's and Gender Studies program (211 Clark Hall) after they have taken one or two courses. To register, students should complete the certificate form available from any institute faculty or from the institute office. Students interested in the program should contact the director of the program or any member of the women's studies faculty.

### Graduate Certificate Requirements

Students interested in pursuing a graduate certificate must provide evidence of having completed a baccalaureate degree (minimum GPA: 2.75). We request that you submit official transcripts of all previous undergraduate/graduate work, along with two letters of recommendation. If you are not currently enrolled at UM-St. Louis, you must apply through the Graduate School. Applications are available online at [www.umsl.edu](http://www.umsl.edu). The Graduate Certificate is awarded following completion of 18 hours of Women's and Gender Studies courses, at least six hours of which must be taken at the 5000 level or above (some 4000 level courses may also be approved for graduate credit). Students may "customize" their programs by taking up to (but no more than) six hours as Directed Study. Internships are also available at the graduate level.

### Procedures for Post BA/BS Students

Individuals who possess a bachelor's degree from any university or college or who are enrolled in a departmental graduate program at UM-St. Louis are eligible to pursue either an undergraduate Certificate (if they lack previous gender studies background), OR they may apply for admission to the graduate Certificate program. Students not currently enrolled at UM-St. Louis should contact the IWGS office to obtain admissions materials for unclassified students and a listing of current courses offered. Once enrolled, students are requested to fill out a Women's Studies Certificate form available from the Women's Studies office. Registration as a Certificate candidate will entitle you to receive program announcements and the newsletter.

### Institute for Women's and Gender Studies Certificate-Undergraduate

#### Requirements

A student must maintain a minimum GPA of 2.75 for admission and complete 18 hours in Women's and Gender Studies courses, including:

**IWGS (ID) 2102, Women, Gender, and Diversity as well as at least one 4000-level course in Women's and Gender Studies or an independent study or internship (3 hours) to be taken in the junior or senior year.** Students choosing the independent study option will write a research paper on some aspect of women's and gender studies.

Also required are four additional courses chosen from the following list. These shall be distributed among at least two of the following areas: social science, humanities, and natural science. They should also be distributed among at least three academic departments. No more than 3 hours may be taken on a satisfactory/unsatisfactory basis.

Students opting to specialize in a specific "cluster" area will choose four additional courses spread across at least two disciplines, directly from that set of cluster classes.

The following classes apply to all undergraduate cluster listings:

IWGS 4352 Independent Study in Women's and Gender Studies  
IWGS 4353 Internship in Women's and Gender Studies

Honors courses, where appropriate, can also be applied towards Certificate credit in a given cluster, contingent upon consent of the Instructor and approval by the IWGS Director.

### Cluster One — Gender, Language And Identity

**Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity**

**ELECTIVES:** Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above)

Anthro 1041	Sex and Gender Across Cultures
Anthro 3250	American Folklore
Anth/Soc 3286	Society, Arts, and Popular Culture
Comm 3340	Male/Female Communication - [designated sections only]
English 1150	Images of the Elderly in Film
English 3800	Topics of Women in Literature
English 4930	Studies in Women and Literature
English 4130	Advanced Poetry Writing [designated sections only]
English 4800	Linguistics [designated sections only]
English 4850	Topics in the Teaching of Writing- [designated sections only]
English 4170	Reading and Writing Autobiography
History 3032	History of Women in Comparative Cultures
Psych 2230	Psychology of Women
Psych 2140	Female Sexuality
Psych 3345	Lesbian Psychology
Soc 2103	Sex Roles in Contemporary Society
Soc 3224	Marriage and Family
Span 4399	Seminar on Hispanic Literature- [designated sections only]

**Cluster Two — Gender, Theory And The Arts**  
**Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity**

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000-level or above)

Anthro 1021	The Body in Culture
Anthro 1041	Sex and Gender Across Cultures
Anthro 1091	Intro Topics in Anthropology - (designated sections only)
Anthro/Soc 3286	Society, Arts & Pop Culture
Art Hist 3376	Women in the Visual Arts
Art Hist 3396	The Nude in Art
Engl 3800	Topics in Women and Literature
Engl 4930	Studies in Women and Literature
Engl 5351	Theories of Feminism
Phil 2253	Philosophy & Feminism
Phil 4452	Feminism and Science
Phil 4453	Feminist Ethical Theory
Pol Sci 3680	Feminist Political Theory
Music 1080	Women in Music

**Cluster Three – Gender, Health, Aging And Science**  
**Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity**

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above)

Geron 5440	Cultural Aspects of Aging
Geron/Soc 5449	Issues in Retirement
Geron/Psych 4376	Mental Health and Aging
Geron/Soc 4361	Social Gerontology (special consent)
Pol Sci 3570	Gender, Race and Public Policy
Psych 2140	Female Sexuality
Psych 4373	Psychology of Aging (special consent)
Psych 2230	Psychology of Women
Psych 2232	Psychology of Victims
Nurs 4765	Topics in Women's Health
Phil 4452	Feminism and Science
Phil 4453	Feminist Ethical Theory
SW 4950	Seminar in Social Work Issues [special sections only]
IWGS (ID) 5350	Special Topics: Women in Health & Science

**Cluster Four — Gender, Ethnicity And Globalization**  
**Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity**

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above):

Anthro 1041	Sex and gender Across Cultures
Anthro 2123	Cultures of Oceania
Anthro 3235	Women in Sub-Saharan Africa

Comm 3332	Intercultural Communication [special consent]
English 3800	Topics in Women and Literature
English 4930	Studies in Women and Literature
Econ 1001	Principles of Microeconomics: How We Live [specified sections only]
Econ 2410	Work, Families, and Public Policy
Hist 3032	History of Women in Comparative Cultures
Hist 3053	African-American Women's History
Pol Sc 1550	Women and Politics in the Developing World
Pol Sc 3570	Gender, Race, and Public Policy
Pol Sc 3590	Politics, Leadership, and the Global Gender Gap
Span 4399	Seminar on Hispanic Literature- [specified sections only]
SW 4950	Special Topics in Social Work Issues [specified sections only]
SW 4100	Diversity and Social Justice
Soc 4360	Sociology of Minority Groups

**Cluster Five – Gender, Work And Public Policy**  
**Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity**

Electives: Students must complete 15 hours based on any combination of these courses (special consent required for courses at the 5000 level or above)

CCJ 4325	Gender, Crime and Justice
Econ 1001	Principles of Microeconomics: How We Live [specified sections only]
Econ 2410	Work, Families and Public Policy
Hist 2219	Labor History
Pol Sc 2290	Women and the Law
Pol Sc 2510	Gender, Race and Public Policy
Pol Sc 3460	Politics of Poverty and Welfare
SW 4601	Women's Social Issues
SW 4100	Diversity and Social Justice
SW 5300	Community Practice and Social Change
Phil 4452	Feminism and Science
Soc 4360	Sociology of Minority Groups
Soc 5444	Social Policy and Community Planning

**Cluster Six —Gender, Organizations & Leadership:**  
**Required: IWGS (ID) 2102 Introduction to Women's Studies: Women, Gender and Diversity**

Electives: students must complete 15 hours based on any combination of these Courses (special consent required for courses at the 5000 level or above)

Econ 2410	Work, Families and Public Policy
Hist 2219	Labor History
Hist 3031	History of Women in the United States
Hist 3053	African-American Women's History
Pol Sc 2290	Women & the Law
Pol Sc 2380	Women in US Politics

Pol Sc 3590	Women, Leadership & Global Gender Gap
Pol Sc 3680	Feminist Political Theory
Pol Sc 4940	Leadership & Management in Non-Profit Organizations
Pol Sc 3430	Union Leadership & Administration (special consent)
Phil 4453	Feminist Ethical Theory
Phil 4452	Feminism and Science
IWGS 5350	Special Topics in Gender, Organization and Leadership

### Course Descriptions

#### 1220 Special Topics in Gerontology (1-3)

(Same as Ger 1220). Selected topics dealing with various aspects of gerontology. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with permission of the Gerontology director.

#### 2102 Introduction to Women's Studies: Gender and Diversity (3)

(Same as Psy 2102 and Soc 2102).

This core course is required for all Women's and Gender Studies Certificate earners. This class introduces students to the cultural, political and historical issues of concern to women and familiarizes students with the diversity of women's experiences across lines of social class, race, sexuality, and culture. It includes representations and women's contributions to multiple disciplines including anthropology, history, philosophy, politics, psychology and sociology.

#### 2103 Gender Roles in Society (3)

Prerequisites: Soc 1010 or IWGS 2102 or consent of instructor. (Same as Soc 2103) The study of social processes through which gender roles are developed and acquired; the impact of gender roles on personal identity and social conduct; the relationship between gender roles and social inequality; and individual and social consequences of changing gender roles in contemporary society.

#### 2150 Special Topics in Women's and Gender Studies\* (3)

An introduction to a particular topic area in women's studies (topics will be announced prior to registration), drawing on the theories and methods of such disciplines as sociology, Psychology, political science, history, philosophy, art history, and others to examine particular aspects of women's experience in social and cultural life. Course may satisfy the distribution requirement for Humanities or Social Sciences depending on the topic.

#### 3350 Special Topics in Women's and Gender Studies (3)

Prerequisites: WGS 2102 or consent of instructor. Special Topics in Women's and Gender Studies. Topics vary by semester.

#### 3352 Independent Studies in Women's and Gender Studies (1-3)

Prerequisite: Junior standing; two courses in Women's and Gender Studies, including 2102; and consent of the instructor and the Institute. Directed independent work in selected Women's and Gender Studies topics through readings, research, reports and/or conferences. Course may satisfy the distribution requirement for the Humanities, Social Sciences or Math/Science depending on topic.

#### 4350 Special Topics in Women's and Gender Studies\* (3)

Prerequisites: IWGS 2102 or consent of instructor. Special topics examined from a gender perspective in the fields of Anthropology, Art History, Criminology, Economics, English, Foreign Language, History, Philosophy, Political Science, Psychology, Social Work, Sociology, Business, or others. Topics and departments vary by semester.

#### 4352 Independent Study in Women's and Gender Studies (1-3)

Prerequisites: IWGS 2102 or consent of instructor. Independent, directed readings and research in a Women and Gender related topic, to be determined in consultation with instructor.

#### 4353 Internship in Women's and Gender Studies (3)

Prerequisite: 90 hours. 2.5 GPA, 12 IWGS hrs. Internship would place the student in a profit or nonprofit setting for approximately ten hours a week in an internship structured and supervised by the Institute; consent of Director required; may include biweekly seminar. Student must present appropriate course background for either option, plus the above pre/co-requisites.

#### 5350 Topics in Women's and Gender Studies (3)

Prerequisite: Junior standing and one Women's and Gender Studies course. This course will focus on a particular aspect of women's conditions (to be announced prior to registration) and will draw upon recent theoretical and methodological work in the field of women's and gender studies from a variety of disciplines. Course may satisfy the distribution requirement for Humanities, Social Sciences depending on the topic.

#### 5351 Theories of Feminism (3)

Prerequisites: Junior standing, IWGS 2102 or consent of instructor. An analysis of contemporary theories of feminism, including liberal, racial, socialist, and women-of-color perspectives, and an exploration of underpinnings of feminist theory in major systems of thought.

**5450 Special Topics in Women's and Gender Studies (3)**

Prerequisites: Graduate standing or consent of instructor. Special topics at the Graduate level examined from a gender perspective in the field of Anthropology, Art History, Criminology, Economics, English, Foreign Language, History, Philosophy, Political Science, Psychology, Social Work, Sociology, Business, or others. Topics and departments vary by semester.

**6401 Inquiries in Women's and Gender Studies (3)**

Introduces graduate students to the field of women's studies, with particular focus on its vocabulary and evolution, its location within and relationship to the academy, and its predominant theoretical and methodological frameworks. Specific content will vary year to year. Strongly encouraged for graduate students in Women's and Gender studies.

**6450 Seminar in Women's and Gender Studies (3)**

Critical examination of advanced topics in the humanities, social sciences, or natural sciences from women's and gender studies perspectives. May be taken more than once provided that the subject matter is different each time the seminar is taken.

**6452 Special Readings in Women's Studies/Gender Studies (3)**

Prerequisite: Admission to Graduate Certificate program and consent of instructor. Directed independent work on a selected Women's and Gender Studies topic through readings, research, reports, and/or conferences.

**6353 Graduate Internship in Women's and Gender Studies (1-6)**

Prerequisites: Graduate standing and consent of Director. Provides an opportunity for the Graduate Women's and Gender Studies student to acquire "real world" experience working in a non-profit, political, economic, or social service organization with a gender focus.

**\* Each semester the director of the Institute of Womens' and Gender Studies identifies courses being offered by other departments and they are cross listed with Women and Gender Studies courses under the special topic course title. Consult the course schedule each semester for a list of these courses.**

## Pre-Professional Programs

Students at the University of Missouri-St. Louis may develop pre-professional study programs from the university's academic offerings in architecture, engineering, dentistry, journalism, law, medicine, optometry, or pharmacy. With early and careful advising, students may develop a two-year study program in preparation for transfer into a professional program in the junior year, or they which provide strong undergraduate preparation for may select a major field of study and related area courses graduate professional study.

Students should seek pre-professional faculty advisers in their interest area early in their academic careers to ensure development of sound, comprehensive study programs which fulfill the admission requirements of the professional program to which they wish to apply.

The following information on pre-professional study at UM-St. Louis is provided to give students minimal guidelines and assistance in planning a program.

### Pre-Architecture

The Department of Art and Art History sponsors the 3+4 Program for the School of Architecture at Washington University. A student who is accepted to the School of Architecture, Washington University, at the end of the junior year may graduate with a bachelor of arts degree in art history from UM-St. Louis after the satisfactory completion of the first year of professional school upon meeting one or more of the following conditions:

- 1) The student has completed all general education requirements and all requirements for the art history major and lacks only the total hours (electives) necessary for a degree. (The courses at Washington University will fulfill all remaining courses.)
- 2) A student who has not completed required courses for the art history degree must remedy the deficiency with courses taken at the UM-St. Louis within three years of entering the professional school. At the time of graduation, the student must remain in good standing in the professional school or have successfully graduated from professional school.
- 3) A student who has not completed all the courses required for the art history major may, if the art and art history department at UM-St. Louis approves, substitute up to six hours of appropriate course work from the professional school.

The requirement that 24 of the last 30 hours of course work for a degree be taken at UM-St. Louis shall be waived where necessary for students graduating under this procedure. For more information on admission requirements, please contact the College of Arts and Sciences at (314) 516-5501, 303 Lucas Hall.

## Pre-Engineering

The Joint Undergraduate Engineering Program of the University of Missouri-St. Louis and Washington University was established in 1993. It allows UM-St. Louis to offer complete bachelor of science degree programs in mechanical, electrical and civil engineering.

All three programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Students who enter the joint program take the pre-engineering half of their course work on the campus of UM-St. Louis. The remaining half of their degree programs, consisting of upper-level engineering courses and laboratories, is taken on the campus of Washington University and taught by Washington University engineering faculty members. The two campuses are separated by a driving time of about 15 minutes.

The UM-St. Louis pre-engineering program provides a solid base in mathematics, physics, chemistry, and introductory engineering subjects. Students completing the pre-engineering program will be well prepared for transferring to engineering schools throughout the United States, including UM-Columbia, UM-Rolla, Washington University, and SIU-Edwardsville, in addition to continuing their education and earning their engineering degrees at UM-St. Louis.

### Admission Requirements

In addition to the general admission requirements, prospective undergraduate engineering and pre-engineering students may be required to take a mathematics placement test, given at UM-St. Louis, the semester before enrolling.

Although there is no required pattern of high-school units for admission to the undergraduate engineering or pre-engineering programs, students are urged to complete at least four units of mathematics, including units in algebra (excluding general mathematics) and trigonometry. Calculus, if available, is also strongly recommended.

The following indicates pre-engineering course work required for students planning to pursue a bachelor of science degree in engineering at UM-St. Louis through the joint program with Washington University.

### Math

- 1800, Analytic Geometry and Calculus I
- 1900, Analytic Geometry and Calculus II
- 2000, Analytic Geometry and Calculus III
- 2020, Introduction to Differential Equations

### Chemistry

- 1111, Introductory Chemistry I
- 1121, Introductory Chemistry II

### Physics

- 2111, Physics: Mechanics and Heat

**2112, Physics: Electricity, Magnetism, and Optics**  
**Introductory Engineering**  
**Engineering**  
**2310, Statics**  
**2320, Dynamics**  
**Humanities, Social Sciences, and English Composition**  
**English**  
**1100, Freshman Composition**  
**Humanities Electives (three courses)**  
**Social Sciences Electives (three courses)**

Students planning to earn a bachelor of science degree in engineering at UM-St. Louis should choose humanities and social sciences electives to meet both the UM-St. Louis general education requirements and the humanities and social sciences requirements of the Joint Undergraduate Engineering Program. In particular:

- \* A course in American history or government, or in Missouri history or government, must be included.
- \* The cultural diversity requirement must be fulfilled.
- \* A total of three humanities and three social science courses are required. At least 1 credit hour must be in a course at the junior level or higher, taken at a four-year institution.

For further information about undergraduate engineering and pre-engineering programs at UM-St. Louis, please contact the UM-St. Louis/Washington University Joint Undergraduate Engineering Program at 228 Benton Hall, (314) 516-6800.

#### **Pre-Journalism**

Students wishing to pursue a journalism degree should review the entrance requirements of the schools they would like to attend for information on suggested pre-journalism courses of study.

Students seeking a degree from the University of Missouri must complete their junior and senior years at the School of Journalism, University of Missouri-Columbia. **For admission, students must present to the UMC School of Journalism 60 acceptable credit hours to include required courses listed below.**

#### **Required Courses**

The following studies are required for admission to the School of Journalism:

**English Composition:** Students must complete at least the second course in an English composition sequence with a grade of B or higher. If a grade of C is received, the student must pass the Missouri College English Test on the UMC campus. Advanced Placement (AP) English Composition credit will be accepted for incoming freshmen admitted to UMC fall semester 2002 and after.

**Math:** Students must complete College Algebra with a grade C- range or higher, or have a minimum ACT math score of 26 or a minimum SAT score of 600.

**Foreign Languages:** Four years of high school work in one foreign language or 12-13 hours of college work in one foreign language.

**Biological, Mathematical, Physical Science:** Math 1310 – Elementary Statistics **plus** six hours from biological anthropology, biology, chemistry, astronomy, geology, physics, above college algebra level math or computer science.\* One course must include a lab. **Please note:** College Algebra is the prerequisite course for statistics at UMC and UM-St. Louis.

\* Computer Science 1250 – Introduction to Computing.

**Social Science:** Twelve hours are required. American History or American Government/Introduction to Political Science, **plus** Microeconomics **plus** six hours to include a behavioral science (anthropology, but not Anthropology 1005, psychology or sociology). **Please note:** Pre-advertising majors must complete both microeconomics and macroeconomics.

**Humanistic Studies:** Nine hours are required to include three hours in American or British literature, **plus** two courses from any of the following areas: history or appreciation of art or music, humanities, philosophy, religious studies, non-U.S. civilization or classical studies, history or appreciation of communication, film or theatre.

**In addition, word processing skills are required (40 words per minute). A minimum TOEFL score of 600 is required for students whose native language is not English.**

*Nontransferable courses at the School of Journalism include: basic military science, basic physical education, word processing or computer applications, typing or practical arts/vocational technical education courses, photography, public relations, advertising, journalism or mass communication, orientation, professional skills, college preparatory, and no more than three hours maximum of applied music, dance, acting or studio art.*

Students are required to take three journalism courses (minimum C- range grades) at UMC prior to admission to the school: J1100 – Principle American Journalism, J2100 – News, and J2000 – Cross Culture Journalism. The English composition requirement must be satisfied prior to enrollment in J2000 and J2100. Completion of 15 hours and a minimum 2.75 GPA are required for J1100. A minimum 2.8 GPA is required for J2100 and J2000

The School computes the grade point average for transfer students based on courses accepted toward admission until a Mizzou GPA is established. The School uses the Mizzou



GPA for enrollment in the preliminary journalism courses and for acceptance to the sequences.

**Admission is by sequence.** Sequences offered are Advertising, Broadcast News, Magazine, News-Editorial and Photojournalism.

The School accepts credit through the College-Level Examination Program (CLEP – subject exams only), Advanced Placement Program (AP), and the International Baccalaureate (IB) program. Regulations apply.

**Credit should be referred for review;**

Please send official transcripts to:  
Admissions, 230 Jesse Hall, Columbia, MO 65211.

For advisement and information, contact the Office of Undergraduate Student Affairs in the College of Arts and Sciences, 303 Lucas Hall, 314-516-5501.

**Pre-Law**

Students planning to attend law school must pursue an undergraduate degree of their choice. There is no such thing as a pre-law major. Law schools encourage students to pursue a course of study that includes a broad liberal arts background. The pre-law advisor will assist students in choosing courses that will enhance their analytical and writing skills.

English language and literature courses are virtually indispensable. An awareness of the institutional processes of government obtained through study in political science is needed. Since law is inseparable from historical experience, an acquaintance with American history is important. Students should acquire a knowledge of macro- and microeconomics. Statistics, accounting, and computer science are valuable in understanding special legal subjects and the practice of law. Other recommended courses include logic, general psychology, into sociology, ethics, theories of justice, and courses that promote cultural awareness.

The University of Missouri has law schools at Columbia and Kansas City. University of Missouri-St. Louis students may seek assistance in planning an undergraduate program, preparing for the LSAT, and applying to law school in the office of the pre-law adviser. Students should contact the pre-law adviser through the College of Arts and Sciences, 303 Lucas Hall, (314) 516-5501, early in their undergraduate studies.

**Pre-Health Sciences**

Students wishing to enter medical, dental, optometry, or veterinary medicine schools should pursue B.A. or B.S. degrees with majors in the disciplines of their choice, but should take whatever additional courses may be necessary as prerequisites for admission to the professional school.

Since admission requirements vary, students are urged to consult the catalogs of the schools to which they intend to apply. Updated information may be found in:

***Medical School Admission Requirements (United States and Canada)\*\****

Phone: 1-202-828-0416; Website: [www.aamc.org](http://www.aamc.org)

**American Dental Education Association Official Guide to Dental Schools**

Phone: 1-202-289-7201; Website:

[www.aads.jhu.edu/links.html](http://www.aads.jhu.edu/links.html)

**Schools and Colleges of Optometry Admission Requirements**

Phone: 1-301-231-5944; Website: [www.opted.org](http://www.opted.org)

**Pharmacy School Admission Requirements**

Phone: 1-703-739-2330; Website: [www.aacp.org](http://www.aacp.org)

**Veterinary Medical School Admission Requirements in the United States and Canada**

Phone: 1-202-371-9195; Website:

[www.aavmc.org/preref.htm](http://www.aavmc.org/preref.htm)

**\*\*A copy of the MSAR is also available at the reference desk of the Thomas Jefferson Library.**

**Suggested Courses (Pre-Med, Pre-Dental, Pre-Vet)**

Many medical schools recommend the following undergraduate courses:

**Biology:** Biology 1811, Introductory Biology: From Molecules to Organisms; Biology 1821, Introductory Biology: Organisms and the Environment; Biology 2012, Genetics; and additional courses in molecular and/or cell biology.

**Chemistry:** Chemistry 1111, Introductory Chemistry I; Chemistry 1121, Introductory Chemistry II; Chemistry 2612, Organic Chemistry I; 2622, Organic Chemistry II; Chemistry 2633, Organic Chemistry Lab; and additional courses in organic chemistry and quantitative analysis. (Biochemistry is recommended.)

**Mathematics:** Students should take courses at least through calculus, as appropriate for the major degree, i.e., Math 1800, Analytical Geometry & Calculus I, or Math 1100, Basic Calculus. (Consult with the Pre-Health Sciences advisor.)

**Physics:** 8 credit hours or as appropriate for the degree chosen, i.e. Physics 1011 & 1012-Basic Physics, OR Physics 2111, Physics: Mechanics and Heat and Physics 2112, Physics: Electricity, Magnetism and Optics. (Consult with the Pre-Health and Sciences advisor.)

Successful completion of these recommended courses also helps students prepare for required standardized exams.

Since students are not confirmed for admission to professional schools until the science requirements for admission are fulfilled, students should meet the science requirements before the end of the junior year. To complete these requirements in time, Chemistry 1111 and

1112, Introductory Chemistry I and II should be taken during the freshman year.

Students also should take the required national standardized examination before or during the junior year as is appropriate for the exam: The Medical College Admission Test for pre-med students; the Medical College Admission Test or Graduate Record Exam for pre-vet students; the Dental Aptitude Test for pre-dental students; the Optometry Admission Test for pre-optometry students; and the Pharmacy College Admission Test (if required) for pre-pharmacy students. (Note: pre-vet students should consult with their intended veterinary colleges for appropriate test information.)

Each year the number of applicants to health profession schools exceeds the number of available places. Students, therefore, are encouraged to have alternative plans should they not gain entrance. Nursing, laboratory technology, and allied health may be considered as alternative fields.

For more information, testing dates, or pre-health science advising, contact the pre-health professions adviser through the College of Arts and Sciences, 303 Lucas Hall, (314) 516-5501.

### Pre-Optometry

The University of Missouri-St. Louis offers a four-year program of study leading to the doctor of optometry degree; this professional degree is administered by the College of Optometry. It is one of only 16 schools of optometry in the United States and the only one in the state of Missouri.

Because the University offers the doctor of optometry degree, it is an ideal institution for pre-optometry education. There are three distinct programs available to UM-St. Louis pre-optometry students:

The Department of Biology and the Department of Physics and Astronomy sponsor **3+4 Programs** for the UM-St. Louis College of Optometry. In these programs, a student may be admitted to the College of Optometry after completing three years (90 semester hours) of study in their respective majors and successful completion of the Optometry Admission Test. Note: Math 1800, Analytical Geometry and Calculus I must be taken in the first semester. The undergraduate degree is granted when the student satisfactorily completes the first year of the professional program. One or more of the following conditions must be met in order to qualify for the undergraduate degree. 1) All general education requirements and all requirements for the biology or physics major, except electives, must be completed. 2) Any deficiency in required courses must be remedied with courses taken at UM-St. Louis within three years after entering the College of Optometry. 3) Up to 6 hours from the College of Optometry may be substituted for undergraduate degree in Biology with approval of the

Department of Biology. For more information, contact the Department of Biology, (314) 516-6200. 4) 12 hours in Optometry are required to complete the B.S. in Physics degree. For more information, call the Department of Physics and Astronomy at (314) 516-5931.

The Pierre Laclède Honors College and the College of Optometry offer the **Scholars Program**; this program allows a student to complete both the undergraduate and doctor of optometry degrees in seven years. To qualify for this program, a student must be a senior in high school; scored a minimum composite of 27 on the ACT; and be accepted to the UM-St. Louis Pierre Laclède Honors College program. For more information about the Scholars Program, contact the Pierre Laclède Honors College, (314) 516-6870.

For more information on admission requirements for the College of Optometry, please refer to the Optometry section of this Bulletin.

### Pre-Pharmacy

In general, a pharmacy program may consist of 1-3 years of pre-professional study followed by 4-5 years in a professional program. Some institutions, however, offer the entire program at the pharmacy college or school. *Since entrance requirements vary, students should consult the catalog and/or web site of the college or school to which they want to apply.* Missouri has two pharmacy schools: St. Louis College of Pharmacy, and University of Missouri-Kansas City School of Pharmacy. Beginning Fall 2005, the metropolitan area also includes Southern Illinois University Edwardsville School of Pharmacy. Internet links for these and other pharmacy programs in the United States, Canada and abroad can be found at the web site for the American Association of Pharmacy Colleges, [www.aacp.org](http://www.aacp.org).

Before taking any courses for pre-pharmacy, UM-St. Louis students should contact the College of Arts and Sciences, 303 Lucas Hall, for pre-pharmacy information. It is important that students take the correct courses for the pharmacy programs they are seeking. *Generally*, science admission requirements may include *some or all* of the courses listed below (*and possibly other courses*):

Bio 1811-Introductory Biology: From Molecules to Organisms  
Bio 1821-Introductory Biology: Organisms and the Environment  
Bio 1131-Human Physiology and Anatomy I  
Bio 1141-Human Physiology and Anatomy II  
Chem 1111-Introductory to Chemistry I  
Chem 1121-Introductory to Chemistry II  
Chem 2612-Organic Chemistry I  
Chem 2622-Organic Chemistry II  
Chem 2633-Organic chemistry Laboratory  
Math 1800-Analytical Geometry and Calculus I  
Physics 1011-Basic Physics

Physics 1012-Basic Physics

Usually, pre-pharmacy requirements also include courses in English composition, humanities, social and behavioral sciences. The specific pharmacy school or college determines these requirements. In addition, many pharmacy institutions require applicants to take the Pharmacy College Admission Test (PCAT). Detailed information about the PCAT is available online at [www.pcatweb.info](http://www.pcatweb.info). For additional information about application deadlines and procedures, gpa requirements, and letters of recommendation, students should consult the catalogs and/or web sites for the programs they intend to apply.

Pre-Pharmacy advising and information is available through the Office of Undergraduate Student Affairs in the College of Arts and Sciences, 303 Lucas Hall, 314-516-5501.

## College of Business Administration

### Faculty

- Keith Womer**, Professor\*, Dean  
Ph.D. Pennsylvania State University
- John J. Anderson**, C.P.A., C.M.A., Professor, Associate Dean Emeritus  
Ph.D., University of Wisconsin-Madison
- David R. Ganz**, Assistant Professor; Associate Dean Emeritus and Director of Undergraduate Studies in Business  
M.S. in C., Saint Louis University
- Albert P. Ameiss**, Professor Emeritus  
Ph.D., Saint Louis University
- Nasser Arshadi**, Professor\*, Vice Provost for Research  
Ph.D., University of Nebraska
- Howard B. Baltz**, Professor Emeritus  
Ph.D., Oklahoma State University
- Allan Bird**, Professor\*, Director, International Business Institute  
Ph.D., University of Oregon
- James A. Breugh**, Professor\*; Coordinator of Management  
Ph.D., Ohio State University
- James F. Campbell**, Professor\*,  
Ph.D., University of California, Berkeley
- William P. Dommermuth**, Professor Emeritus  
Ph.D., Georgia State University
- Douglas E. Durand**, Professor, Dean Emeritus  
Ph.D., Washington University
- Thomas H. Eysell**, Professor\*, Director of Graduate Studies in Business  
Ph.D., Texas A & M
- Hung-Gay Fung**, Professor \*  
Ph.D., Georgia State University
- Michael M. Harris**, Professor\*  
Ph.D., University of Illinois-Chicago
- Marius A. Janson**, Professor\*  
Ph.D., University of Minnesota
- Kailash Joshi**, Professor\*  
Ph.D., Indiana University
- Mary Lacity**, Professor\*  
Ph.D., University of Houston
- Edward C. Lawrence**, Professor\*; Coordinator of Finance  
Ph.D., Pennsylvania State University
- Joseph S. Martinich**, Professor\*  
Ph.D., Northwestern University
- Ray Mundy**, Professor\*; Director, Center for Transportation Studies  
Ph.D., Pennsylvania State University
- Robert M. Nauss**, Professor\*; Coordinator of Logistics and Operations Management  
Ph.D., University of California, Los Angeles
- David Ricks**, Curator Professor\*  
Ph.D., Indiana University
- David Ronen**, Professor\*  
Ph.D., Ohio State University
- Rajiv Sabherwal**, Curator Professor\*  
Ph.D., University of Pittsburgh
- Vicki Sauter**, Professor\*  
Ph.D., Northwestern University
- L. Douglas Smith**, Professor\*; Director, Center for Business and Industrial Studies  
Ph.D., University of Minnesota
- Robert S. Stich**, Professor Emeritus  
Ph.D., New York University
- Fred J. Thumin**, Professor Emeritus; Diplomat, Industrial and Organizational Psychology  
Ph.D., Washington University
- Deborah B. Balsler**, Associate Professor\*  
Ph.D., Cornell University
- Donald H. Driemeier**, Associate Professor Emeritus; Dean Emeritus  
D.B.A., Washington University
- Michael T. Elliott**, Associate Professor\*  
D.B.A., Mississippi State University
- Timothy A. Farmer**, C.P.A., Associate Professor\*  
Ph.D., Ohio State University
- Greg Geisler**, Associate Professor\*  
Ph.D., University of North Carolina at Chapel Hill
- D'Anne G. Hancock**, Associate Professor\*  
Ph.D., University of New Orleans
- Julius H. Johnson, Jr.**, Associate Professor\*  
Ph.D., George Washington University
- Charles R. Kuehl**, Associate Professor Emeritus  
Ph.D., University of Iowa
- Donald R. Kummer**, Associate Professor\*  
Ph.D., University of Oregon
- Haim Mano**, Associate Professor\*; Coordinator of Marketing  
Ph.D., University of Chicago
- Stephen R. Moehrle**, C.P.A., Associate Professor\*  
Ph.D., Indiana University
- Mary Beth Mohrman**, Associate Professor\*,  
Coordinator of Accounting  
Ph.D., Washington University
- R. Frank Page**, C.P.A., Associate Professor Emeritus  
Ph.D., University of Illinois
- Paul S. Speck**, Associate Professor\*  
Ph.D., Texas Tech University
- Ashok Subramanian**, Associate Professor\*; Coordinator of Information Systems  
Ph.D., University of Houston
- James M. Krueger**, C.P.A., Assistant Professor\*; Vice Chancellor for Managerial & Technological Services  
D.B.A., Indiana University
- Natalia Mintchik**, Assistant Professor\*  
Ph.D., University of North Texas, Denton
- Dinesh Mirchandani**, Assistant Professor\*  
Ph.D., University of Kentucky
- Jennifer Reynolds-Moehrle**, C.P.A., Assistant Professor\*  
Ph.D., Indiana University

**Joseph Rottman**, Assistant Professor\*  
Ph.D., Washington University

**Mahesh Shankarmalesh**, Assistant Professor\*  
Ph.D., Old Dominion University

**Gregory E. Sierra**, Assistant Professor\*  
Ph.D., Washington University in St. Louis

**Michael J. Stevens**, Assistant Professor\*  
Ph.D., Purdue University

**Donald C. Sweeney II**, Adjunct Professor;  
Associate Director, Center for Transportation Studies  
Ph.D., Washington University

**Gaiyan Zhang**, Assistant Professor\*  
Ph.D., University of California, Irvine

**David A. Bird**, Instructor Emeritus  
M.S., Washington University

**Lindell P. Chew**, Instructor  
M.B.A., University of Missouri-Columbia

**John Cox**, Instructor Emeritus  
M.A., University of Missouri-Columbia

**Ottilia Voegtli**, Instructor Emeritus  
M.B.A., University of Missouri-St. Louis

**Wayne W. Winter**, Instructor; Assistant Coordinator in  
Legal and Business Studies  
L.L.M., Washington University

**Robert J. Banis**, Lecturer  
Ph.D., North Carolina State University at Raleigh

**Michael Brown**, Lecturer  
M.B.A., Walsh College of Accounting & Business  
Administration

**Joy Dakich**, Lecturer  
M.A., University of Missouri-St. Louis

**Peggy A. Lambing**, Lecturer  
M.B.A., University of Missouri-St. Louis

**William R. Link, C.P.A.**, Lecturer  
M.B.A., University of Missouri-Columbia

**Kenneth W. Locke**, Lecturer  
D.B.A., Indiana University-Bloomington

**Gwen Moore**, Lecturer  
M.B.A., Washington University

**Johnna Murray**, Lecturer  
MAcc., University of Missouri-St. Louis

**Rhonda Tenkku**, Lecturer  
M.B.A., University of Missouri-St. Louis

**James Tiburzi**, Lecturer  
M.B.A., University of Illinois-Urbana

**Elizabeth W. Vining**, Lecturer  
M.B.A., University of Missouri-St. Louis

\*member of Graduate Faculty

### History

The University of Missouri - St. Louis College of Business Administration was established in 1967, and was accredited by AACSB-International six years later, the shortest time on record for any school to receive accreditation of its business program. AACSB-International is the only internationally recognized accrediting agency for business and accounting programs. In 1995, the College of Business Administration received reaccreditation of its business programs, both

undergraduate and graduate; and initial separate accreditation of its undergraduate and graduate accounting programs.

### Mission

The College of Business Administration is committed to:

- Provide students a high quality business education at the undergraduate and graduate levels.
- Conducting and disseminating basic and applied research that advances our understanding of issues relevant to the effective administration of organizations.
- Creating educational value by delivering innovative, cutting-edge curriculum, using both traditional and nontraditional delivery methods.
- Serving the University, the St. Louis business and not-for-profit communities, the citizens of Missouri, and society at large.

### College of Business Administration Programs

#### Undergraduate Degrees

Bachelor of Science in Accounting

Bachelor of Science in Business Administration  
(with possible emphasis areas in)

Finance

International Business

Logistics and Operations Management

Management and Organizational Behavior

Marketing

Bachelor of Science in Information Systems

#### Undergraduate Minors

Accounting

Employee Training and Development

Finance

General Business

Information Systems

International Business

Logistics and Operations Management

Management

Marketing

#### Undergraduate Certificate

International Business Certificate (see International Studies)

#### Graduate Degrees

Master of Accounting

Auditing/Systems

Corporate Accounting

Public Sector Accounting

Taxation

Master of Business Administration  
Accounting

Finance  
Logistics and Supply Chain Management  
Management  
Marketing  
Operations Management

Master of Science in Information Systems

Ph.D. in Business Administration  
Information Systems  
Logistics and Supply Chain Management

#### Graduate Certificates

Graduate Certificate Program in Business Administration  
Graduate Certificate in Electronic Commerce  
Graduate Certificate in Human Resources Management  
Graduate Certificate in Information Resource Management  
Graduate Certificate in Information Systems Development  
Graduate Certificate in Logistics and Supply Chain Management  
Graduate Certificate in Marketing Management  
Graduate Certificate in Taxation  
Graduate Certificate in Telecommunications Management

#### Undergraduate Programs

Detailed information concerning all degree requirements can be found by visiting our web site, "Alphie" at [http://www.umsl.edu/divisions/business/undergrad\\_advising/](http://www.umsl.edu/divisions/business/undergrad_advising/).

#### Lower Division Requirements—all degrees—all students

Each student must complete a 42-hour block of general education coursework fulfilling six goals--three skill goals and three knowledge goals. The skill goals include two courses in communicating, one course in managing information and one course in valuing. The knowledge goals include three courses in the social sciences, three courses in the humanities, and four courses in the combined areas of mathematics and science. All courses must be selected from a list approved by the Faculty Senate of the campus. In many instances courses required by the College of Business Administration for each of its degree programs will satisfy a segment of the general education requirements. A list of courses which fulfill the humanities, social science, and math/science knowledge goals can be obtained in the Office of Undergraduate Academic Advising in the College of Business Administration, 487 Social Sciences and Business (SSB) building; or by visiting our web site.

#### Lower Division Non-Business Course Requirements

Students pursuing any undergraduate business degree must complete the following non-business courses:  
English 1100, Freshmen Composition (communicating skill goal)  
One additional "communicating skills goal" course  
Mathematics 1030, College Algebra (math/science knowledge goal)

Mathematics 1100, Basic Calculus (math/science knowledge goal)  
Mathematics 1105, Basic Probability and Statistics (math/science knowledge goal)  
Economics 1001, Principles of Microeconomics (valuing skill goal and social science knowledge goal)  
Economics 1002, Principles of Macroeconomics (social science knowledge goal)  
A science lecture course (math/science knowledge goal)  
A cultural diversity course  
A course required by the State of Missouri  
Three humanities courses (humanities knowledge goal)  
Two social science courses (in addition to those above)

#### Lower Division Business Course Requirements

##### Business Administration (BA)

1800, Computers and Information Systems (managing information skill goal)  
2400, Fundamentals of Financial Accounting  
2410, Managerial Accounting  
2900, Legal Environment of Business

#### Upper Division Requirements—all degrees—all students

#### Upper Division Non-Business Requirement

English 3120, Business Writing, with a minimum grade of C-

#### Upper Division Non-Business or Business Requirement

Two global awareness courses selected from an approved list maintained in the Office of Undergraduate Academic Advising in the College of Business Administration; also available on our web site

#### Upper Division Business Requirements

##### Business Administration (BA)

3300, Business Statistics  
3320, Introduction to Operations Management  
3500, Financial Management  
3600, Management and Organizational Behavior  
3700, Basic Marketing  
4219, Strategic Management  
A minimum of 18 additional hours of upper division approved business electives

#### Assessment—All degrees—all students

The Academic Profile Test is administered to all entering freshmen and to all graduating seniors.  
Business Administration 4220, Business Assessment Testing, is administered to all graduating seniors. A "Satisfactory" grade is required for graduation.

#### General Degree Requirements—all degrees—all students

Students must complete a minimum of 120 credit hours for any baccalaureate degree from the College of Business Administration

Students must complete a minimum of 60 non-business hours

Students must complete a minimum of 48 hours in business courses

Students must complete a minimum of 36 hours of upper division business courses

Students are limited to a maximum of 24 credit hours in any single business discipline beyond core courses

Students are limited to a maximum of 78 credit hours in business and economics combined

Students must attain a minimum campus grade point average of 2.0. Grade modification may be used in calculating this grade point average

Students must attain a minimum business grade point average of 2.0. Grade modification may not be used in calculating this grade point average

Students seeking an emphasis area or major within the Bachelor of Science in Business Administration degree, Bachelor of Science in Accounting degree, and/or Bachelor of Science in Information Systems degree must attain a minimum grade point average of 2.0 in the emphasis/major. Grade modification may not be used in calculating this grade point average

A minimum grade of C- is required for each course in the business core (except BA 4219); for each course which serves as a prerequisite for another course; and for each course in an emphasis area and/or major

Of the maximum of 18 hours which may be taken on a satisfactory/unsatisfactory graded basis, only 9 hours can be in business, and those are restricted to electives--courses beyond the required business core courses

Business course prerequisites are enforced by the College of Business Administration and include a minimum campus grade point average of 2.0 as a condition for taking any upper division business course

Emphasis Areas may be added for up to two years following degree completion

Each additional degree from the College of Business Administration requires 15 unique hours taken at UM-St. Louis subsequent to completion of the prior business degree

#### **Transfer Issues**

Students must complete a minimum of 60 hours from four year, baccalaureate degree granting colleges/universities. A minimum of 50% of all business course work must be completed at UM-St. Louis

Students must complete a minimum of 21 graded hours in business courses

Individuals must complete their last 30 hours in residence at UM-St. Louis

A minimum of 56 graded hours at UM-St. Louis are required to qualify for consideration for Latin Honors

Students seeking to use a lower division course to satisfy an upper division business requirement must validate the course being transferred. If successfully validated, the transfer course will waive the need to take the upper division equivalent course at UM-St. Louis, but the course transferred will be counted as lower division; it will not

count toward the 36 upper division hours required in business

Completion of a 42-hour general education block, which is certified by the sending institution as fulfilling its general education requirement, will be viewed as fulfilling UM-St. Louis' general education. However, all lower division courses required as part of a degree program at UM-St. Louis must be completed.

### **Requirements Unique to Specific Degrees in the College of Business Administration**

#### **Bachelor of Science in Accounting Degree**

##### **Mission**

To foster excellence in accountancy by:

- 1) Providing a rigorous educational experience as a framework for lifelong learning to individuals of diverse academic backgrounds
- 2) Creating, expanding and disseminating knowledge through scholarly activities
- 3) Serving the academic, professional and business communities

#### **Lower or Upper Division Non Accounting Courses Required**

One of:

Communication 1030, Interpersonal Communication I  
or  
Communication 1040, Introduction to Public Speaking  
or  
Business Administration 3100, Contemporary Business Communications

and one of:

Philosophy 1130, Approaches to Ethics  
or  
Philosophy 2254, Business Ethics

#### **Upper Division Accounting Courses Required**

##### **Business Administration (BA)**

3401, Financial Accounting and Reporting I  
3402, Financial Accounting and Reporting II  
3411, Cost Accounting  
3441, Income Taxes

and one of either

3421, Accounting Information Systems and Spreadsheet Applications  
or  
3810, Information Systems Analysis

See the Office of Undergraduate Academic Advising for alternatives to satisfy the State of Missouri's requirement of 150 hours for eligibility to take the Uniform Certified Public Accounting Examination.

**Bachelor of Science in Business Administration Degree****General Business**

For those undecided regarding a specific emphasis area, a general business degree option is available. Students must complete a minimum of 18 hours of upper division approved business electives (see comprehensive list of business courses in the course descriptions section of this publication)

**Emphasis in Finance**

Finance is a multidisciplinary field that combines various concepts from management, economics and accounting with financial techniques to make sound business decisions and solve problems.

A minimum of 15 hours of upper division finance electives must be selected from the following

**Business Administration (BA)**

3501, Financial Policies  
 3502, Treasury Management  
 3503, Computer Applications in Finance  
 3520, Investments  
 3521, Financial Risk Management  
 3522, Security Analysis  
 3525, Practicum in Investments  
 3540, Financial Services Industry and Instruments  
 3541, Commercial Bank Management  
 3542, Principles of Real Estate  
 3560, Practice of Personal Financial Planning  
 3561, Principles of Insurance  
 3562, Life Insurance and Employee Benefits  
 3563, Retirement Planning and Employee Benefits  
 3564, Estate Planning and Trusts  
 3580, International Corporate Finance  
 3582, International Investment  
 3595, Business Administration Problems – Finance  
 3598, Business Administration Seminar – Finance  
 3599, Independent Study (approved)

**Track Certification**

Students may combine selected courses from the list above, and other specified upper division business electives, to fulfill a designated track with dual objectives of acquiring in depth knowledge, and to prepare and be eligible for various professional certification examinations. Detailed information is available in the Office of Undergraduate Academic Advising. The specific tracks available include

Corporate Finance  
 Financial Institutions and Services  
 Investment and Portfolio Management  
 Financial Planning  
 Insurance

**Emphasis in International Business**

National markets are becoming increasingly integrated. The study of international business focuses on

understanding the forces behind this globalization of markets and production.

Twelve (12) hours are required of all individuals seeking an emphasis in International Business:

Two of the following courses:

**Business Administration (BA)**

3580, International Finance  
 3682, Managing the Global Workforce  
 3780, International Marketing

Plus two additional approved international business course other than BA 3289, the international business practicum. (Lists of approved courses are available in the CoBA student advising office.) Proficiency in a foreign language of international commerce (determined by the College of Business Administration) must be demonstrated - 13 credit hours in one approved language or satisfactory performance on the UM-St. Louis foreign language placement test.

An international experience is encouraged for all parties in the program: such experience is required for those individuals seeking the International Business emphasis through the Pierre Laclède Honors College. (International students in the Honors College program are required to demonstrate a three-month, full-time work experience in the United States.)

**Emphasis in Logistics and Operations Management**

This discipline has as its objective to get the appropriate goods or services to the right place, at the right time, in the right quality and quantity—thereby making the greatest contribution to the organization.

Students must complete a minimum of 12 credit hours selected from the following:

**Business Administration (BA)**

3395, Business Administration Problems—Logistics and Operations Management  
 3398, Business Administration Seminar—Logistics and Operations Management  
 3399, Independent Study (approved)  
 3843, Decision Support Systems  
 4312, Business Forecasting  
 4314, Multivariate Analysis  
 4321, Production and Operations Management  
 4322, Lean Production in Manufacturing and Service Operations  
 4324, Service Operations Management  
 4326, Quality Assurance in Business  
 4330, Business Logistics Systems  
 4350, Operations Research  
 4354, Operations Research II  
 4381, International Logistics & Operations Mgmt

At most, one of the following courses may be counted toward the LOM emphasis area.



**Business Administration (BA)**

3806, Managerial Applications of Object-Oriented Programming I (programming)  
 3842, Management of Telecommunications  
 3844, End-User Computing for Business Applications (programming)

**Emphasis in Management**

The study of management focuses on the behavior of individuals and groups in an organizational setting.

Students must complete BA 3611, Advanced Management and Organizational Behavior, plus 3 courses selected from

**Business Administration (BA)**

3289, Practicum in International Business  
 3621, Human Resource Management  
 3622, Industrial and Labor Relations  
 3623, Industrial and Organizational Psychology (same as Psychology 3318)  
 3624, Employee Training and Development  
 3680, International Management  
 3682, Managing the Global Workforce  
 3684, The Japanese Management System  
 3685, Role of the Global Corporation  
 3695, Business Administration Problems—Management and Organizational Behavior  
 3698, Business Administration Seminar—Management and Organizational Behavior  
 3699, Independent Study (approved)  
 4614, Entrepreneurship/Small Business Management  
 4689, International Strategic Management

**Emphasis in Marketing**

Marketing involves the activities needed to facilitate an exchange. This includes selling products, services, or ideas to both individual consumers and business buyers.

Students must complete 5 upper division marketing courses to include the capstone course, BA 4700, Marketing Management.

**Bachelor of Science in Information Systems Degree****Mission**

The Information Systems (IS) area endeavors to prepare high-potential students of diverse backgrounds for successful careers in the IS profession. Careers in IS may include programming, systems analysis and design, database administration, end-user support, network administration, and management consulting. The goal is to provide students with the skills to deal with the challenges confronting IS through teaching, research, and service to the profession.

Students are required to complete a minimum of 7 courses beyond required business core courses

Programming/File Structure—2 courses selected from track A or track B

**Track A—Business Administration (BA)**

3805, COBOL Programming  
 3815, File Management  
**Track B—Business Administration (BA)**  
 3806, Managerial Applications of Object-Oriented Programming I  
 3816, Managerial Applications of Object Oriented Programming II

**Analysis and Design—2 courses—Business Administration (BA)**

3810, Information Systems Analysis  
 4850, Information Systems Design

**Database—1 course—Business Administration (BA)**

3845, Database Management Systems

Students must complete 2 courses (at least 1 3000-level business [BA] course) from **Business Administration (BA)**

3421, Accounting Information Systems and Spreadsheet Applications (but not with 3502)  
 3502, Computer Applications in Finance (but not with 3421)  
 3805, COBOL Programming—Track B students only  
 3806, Managerial Applications of Object-Oriented Programming I—Track A students only  
 3815, File Management—Track B students only  
 3816, Managerial Applications of Object-Oriented Programming II—Track A students only  
 3841, The Management of Information Systems  
 3842, Management of Telecommunications  
 3843, Decision Support Systems  
 3844, End-User Computing for Business Applications  
 3895, Business Administration Problems—Management Information Systems  
 3898, Business Administration Seminar—Management Information Systems  
 3899, Independent Study (approved)

**Computer Science (CS)**

2700, Computer Systems: Architecture and Organization  
 2710, Computer Systems: Programming  
 4300, Introduction to Artificial Intelligence  
 4760, Operating Systems

**Minors in Business Administration****General Requirements**

All minors are 15 credit hours or 5 courses, including business core courses

Students must attain a 2.0 grade point average for all courses in the minor

Students must attain a minimum grade of C- in each course included in the minor

All courses in the minor must be on a graded basis

A minimum of 9 credit hours of coursework included in the minor must be taken in residence at UM-St. Louis  
 One must complete a baccalaureate degree at UM-St. Louis in order for a minor to be conferred

A minor may be added for up to two years following completion of the baccalaureate degree

### **Minor in General Business**

This minor is available only to students seeking a baccalaureate degree outside the College of Business Administration

Five courses selected from

#### **Business Administration (BA)**

1800, Computers and Information Systems  
2400, Fundamentals of Financial Accounting  
2900, Legal Environment of Business  
3320, Introduction to Operations Management  
3500, Financial Management  
3600, Management and Organizational Behavior  
3700, Basic Marketing

### **Minor in Accounting**

Available to all students except those pursuing the Bachelor of Science in Accounting degree. Students must complete

#### **Business Administration (BA)**

2400, Fundamentals of Financial Accounting  
2410, Managerial Accounting  
plus any three upper division accounting electives

### **Minor in Finance**

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete

#### **Business Administration (BA)**

3500, Financial Management  
plus any four upper division finance electives

### **Minor in Information Systems**

Available to all students except those pursuing the Bachelor of Science in Information Systems degree. Students must complete

#### **Business Administration (BA)**

1800, Computers and Information Systems  
One programming course selected from  
**Business Administration (BA)**  
3805, COBOL Programming  
3806, Managerial Applications of Object-Oriented Programming I  
and 3 additional upper division information systems electives. At least one of these electives should be selected from

#### **Business Administration (BA)**

3810, Information Systems Analysis  
3845, Database Management Systems  
or a 3000-level course

### **Minor in International Business**

Available to all students except those pursuing the Bachelor of Science in Business Administration degree with an emphasis in International Business.

Students must complete any 5 courses in International Business.

### **Minor in Logistics and Operations Management**

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete

#### **Business Administration (BA)**

3320, Introduction to Operations Management plus any four upper division logistics/operations management electives, including no more than one programming course selected from  
**Business Administration (BA)**  
3806, Managerial Applications of Object-Oriented Programming I  
3844, End-User Computing for Business Applications

### **Minor in Management**

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete

#### **Business Administration (BA)**

3600, Management and Organizational Behavior  
3611, Advanced Management and Organizational Behavior  
plus any 3 upper division management and organizational behavior electives

### **Minor in Marketing**

Available to all students except those pursuing the Bachelor of Science in Business Administration degree. Students must complete

#### **Business Administration (BA)**

3700, Basic Marketing  
plus any 4 additional upper division marketing electives

### **Minor in Transportation Studies**

Available to all students. (For those pursuing the BSBA degree, this will result in an emphasis in marketing if the marketing capstone course, BA 4700, Marketing Management, is taken in addition to the requirements listed below. Such individuals will have completed both BA 3320, Introduction to Operations Management, and BA 3700, Basic Marketing.)

Students must complete five courses to include:

#### **Business Administration (BA)**

3770 Introduction to Transportation  
3771 Traffic and Transportation Management  
Plus three additional courses selected from:

#### **Business Administration (BA)**

3090 Internship in Business Administration  
3198 Business Administration Seminar: Domestic Transportation  
3198 Business Administration Seminar: Railroads in American Life

3198 Business Administration Seminar: Aviation in American Life  
 3198 Business Administration Seminar: Economics of Transportation  
 3199 Independent Study\*  
 3320 Introduction to Operations Management  
 3700 Basic Marketing

\*No more than one approved independent study course may count towards the minor.

### Graduate Studies

The College of Business Administration offers four graduate degrees: the Doctor of Philosophy in Business Administration (Ph.D.) the Master of Business Administration (MBA), the Master of Science in Management Information Systems (MS in MIS), and the Master of Accounting (MAcc). All programs carry the prestigious accreditation of the AACSB.

#### Admission Requirements

The admissions decision is based on a combination of factors. Consideration is given to a candidate's academic record, scores on the Graduate Management Admissions Test (GMAT), work and leadership experience, a personal narrative on the application form, and recommendations.

As in most AACSB-accredited graduate business programs, the UM-St. Louis College of Business generally requires Graduate Management Admissions Test (GMAT) scores. Information on the GMAT exam can be obtained from the Office of Graduate Business Studies, or on the Internet at [www.mba.com](http://www.mba.com). The examination tests one's ability to read, understand, and to reason logically with both verbal and quantitative material. The test is not a measure of achievement or business knowledge. Under certain conditions, the applicant may petition for waiver of the GMAT requirement, based on possession of an advanced degree and/or the ability to supply acceptable scores from an equivalent test.

#### Doctor of Philosophy in Business Administration (Ph.D.)

The Ph.D. program is designed to prepare academic scholars who will excel in the national and international marketplace. This is the only doctoral business program with an Information Systems emphasis offered at a public university in the state of Missouri. Courses are taught by full-time, nationally known scholars who have been recognized as one of the most academically prolific IS faculties in America.

#### Master of Business Administration Program (MBA)

The MBA is available in three formats: the evening MBA program, the Internet-Based Professional MBA program and the International MBA program. All are fully accredited by AACSB International – The Association to Advance Collegiate Schools of Business, the premier

accrediting body in collegiate business education. The MBA programs are designed to prepare students for administrative and professional positions. They also provide an appropriate foundation for students contemplating doctoral work and eventual careers in college teaching and research. The programs are designed for students who have bachelor's degrees from accredited institutions, including those with undergraduate backgrounds in the sciences, engineering, humanities, or arts. Graduate Business program information is available online at <http://mba.umsl.edu>.

#### The Evening MBA Program

The MBA curriculum provides training in the fundamental areas of business administration. The core program is designed to generate a working knowledge of the concepts and interrelationships of four broad categories fundamental to management training:

- The external environment confronting business organizations and management's response to legal, economic, social, and political issues.
- The internal operation of various business organizations and management's role in channeling human behavior to satisfy both personal and organizational goals.
- Basic concepts, terminology, and interaction of the accounting, marketing, finance, information technology and operations management disciplines.
- Quantitative management decision-making models put to use in the context of current management information systems.

The total degree program is integrated by a course in strategy formulation and implementation in the student's last semester. There is no thesis requirement; however, students interested in undertaking an individual research project may earn elective credit by enrolling in a supervised independent study course.

#### Degree Requirements

Depending on the student's previous background, programs will range from 39 to 54 hours. Coursework must be completed within a six-year period. At least 30 hours of coursework must be taken while enrolled as an MBA candidate at UM-St. Louis.

Candidates must take at least **one** course at either the core level or from the business breadth requirements list in each of the following six areas: accounting, finance, management, marketing, information systems, and logistics and operations management. Also, no more than 15 credit hours may be taken in any one of the six areas. Students are also required to have completed the equivalent of Econ 3150, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences, by the end of their first 15 hours in the program.

**Required Courses**

The following courses or their equivalents are required of all degree candidates.

**General Requirements – 18 hours**

**ECON 3150**, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences

**BA 5000**, Economics for Managers

**BA 5100**, Managerial Communication

**BA 5219**, Strategy Formulation and Implementation

**LOM 5300**, Statistical Analysis for Management Decisions

**BA 5900**, Law, Ethics, and Business

**Core Requirements – 18 hours**

**ACCT 5400**, Financial and Managerial Accounting

**FIN 6500**, Financial Management

**MGMT 5600**, Organizational Behavior and Administrative Processes

**MKTG 5700**, Contemporary Marketing Concepts

**IS 6810**, Management Information Systems

**LOM 5320**, Production and Operations Management

**Business Breadth Requirements – 9 hours**

A student must take a second-level course in three of the following areas:

**Accounting: ACCT 5401**, Financial Reporting and Analysis

**Finance: FIN 6500**, Any approved graduate level course beyond FIN 6500

**Management: MGMT**: Any approved graduate level course beyond MGMT 5600

**Marketing: Any approved graduate level course beyond MKT 5700**

**Information Systems: Any approved graduate level course beyond IS 6800**

**Logistics and Operations Management: Any approved graduate level course beyond LOM 5320**

**Electives**

The student must take a minimum of nine hours of elective courses. A maximum of six hours of electives may be taken at the undergraduate level. Graduate students may be required to complete additional work in these courses. Nine elective hours may be taken outside the College of Business Administration if the student has approval in advance from a graduate adviser for the specific courses desired.

**Emphasis Areas**

MBA students may obtain emphasis areas in Accounting, Finance, Logistics and Supply Chain Management, Management, Marketing or Operations Management. In addition to the requirements articulated above, the requirements for each emphasis area are shown below.

**Emphasis in Accounting**

MBA students seeking an Emphasis in Accounting must complete a minimum of 12 hours of graduate -level

Accounting electives beyond ACCT 5400 and including ACCT 5401. A maximum of 15 hours in any functional area will count toward degree requirements. (Ordinarily only courses that are not substantially the same as courses taken for credit in a student's undergraduate program would be acceptable.) The total number of elective courses required will depend on the number of hours waived. Students must complete at least 39 credit hours to earn the MBA.

**Emphasis in Finance**

MBA students seeking an Emphasis in Finance must complete a minimum of 12 hours of Finance electives beyond FIN 6500. A maximum of 15 hours in any functional area will count toward the degree requirements. One Finance course may apply toward the Business Breadth requirement, and the remainder toward the Elective requirement. The total number of elective courses required will depend on the number of hours waived. Students must complete at least 39 credit hours to earn the MBA degree.

**Emphasis in Logistics and Supply Chain Management**

MBA students seeking an Emphasis in Logistics & Supply Chain Management must complete 10 hours from approved courses in addition to LOM 5300 and LOM 5320. Up to 3 hours may be transferred from another AACSB-accredited graduate program at the discretion of the Area Coordinator of the LOM Area. The total number of elective hours required will depend on the number of hours waived. Students must complete at least 39 credit hours to earn the MBA degree.

**Emphasis in Management**

MBA students seeking an Emphasis in Management may choose one of the tracks specified below. Regardless of the track chosen, one must complete a minimum of 12 hours of Management electives beyond MGMT 5600. A maximum of 15 hours in any functional area will count toward the degree requirements. The total number of elective courses required will depend on the number of hours waived. Students must take at least 39 credit hours to earn the MBA degree.

**General Management Track**

Any 4 MGMT courses.

**Human Resource Management Track**

MGMT 5621, Managing Human Resources – 5 courses selected from MGMT 5622, 5623, 5624, 5625.

**Emphasis in Marketing**

MBA students seeking an Emphasis in Marketing must complete a minimum of 12 hours of Marketing electives beyond MKTG 5700, including MKTG 5701. A maximum of 15 hours in any functional area will count toward the degree requirements. The total number of elective courses required will depend on the number of hours waived. Students must complete at least 39 credit hours to earn the MBA degree.

**Emphasis in Operations Management**

MBA students seeking an Emphasis in Operations Management must complete 9 hours from approved courses in addition to LOM 5300 and LOM 5320. Up to 3 hours may be transferred from another AACSB – accredited graduate program at the discretion of the Area Coordinator. A maximum of 15 hours in any functional area will count toward the degree requirements. The total number of elective hours required will depend on the number of hours waived. Students must complete at least 39 credit hours to earn the MBA degree.

A student cannot receive an emphasis in both Operations Management and Logistics & Supply Chain Management for the same set of courses. An overlap of up to 3 credit hours out of the 9 hours required is allowed.

**Previous Education**

Based on a formal review and evaluation by the Office of Graduate Studies in Business, students may be granted waivers of certain courses from the general and core requirements. Waivers depend on the applicability of prior coursework and the student's performance in these courses. Regardless of the number of courses waived, all students must take at least 39 hours to earn the degree.

**Professional MBA Program**

A weekend-based Internet-enhanced version of the MBA program exists as an alternative to the traditional part-time evening program. This program is a 48 credit hour program for professionals with busy work or travel schedules. Students meet on campus monthly, with the remainder of the interaction between instructor and students taking place online. Students proceed through the program as part of a cohort group and complete the requirements for the degree in two years.

The first 30 hours of the Internet-based program consist of the same core courses required in the evening program (except for the mathematics and economics requirements, which are treated as prerequisites and must be satisfied prior to starting the program). The remaining 18 hours consist of the following courses:

**ACCT 5401**, Financial Reporting and Analysis  
**FIN 6590**, Seminar in Finance  
**MGMT 5695**, Seminar in Management  
**MKTG 5795**, Seminar in Marketing  
**IS 6891**, Seminar in Management Information Systems  
**LOM 6395**, Seminar in Logistics and Operations Management

**International MBA Program**

An International version of the MBA program also exists as an alternative to the evening MBA program. This program is a two-year, full-time program. Students take courses the first year outside the U.S. at a partner university and then take courses the second year on the University of Missouri – St. Louis campus.

**International MBA Program Degree Requirements**

In addition to the requirements of the evening MBA program, the International MBA program requires an internship (outside the U.S. for Americans and in the U.S. for all others). The program also requires a proficiency in at least one major commercial language in addition to English as a prerequisite. (All coursework is in English). All participants in the International MBA program must meet the same General and Core Requirements as those in the evening MBA program.

**Master of Science in Management Information Systems (MS in MIS)**

The Master of Science in MIS program is designed to provide the technical and managerial knowledge to operate successfully in careers associated with the design, development and management of computer-based information, telecommunications, and Internet applications. The program accommodates students with undergraduate degrees specializing in MIS, business, and computer science, as well as students with undergraduate degrees outside business. The program allows specialization in telecommunications, electronic commerce, or business systems development.

**MS in MIS Program Degree Requirements**

The program may require as few as 30 hours for students with undergraduate business degrees from AACSB-accredited institutions. Because of the need to attain general business core competencies as a foundation of the MS in MIS requirements, students with no academic business background will be required to take additional hours as outlined below.

**General Requirements**

All students must meet course requirements in quantitative reasoning, general business and MIS. Students must complete a minimum of 30 credit hours beyond the general business core. Of the 30 hours beyond the general business core, at least 15 credit hours in MIS must be completed at the graduate level, and at least 24 of the hours must cover topics beyond IS 6800 and IS 6805. Students with a B.S.B.A. with an emphasis in MIS or a B.S. in MIS from an AACSB-accredited institution may, at the student's discretion, substitute two electives for IS 6800 and IS 6805. Waivers may be granted for other courses with appropriate undergraduate course work.

**Quantitative Reasoning Requirement**

Students are required to have completed by the end of their first semester in the program the equivalent of ECON 3150, Quantitative Methods in Modeling in Economics, Business and the Social Sciences with a grade of C or better. Students are also required to complete the equivalent of LOM 5300 Statistical Analysis for Management Decisions with a grade of C or better. These courses do not count towards the graduate degree, but waivers may be granted with appropriate undergraduate course work.

**General Business Core**

Students must have a B.S. in MIS, or a B.S.B.A. with an emphasis in MIS that requires a managerial communication course, and coursework equivalent to at least five of the following courses:

**BA 5900**, Law, Ethics, and Business  
**ACCT 5400**, Financial and Managerial Accounting  
**FIN 6500**, Financial Management  
**MGMT 5600**, Organizational Behavior and Administrative Processes  
**MKTG 5700**, Contemporary Marketing Concepts  
**LOM 5320**, Production and Operations Management  
**BA 5219**, Strategy Formulation and Implementation

Students who have not met this prerequisite must complete BA 5100 Managerial Communication and course work from at least five of the courses listed above.

**Program Requirements****A. Basic MIS courses 9 credit hours**

**IS 6800**, Management Information Systems  
**IS 6805**, Applications of Programming for Business Solutions  
**IS 6825**, Management Information Systems: Theory and Practice.

**B. MIS Specialization Courses 15 credit hours**

See specializations following this overall description.

**C. MIS Electives 6 credit hours**

Students must take at least two of the following courses. A course cannot count for credit as an elective if it is used as a specialization course (see Section B).

**LOM 5301**, Introduction to Geographic Information Systems  
**IS 6806**, Managerial Applications of Object-Oriented Technologies  
**IS 6807**, Business Programming and File Systems  
**IS 6808**, Internet Programming for Business  
**IS 6891**, Seminar in Management Information Systems  
**IS 6892**, Seminar in Current Management Information Systems Topics  
**IS 6838**, Business Process Design  
**IS 6881**, Management of Transnational Information Systems  
**IS 6831**, Advanced MIS Applications  
**IS 6837**, Management of Client/Server Computing  
**IS 6840**, Information Systems Analysis  
**IS 6945**, Database Management Systems  
**IS 6835**, Electronic Commerce  
**IS 6832**, Information Systems Strategy  
**LOM 5354**, Simulation for Managerial Decision Making  
**IS 6850**, Information Systems Design  
**IS 6836**, Telecommunications: Design and Management  
**IS 6833**, Decision Support Systems  
**IS 6834**, Fourth Generation Languages and End User Computing  
**IS 6890**, Management Information Systems Thesis Research

**CSC 4770**, Operating Systems for Telecommunications  
**CSC 5780**, Systems Administration

**MIS Specialization Options**

(These are the course requirements for Category B identified previously).

**1. Business Systems Development**

The following four courses are required:

**IS 6840**, Information Systems Analysis  
**IS 6845**, Database Management Systems  
**IS 6850**, Information Systems Design  
**IS 6836**, Telecommunications: Design and Management  
 Also required is one additional MIS course not being used for credit in Section C.

Students having earned a B.S.B.A. with an emphasis in MIS or a B.S. in MIS from an AACSB-accredited university may be granted waivers for IS 6840 and IS 6845 with appropriate course work. However, they must take IS 6836 and additional electives of their choice to complete this option.

**2. Telecommunications**

The following five courses are required:

**IS 6836**, Telecommunications: Design and Management  
**IS 6806**, Managerial Applications of Object-Oriented Technologies  
**IS 6837**, Management of Client/Server Computing  
**CSC 4770**, Operating Systems for Telecommunications  
**CSC 5780**, Systems Administration

**3. Electronic Commerce**

The following five courses are required:

**IS 6835**, Electronic Commerce  
**IS 6808**, Internet Programming for Business  
**IS 6837**, Management of Client/Server Computing  
**IS 6845**, Database Management Systems  
**IS 6836**, Telecommunications: Design and Management

**4. General MIS**

Any five courses from the list under Category C (not being used for credit in Category C) are required.

**Master of Accounting Program (MAcc)**

The MAcc program prepares students to enter the accounting profession or to further existing accounting careers. Designed to accommodate both students with undergraduate accounting majors and students with other undergraduate backgrounds, the program permits students to take a generalized course of study or specialize in income taxation or auditing/systems. It may require as few as 30 credit hours for students with undergraduate accounting degrees.

Because of the need to attain general business and professional accounting core competencies as a foundation for the MAcc requirements, students with no academic business or accounting background will be required to take additional credit hours as outlined below.

### General Requirements

All students must meet course requirements in mathematics, general business, and accounting. Students must complete a minimum of 30 credit hours beyond the general business core and the professional accounting core. At least 15 credit hours in accounting must be completed, including at least 12 credit hours at the graduate level. At least 9 credit hours of the student's 30 credit hour program must be in graduate level non-accounting courses. Of the 30 credit hours beyond the general business and professional accounting core, 21 credit hours must be earned in courses at the graduate level.

### Mathematics Background Requirement

Students are required to have completed by the end of their first semester in the program the equivalent of Economics 3150, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences, with a grade of C or better. Graduate credit is not given for this course but it may be waived with appropriate undergraduate coursework.

### General Business Core

Students must have credit for the equivalent of one 3-hour course in each of the following subject areas: macroeconomics, microeconomics, financial accounting, managerial accounting, marketing, financial management, organizational behavior, and business strategy. These requirements may be met with graduate-level course work or may be waived with appropriate courses taken as an undergraduate.

### Professional Accounting Core

Students must have credit for the equivalent of each of the following three-credit-hour courses. Some of these courses may be taken concurrently with MAcc degree requirements (listed below) or may be waived with appropriate courses taken as an undergraduate.

BA 3401, Financial Accounting and Reporting I  
 BA 3402, Financial Accounting and Reporting II  
 BA 3421, Computer Applications in Accounting  
 BA 3411, Cost Accounting  
 ACCT 5411, Concepts in Management Accounting  
 ACCT 3441, Income Taxes  
 BA 4435, Auditing

### MAcc Degree Requirements (minimum: 30 credit hours)

Accounting Courses (minimum: 15 credit hours, 12 credits at the graduate level)

BA 4401, Financial Accounting & Reporting III\*  
 BA 4402, Financial Accounting & Reporting IV\*  
 Research course-At least **one** of the following courses must be completed:

ACCT 5402, Professional Accounting Research  
 ACCT 5441, Tax Research

Seminar- At least **one** of the following courses must be completed:

ACCT 5403, Seminar in Financial Accounting Theory  
 ACCT 6441, Seminar in Taxation  
 ACCT 5435, Seminar in Auditing

Accounting Electives to meet 15 credit-hour and graduate level requirements

Non-Accounting Courses (minimum: 9 credit hours at the graduate level)

BA 5100, Managerial Communication\*  
 BA 5900, Law, Ethics, and Business\*  
 IS 6800, Management Information Systems\*  
 LOM 5300, Statistical Analysis for Management Decisions\*  
 LOM 5320, Production and Operations Management\*

Electives may be necessary to meet 9-credit-hour graduate level non-accounting requirements or minimum 30-credit-hour requirement (\*May be waived with appropriate undergraduate courses).

Students desiring an emphasis in taxation must complete ACCT 5441, Tax Research, ACCT 6441, Seminar in Taxation, ACCT 5443, Taxation of Corporations and Shareholders, and at least two courses from the following list of electives:

ACCT 5442, Taxation of Estates, Gifts, and Trusts  
 ACCT 5444, Taxation of Partnerships and Partners  
 ACCT 5445, Tax Practice and Procedure  
 ACCT 5446, Advanced Topics in Taxation

### Auditing/Systems Emphasis

Students desiring an emphasis in Auditing/Systems must complete

ACCT 5402, Professional Accounting Research, ACCT 5435, Seminar in Auditing,  
 ACCT 5436, Systems Auditing,  
 ACCT 5412, Accounting Systems for Management Planning/ and Control, **and at least three** courses from the following list of electives:  
 IS 6800, Management Information Systems  
 IS 6805, Applications of Programming for Business Solutions  
 IS 6840, Information Systems Analysis  
 IS 6845, Data Base Management Systems  
 IS 6850, Information System Design

### Ph.D. in Business Administration

#### Admissions Requirements

Admission decisions are made on the basis of past academic record, intellectual ability, GMAT or GRE score, and career commitment. Applications are accepted from students who have baccalaureate or graduate degrees. Past graduate work may be credited toward

degree requirements where appropriate. Applicants must submit:

Official academic transcripts.

Official GMAT or GRE results in fields approved by the College of Business Administration.

Three letters of recommendation (at least two from individuals with earned doctorates).

A statement of objectives for the course of study.

### Graduate Assistantships

Stipends for research and teaching assistantships (nine month/20 hours per week) are awarded on a competitive basis. Out-of-state educational fees are waived for graduate assistants.

### Degree Requirements

The Ph.D. in the College of Business Administration requires a minimum of 69 course credit hours and a minimum of 6 dissertation credit hours beyond the baccalaureate degree. To ensure sufficient background for doctoral-level courses, students must demonstrate appropriate competence in quantitative reasoning, which is evidenced through completion of Econ 3150 and BA 5000 or their equivalent. Students must also demonstrate appropriate competence in managerial communication, which is evident through completion of BA 5100 or equivalent to be determined by the Ph.D. Coordinator.

### Course Requirements

The Ph.D. in Business Administration has a common set of requirements in three areas: Business & Research Foundation (Section I), Supporting Field (Section II), and Other Requirements (Section IV). Requirements specific to the area of emphasis are in Section III.

#### I. Business & Research Foundation Requirement: 27 credit hours (9 courses)

Students are required to take:

**IS 6800**, Management Information Systems

**LOM 5300**, Statistical Analysis for Management Decisions

**BA 5900**, Law, Ethics, and Business

**ACCT 5400**, Financial and Managerial Accounting

**FIN 6500**, Financial Management

**MGMT 5600**, Organizational Behavior

**MKTG 5700**, Contemporary Marketing Concepts

**LOM 5320**, Production and Operations Management

**BA 7300**, Statistical Modeling

The first eight courses 6800, 5300, 5900, 5400, 6500, 5600, 5700, 5320 will normally be waived if students had the courses as part of an UMSL MBA, MS in IS, or MAcc degree, or had equivalent graduate course work at an institution approved by the Graduate Business Programs Office and the Ph.D. Coordinator.

#### II. Supporting Field Requirement: (9 credit hours)

Students must take 9 credit hours of graduate level courses beyond foundation course work in a supporting field approved by the Ph.D. Coordinator. Supporting

fields may include courses within or outside the College of Business Administration and are designed in consultation with the Ph.D. Coordinator.

### III. Emphasis Area Requirements:

Students must complete the requirements for one of the emphasis areas.

#### Information Systems Emphasis

The Information Systems emphasis requirement includes 36 credit hours.

Students are required to take the following ten courses:

**IS 6805**, Applications of Programming for Business Solutions

**IS 6836**, Telecommunications: Design and Management

**IS 6840**, Information Systems Analysis

**IS 6845**, Database Management Systems

**BA 7021**, Qualitative Methods and Philosophical Foundations of Business Administration Research

**IS 7890**, IS Research Seminar

**IS 7891**, Quantitative Research Methods in MIS

**IS 7892**, Doctoral Seminar in current Information Systems Topics

**IS 7893**, Special Topics in MIS

**IS 7894**, Theoretical Foundations of Information Systems Research

Students are required to take 6 credit hours (2 courses) (not included elsewhere) from the list of approved elective courses for the IS emphasis.

#### Logistics & Supply Chain Management (LSCM) Emphasis

(Will start Fall 2006 if approved by the Coordinating Board)

The Logistics & Supply Chain Management emphasis requirement includes 33 credit hours.

Students are required to take the following eight courses:

**MKT 5770**, Supply Chain Management

**LOM 6330**, Business Logistics Systems

**LOM 6331**, Logistics and Supply Chain Operations Modeling

**LOM 6332**, Logistics and Supply Chain Strategic Modeling

**LOM 6350**, Management Science Methods

**LOM 7381**, International Supply Chain Management

**LOM 7390**, Research Seminar in LSCM

**LOM 7393**, Special Topics in LSCM

Students are required to take nine credit hours (three courses) (not included elsewhere) from the list of approved elective courses for the LSCM emphasis.

### IV. Other Requirements:

Upon completion of coursework, students are advanced to candidacy by successfully completing a comprehensive examination in their area of emphasis and a supporting field examination in their chosen area.



Students admitted to the program with a relevant Masters degree should pass the comprehensive examination and the supporting field examination within three years of admission to the Ph.D. program. Students admitted to the program with an undergraduate business degree should pass the comprehensive examination and the supporting field examination within four years of admission to the Ph.D. program. Students admitted to the program with an undergraduate degree outside of business should pass the comprehensive examination and the supporting field examination within five years of admission to the Ph.D. program. In these cases, prior coursework will be evaluated for equivalency to Section I course requirements. Exceptions may be made, contingent on approval by the Ph.D. Coordinator.

Students will be evaluated annually for satisfactory progress. Students deemed not to be making adequate progress are subject to the policies of the College of Business Administration regarding continuation of their assistantship. Students deemed not to be making adequate progress are subject to the policies of the Graduate School and the College of Business Administration regarding probation and dismissal from the program.

Students are required to take a minimum of 6 dissertation credit hours and to defend a dissertation proposal within one year of advancement to candidacy.

Students are required to present one paper at a regional, national, or international conference.

Students are required to submit one paper, approved by his/her dissertation advisor, to a refereed journal.

At least two semesters of supervised teaching in the College of Business Administration are required of all doctoral students.

Students are required to demonstrate competency in teaching during the first year in which they teach in the College of Business Administration. This requirement may be met by successfully completing one or more courses.

Students must satisfy all Graduate School requirements.

The degree is awarded upon successful completion and defense of the Ph.D. dissertation. The dissertation must be defended within three years of approval of a Ph.D. dissertation proposal.

### **Graduate Certificate Programs in Business Studies**

The College of Business Administration offers eight 18-hour Graduate Certificates. To be admitted to a graduate certificate program, students must meet the same requirements as those needed for a graduate degree program in business (see Admission Requirements in the

Graduate Studies in Business Administration section of this Bulletin).

Certificate programs allow qualified graduate students to pursue an intensive course of study in a specialized business topic without requiring completion of a full graduate business degree program. Certificate programs provide students with the opportunity to obtain the advanced knowledge available through a graduate course of study in relatively brief period.

In order to successfully complete a certificate program, students must earn a 3.0 cumulative GPA in certificate classes. Unless otherwise specified, the coursework must be completed within six years. Students must also comply with all requirements related to matters such as prerequisites, academic probation, and other graduate business program policies.

### **Graduate Certificate Program in Business Administration**

This is an 18-hour program designed to accommodate individuals with an undergraduate/graduate degree in a non-business field seeking core business knowledge. The program emphasizes coursework designed to cover the major disciplines within the field of business. Upon completion, the student will have knowledge of common business theories, practices, and procedures.

To earn the certificate, students must complete six courses as prescribed below. All course prerequisites and all course waivers are applicable. Substitute courses may be approved by the appropriate Area Coordinator and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the graduate certificate.

#### **Program Requirements: (5 courses)**

**ACCT 5400**, Financial and Managerial Accounting

**MGMT 5600**, Organizational Behavior and Administrative Processes

**MKT 5700**, Contemporary Marketing Concepts

**IS 6800**, Management Information Systems

**One of the following:**

**FIN 6500**, Financial Management

**LOM 5320**, Production and Operations Management

#### **Elective Course (1 course):**

**BA 5100**, Managerial Communication

**BA 5900**, Law, Ethics and Business

\***FIN 6500**, Financial Management

\***LOM 5230**, Production and Operations Management

\*Cannot be used as an elective if used as a program requirement.

### **Graduate Certificate in Electronic Commerce**

New communication technologies are changing the way organizations work with one another, the way consumers

purchase products, and even the types of organizations that exist. Technology is changing the fundamental processes and structures of business. This certificate will introduce students to the interaction of existing processes and structures, and the introduction of new technologies to develop models of business activity in technology intensive environments.

Students must complete 18 hours as specified below.

**IS 6800**, Management Information Systems

**IS 6805**, Applications of Programming for Business Solutions

**IS 6808**, Internet Programming for Business

**IS 6835**, Electronic Commerce

**IS 6836**, Telecommunications: Design and Management

**IS 6837**, Management of Client/Server Computing

Students may take additional electives should they desire to do so.

All course prerequisites and waivers are applicable. Substitute courses must be approved by the IS Area Coordinator and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the certificate. Students should complete the certificate with 3 years from the time they first enroll in the program.

### **Graduate Certificate in Human Resources Management**

The Graduate Certificate in Human Resources Management is an 18-hour course of study designed to focus on the multidimensional aspects of personnel operations within business organizations. The course of study emphasizes both formal and informal aspects of human resources management.

#### **Requirements**

Students must complete the following six courses or appropriate substitutes if course waivers are appropriate:

**MGMT 5600**, Organizational Behavior and Administrative Processes

**MGMT 5621**, Managing Human Resources

**MGMT 5623**, Compensation and Benefits

**MGMT 5222**, Union-Management Relations and Collective Bargaining

**MGMT 5225**, Personnel Administration: Theory and Practice

**LOM 5300**, Statistical Analysis for Management Decisions

**MGMT 5600**, **MGMT 5621** and **LOM 5300** may be waived with equivalent undergraduate courses. If a student is able to waive any or all of these three courses, substitute courses (approved by both the Coordinator of the Management area and the Director of Graduate Studies in Business) will be provided. Substitute courses may include MGMT 5611, Advanced Organizational Behavior and Administrative Processes, or a course from outside the College of Business Administration. In all

cases, 18 hours are needed to complete the Graduate Certificate in Human Resources Management.

### **Graduate Certificate in Information Resource Management**

Management of information as a resource will be the key to success in the 21st century. To manage this resource, efficient and effective methods for collection, maintenance and use of data must be established. This certificate exposes students to the managerial and technological issues in the planning of effective transaction processing and decision support systems. Students must complete 18 hours as specified below. In addition, if they have not had the equivalent of IS 6800 they must complete that course.

**Programming Requirement:** Students must complete one of the courses listed below:

**IS 6805**, Applications of Programming for Business Solutions

**IS 6806**, Managerial Applications of Object-Oriented Technologies

**IS 6807**, Business Programming and File Systems

**IS 6808**, Internet Programming for Business

**IS 6834**, Fourth Generation Languages and End User Computing

**Core Courses:** Students must complete each of the three courses listed below:

**IS 6825**, Management Information Systems: Theory and Practice

**IS 6840**, Information Systems Analysis

**IS 6845**, Database Management Systems

**Elective Courses:** Students must complete two courses from the following list. Students may take at most one additional programming course (marked with \*), and may not use any course as an elective already used to meet the Programming Requirement.

**IS 6805**, Applications of Programming for Business Solutions\*

**IS 6806**, Managerial Applications of Object-Oriented Technologies\*

**IS 6807**, Business Programming and File Systems\*

**IS 6808**, Internet Programming for Business\*

**IS 6832**, Information Systems Management

**IS 6833**, Decision Support Systems

**IS 6834**, Fourth Generation Languages and End User Computing\*

**IS 6836**, Telecommunications: Design and Management

**IS 6838**, Business Process Design

Students will have the opportunity to take additional electives should they desire to do so.

All course prerequisites and all course waivers are applicable. Substitute courses must be approved by the IS Area Coordinator and the Director of Graduate Studies in

Business. In all cases, 18 hours are needed to complete the Graduate Certificate in Information Resource Management. Students should complete the certificate within three years from the time they first enroll in the program.

#### **Graduate Certificate in Information Systems Development**

The certificate is an 18-hour program designed to provide a focus on the creation and modification of information systems for business. Topics related to systems development such as programming and database design are included in the course of study.

#### **Requirements**

Students must complete six courses as specified below (or appropriate substitutes if course waivers are approved):

**IS 6800**, Management Information Systems  
**IS 6805**, Applications of Programming for Business Solutions  
**IS 6825**, Management Information Systems: Theory and Practice  
**IS 6840**, Information Systems Analysis  
**IS 6845**, Database Management Systems  
**IS 6850**, Information Systems Design

Students may take additional electives should they desire to do so.

All course prerequisites and all course waivers are applicable. Substitute courses must be approved by the IS Area Coordinator and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the certificate. Students should complete the certificate within 3 years from the time they first enroll in the program.

#### **Graduate Certificate in Logistics and Supply Management**

The Graduate Certificate in Logistics and Supply Chain Management is an 18-hour program designed to provide a focused, intensive study of important issues within logistics and, more broadly, in supply chain management. Three required courses provide thorough background in operations, logistics and supply chain management. Three elective courses allow specialization in areas such as logistics and supply chain software, international logistics, operations research, e-commerce, and quality. Students must complete the following six courses or approved substitutes if course waivers are appropriate:

#### Required Courses:

**LOM 5320**, Production and Operations Management  
**LOM 6330**, Business Logistics Systems  
**MKT 5770**, Supply Chain Management

#### Nine additional hours (generally 3 courses) from:

**LOM 5326**, Quality Management  
**LOM 5312**, Advanced Statistical Methods for Management Decisions

**LOM 5354**, Simulation for Managerial Decision Making  
**LOM 5322**, Lean Production  
**LOM 5381**, International Logistics and Operations Management  
**LOM 6331**, Logistics and Supply Chain Operational Modeling  
**LOM 6332**, Logistics and Supply Chain Strategic Modeling  
**LOM 6350**, Management Science Methods  
**LOM 6354**, Advanced Operations Research Topics  
**LOM 6360**, Advanced Logistics & Operations Management Applications  
**IS 6835**, Electronic Commerce  
**IS 6833**, Decision Support System  
**BA 5333**, Topics in Logistics and Supply Chain Management  
**BA 5301**, Introduction to Geographic Information Systems  
**BA 5198**, Seminar in Business Administration\*  
**BA 5299**, Individual Research\*  
 \*Subject to approval of the Area Coordinator of the LOM Area.

Substitute courses must be approved by the Coordinator of the LOM Area and the Director of Graduate Studies in Business. In all cases, 18 hours are needed to complete the Graduate Certificate in Logistics and Supply Chain Management.

#### **Graduate Certificate in Marketing Management**

The Graduate Certificate in Marketing Management is an 18-hour program designed to provide a focused intensive study of the marketing management activity within organizations. This program is designed to serve a broad group of marketing managers, including those with an interest in sales, brand management, promotion, and consumer behavior.

#### **Requirements**

Students must complete the following six courses or appropriate substitutes if course waivers are appropriate:

**MKTG 5700**, Contemporary Marketing Concepts  
**MKTG 5710**, Consumer Motivation and Behavior  
**MKTG 5740**, Marketing and Business Research

#### **Marketing Management:**

**MKTG 5701**, Marketing Planning and Strategy  
**MKTG 5720**, Marketing Communications  
**MKTG 5730**, Product Planning and Pricing

All course prerequisites and all course waivers are applicable. The Marketing Area Coordinator and the Director of Graduate Studies in Business must approve substitute courses. In all cases, 18 hours (including at least 12 hours in Marketing) are needed to complete the certificate.

### Graduate Certificate in Taxation

The Graduate Certificate in Taxation is an 18-hour course of study designed to focus on the theory and practice of taxation as a subfield of accounting. The course of study emphasizes both the legal and academic analysis of taxation.

#### Requirements

Besides the admission requirements needed by all graduate business students, students seeking a graduate certificate in taxation must have the equivalent of an undergraduate degree in Accounting from UM-St. Louis. An up-to-date tax course should be part of that degree although up-to-date tax knowledge may be evidenced through a previously completed tax course combined with recent tax experience.

To earn the certificate, students must complete six courses as prescribed below:

#### Required Courses

ACCT 5441, Tax Research  
 ACCT 5443, Taxation of Corporations and Shareholders  
 ACCT 5445, Tax Practice and Procedure  
**Three Additional Courses From:**  
 ACCT 5442, Taxation of Estates, Gifts, and Trusts  
 ACCT 5444, Taxation of Partnerships and Partners  
 ACCT 5446, Advanced Topics in Taxation  
 BA 5100, Managerial Communication or  
 BA 5900, Law, Ethics and Business

Students must complete the Graduate Certificate in Taxation within three years from the time they first enroll in the program.

#### Course Descriptions

Courses in this section are grouped as follows: all undergraduate courses are listed under Business Administration; graduate courses are listed under Accounting, Business Administration, Finance, Information Systems, Logistics and Operations Management, Management and Marketing

The College of Business Administration uses the University course numbering system.

A minimum grade of C- shall be required to meet the prerequisite requirement for any course. Prerequisites may be waived only by consent of both the instructor and the area coordinator. A minimum campus GPA of 2.0 is required for admittance to each upper division 3000 and 4000 level Business Administration course.

#### Business Administration (BA)

##### 1000 Topics in Business Administration (1-3)

Study of selected special problems in business and administration. May be repeated for credit with different topics. Cannot be included in BSBA program.

##### 1590 Personal Finance for Nonbusiness Majors (3)

For future professionals who want to learn more about personal finance and how to better manage their resources. The topics include purchasing/leasing cars, home acquisitions, investing in stocks and bonds, mutual funds, retirement planning and health and life insurance. Special emphasis will be on the nontechnical aspects of these issues. Cannot be used for credit in BSBA program.

##### 1800 Computers and Information Systems (3) [MI]

This course covers the basic concepts of networked computers including the basics of file management on local and remote computers, electronic mail, Internet browsers, and web page development. Students are also exposed to applications used in business for solving problems, communicating, and making informed decisions, including word processors, presentations software, and electronic spreadsheets. Students will also develop business applications using a popular programming language or database management tool. Credit cannot be granted for both CS 1010 and BA 1800.

##### 1804 FORTRAN Programming (3)

Prerequisite: 1800. A study of the principles of programming digital computers using the FORTRAN language. Credit will not be granted for both 1804 and CS 1220.

##### 2000 Topics in Business Administration (1-3)

Prerequisites: Vary with topic; contact the College of Business Administration. Study of selected special problems in business and administration. May be repeated for credit with different topics.

##### 2400 Fundamentals of Financial Accounting (3)

Prerequisites: MATH 1030 and completion of 27 credit hours MATH 1030 may be taken concurrently. This is a one-semester course in financial accounting theory and practice. The primary emphasis is on the corporate financial statements of income, financial position and cash flow—their content and interpretation; and the impact of financial transactions upon them.

##### 2410 Managerial Accounting (3)

Prerequisites: MATH 1030 and BA 2400. This is an advanced course that goes beyond the scope of a second-semester course in fundamentals of accounting. The development, interpretation, and use of relevant cost behavior, control, and traceability concepts for management planning, controlling, and decision making are emphasized. Topics include: an introduction to product costing, the contribution concept, direct costing, performance standards and variance analysis, responsibility accounting, segment profitability, alternative choice decisions, and capital budgeting.

##### 2900 Legal Environment of Business (3)

Prerequisites: ECON 1001 and BA 2400. An introduction to the nature and meaning of law, sources of law, legal process and institutions. The legal environment of

business is defined as: the attitude of the government toward business, the historical development of this attitude; current trends of public control in taxation, regulation of commerce, and competition; freedom of contract, antitrust legislation and its relationship to marketing, mergers, and acquisitions; and labor management relations.

### **3090 Internship in Business Administration (1-3)**

Prerequisites: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of Business Administration electives and have consent of supervising instructor and Associate Dean. A Business College GPA of at least 2.5 is also required. Students are employed in the field of Business Administration where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are the primary goals. A Business Administration faculty member will monitor the student's program with the student providing a formal writing report at the end of the project. BA 3090 may not be counted toward the minimum credit hours for any emphasis area.

### **3100 Contemporary Business Communication (3)**

Prerequisites: ENG 1100 or equivalent and a minimum campus GPA of 2.0. (COMM 1040 recommended, but not required.) A forum wherein business writing and speaking skills are addressed. Communication unique to business organizations is critiqued. Emphasis is placed on writing and verbal communication skills necessary to succeed in the business environment.

### **3195 Business Administration Problems (1-10)**

Prerequisite: To be determined each time the course is offered and to include a minimum 2.0 campus GPA. Study of selected special problems in business and administration. May be repeated for credit with different topics.

### **3198 Business Administration Seminar (1-10)**

Prerequisite: To be determined each time the course is offered and to include a minimum 2.0 campus GPA. May be repeated for credit.

### **3199 Independent Study (1-3)**

Prerequisite: Permission of the professor, the dean, and a minimum campus GPA of 2.0. Occasional special individual study topics under the guidance of a specific professor.

### **3200 Career Planning (1)**

Prerequisite: A minimum of junior standing and a 2.0 campus GPA. The emphasis of this course will be to assist business students to develop an understanding of themselves as related to employment, to develop an understanding of the world of work, and to integrate these so that effective career decisions can be made.

### **3289 Practicum in International Business (3)**

Prerequisites: At least one international business course, 2.0 campus GPA and completion of an approval form. Students will apply both their language skills and knowledge of international business by working for a three-month period in an organization located outside the student's country of origin. This course requires students to prepare a research report summarizing the global experience and how it relates to the international business program.

### **3300 Business Statistics (3)**

Prerequisites: MATH 1100 and 1105, BA 1800 and a 2.0 campus GPA. Construction and use of statistical models for business management. Students will learn techniques used for relational analysis and business forecasting and how to apply them in a business context. Tools include CHI-Square tests of statistical independence; analysis of variance; simple linear regression and correlation; multiple linear regression; and extrapolative techniques such as moving averages and exponential smoothing. Emphasis is placed on problem definition, construction of statistical models, analysis of data, and interpretation of results. Computers are used for extensive analyses of case data.

### **3320 Introduction to Operations Management (3)**

Prerequisites: A 2.0 campus GPA and either (ECON 1001, BA 2410, and BA 3300 or (MATH 2000) and STAT 1320. An examination of the concepts, processes, and institutions, which are fundamental to an understanding of manufacturing and service operations within organizations. Emphasis is on the management and organization of operations and upon the application of quantitative methods to the solution of strategic, tactical and operational problems.

### **3390 Internship in Logistics and Operations Management (1-3)**

Prerequisites: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of LOM electives and have consent of supervising instructor and Area Coordinator. A Business College GPA of at least 2.5 is also required. Students are employed in the field of Logistics and Operations Management (LOM) where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are the primary goals. An LOM faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3390 may not be counted towards the minimum credit hours for the LOM emphasis.

### **3401 Financial Accounting and Reporting I (3)**

Prerequisites: A minimum 2.0 campus GPA, MATH 1030, BA 2410, and 57 credit hours. Review of the foundations of financial accounting theory and of the financial statement preparation process. Accounting theory and practice related to current assets (except for

investments in securities). The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

### **3402 Financial Accounting and Reporting II (3)**

Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030 and BA 3401. Accounting theory and practice related to topics such as, investments in securities, operational assets, current and long-term liabilities, and leases. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

### **3411 Cost Accounting (3)**

Prerequisites: A minimum 2.0 campus GPA, MATH 1030, BA 3401, and 57 credit hours. The study of the basic principles of cost determination for, and control of, manufacturing and distribution activities. Topics include job-order costing, process costing, cost allocations, and the development and use of standard costs within a system of absorption costing.

### **3421 Accounting Information Systems and Spreadsheet Applications (3)**

Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030, BA 1800, 2410, and 3401. Examines the fundamental of accounting information systems, including hardware and software considerations, internal controls, and transaction processing cycles. Also focuses upon the development of efficient spreadsheets as applied to financial and managerial accounting concepts.

### **3441 Income Taxes (3)**

Prerequisites: A minimum 2.0 campus GPA and 57 credit hours. Also MATH 1030, and either BA 3401 or BA 3560. Fundamentals of federal income taxation. Topics include taxable entities, income, deductions, tax accounting methods, tax basis, and property transactions at both the conceptual and operational levels.

### **3451 Accounting for Governmental and Not-for-Profit Entities (3)**

Prerequisites: A minimum 2.0 campus GPA, MATH 1030, BA 3401, and 57 credit hours. Principles of fund accounting and financial reporting for governmental and not for profit entities. This course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

### **3490 Internship in Accounting (1-3)**

Prerequisites: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of Accounting electives at the 3000-level or above and have consent of supervising instructor and Area Coordinator. A Business college GPA of at least 2.5 is also required. Students are employed in the field of Accounting where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. An accounting faculty member will monitor the student's

program with the student providing a formal written report at the end of the project.

### **3500 Financial Management (3)**

Prerequisites: ECON 1002, MATH 1105, and BA 2400, and a 2.0 campus GPA. The study of a firm's need for funds; the institutions, instruments, and markets concerned with raising funds; and the techniques of analysis used to determine how effectively these funds, once raised, are invested within the firm.

### **3501 Financial Policies (3)**

Prerequisites: BA 3500 and a 2.0 campus GPA. The intensification and application of the concepts developed in BA 3500. Special emphasis is given to the development of top management policies and their application toward complex problems of finance. Techniques for identifying and dealing with these problems before they become acute will be investigated. Cases will be integrated with appropriate outside reading.

### **3502 Treasury Management (3)**

Prerequisites: BA 3500 and a 2.0 campus GPA. The focus of this course is on the role cash management plays in corporate finance. Topics include cash collection and payment systems, forecasting cash flows, electronic fund transfers, check processing, international cash management and managing bank relationships. Students passing the course with a grade of A or B are permitted to take the qualifying exam to become a Certified Cash Manager (CCM) under a special arrangement with the Treasury Management Association. Along with other finance courses, this class prepares students for careers in the treasury departments of major companies or with service providers like banks.

### **3503 Computer Applications in Finance (3)**

Prerequisites: BA 1800, 3500, one 300-level finance course, and a 2.0 campus GPA. Financial problem solving and applications on the microcomputer. A project-oriented course with an emphasis on micro-based finance projects: present value/IRR analysis, duration, immunization, portfolio optimization, leasing, capital budgeting, financial forecasting, options, and futures.

### **3520 Investments (3)**

Prerequisite: BA 3500 and a 2.0 campus GPA. Financial analysis of debt and equity instruments available on organized exchanges and in less tangible over-the-counter markets. Techniques of such analysis are presented in context with economic and management circumstances within the company, industry, and economy.

### **3521 Financial Risk Management (3)**

Prerequisites: BA 3500 and a 2.0 campus GPA. A study of derivative securities (forward contracts, futures, swaps and options) used in financial risk hedging. Emphasis will be placed on financial innovations and methods for tailoring a preferred risk/return trade-off. In addition, a

project or a simulation will be utilized to emphasize the effects of risk management on portfolio development.

### **3522 Security Analysis (3)**

Prerequisites: BA 3520 or 3501; a minimum campus GPA of 2.0 and consent of professor. The goal of the course is to provide practical experience for students wishing to become stock analysts for national brokerage firms and the investment industry. Each student will have primary responsibility over one small, publicly traded St. Louis Company. The student is expected to become an expert on this company, its products, its financial condition and performance, competitors and the industry as a whole. This level of expertise is developed by visiting the company's facilities, interviewing executives, analyzing financial statements, and reading relevant research reports including current business periodicals. Each student is required to prepare a comprehensive written report on his or her assigned company.

### **3525 Practicum In Investments (1)**

Prerequisite: BA 3500 and a 2.0 campus GPA. Students will apply their knowledge of stocks and bonds by managing a real dollar portfolio of securities. This course requires that students perform technical and fundamental analysis, prepare research reports, present proposals and participate in group investment decisions. The University's Student Investment Trust provides the money for students to invest. Course may be repeated for credit up to a maximum of 3 credit hours.

### **3540 Financial Services Industry and Instruments (3)**

Prerequisites: BA 3500 and a 2.0 campus GPA. The theory of financial services, instruments, and markets is discussed. In this framework, the valuation consequences of money and capital markets, corporate control, complex contracting, and regulatory environment are developed. Topics also include hedging, interest rate risk, deposit insurance, and financial instruments.

### **3541 Commercial Bank Management (3)**

Prerequisites: ECON 1002, BA 3500, and a 2.0 campus GPA. Corporate finance and microeconomics are applied to matters of importance to commercial bankers. Among the subjects treated are bank-asset portfolio construction, lending policies, liabilities management, bank capital structure, short-run cash management, financial market rates and flows, and quantitative models for bank management. Commercial bank management is analyzed from an internal viewpoint in terms of what bank managers should look for in asset management and why; what market conditions they should be aware of; and what techniques they can use to meet changing economic and financial conditions.

### **3542 Principles of Real Estate (3)**

Prerequisites: BA 3500 and a 2.0 campus GPA. As an introduction to the real estate industry, the course broadly explores all phases of acquisition, development and disposal of real property. Topics include legal

requirements of contracts, property rights, valuation and appraisal techniques, marketing, brokerage operations and practices, mortgage financing, leasing and property management.

### **3560 Practice of Personal Financial Planning (3)**

A minimum campus GPA of 2.0; BA 3500 or consent of instructor and Area Coordinator. Professional financial planning requires broad knowledge of investments, insurance, income taxation, retirement planning, and estate planning, as well as certification requirements and legal/ethical issues. This course introduces students to the field of financial planning, and provides an integrated overview of the topics listed above. Students interested in the Financial Planning track are encouraged to complete this course prior to taking other courses in the track.

### **3561 Principles of Insurance (3)**

Prerequisites: BA 3500 and 2.0 campus GPA. This is a survey course intended to introduce students to the basic concepts of insurance. Topics include the nature of risks, types of insurance carriers and markets, insurance contracts and policies, property and casualty coverages, life and health insurance, and government regulations. The functions of underwriting, setting premiums, risk analysis, loss prevention, and financial administration of carriers are emphasized.

### **3562 Life Insurance (3)**

Prerequisites: BA 3500 or equivalent and a minimum campus GPA of 2.0. This course explores the life insurance business from the perspective of both the consumer and provider. Coverage will include an analysis of the various types of life insurance products, aspects of life insurance evaluation, reinsurance, underwriting, and uses of life insurance in financial planning. Also included is an examination of the tax, legal, and ethical requirements.

### **3563 Retirement Planning and Employee Benefits (3)**

Prerequisites: A minimum campus GPA of 2.0; BA 3500 or consent of instructor and Area Coordinator. The course is designed to give students an understanding of the retirement planning process. Students will gain an appreciation of the usefulness (and shortcomings) of employee benefits and develop an ability to counsel others on important retirement and employee benefit decisions. Corporate pension and profit sharing plans, self-employed Keough plans, IRA's annuities, health insurance and social security will be discussed.

### **3564 Estate Planning and Trusts (3)**

Prerequisite: A minimum campus GPA of 2.0; BA 3500 or consent of instructor and Area Coordinator. This course will focus on the responsibility of a financial planner in the formulation and implementation of an estate plan. Topics include wills, lifetime transfers, trusts, gifts, estate reduction techniques, tax implications in estate planning, business and inter-family transfers, dealing with incompetency, postmortem techniques, and

the role of fiduciaries. Lectures, cases, and guest speakers will be used to stimulate analysis and discussion.

### **3580 International Finance (3)**

Prerequisites: BA 3500 and a 2.0 campus GPA. A study of international financial markets, instruments, portfolio strategies and international financial management. Topics will include international risks, foreign diversification, foreign investment, foreign exchange determination and international working capital management issues. Derivatives are explored as instruments to hedge foreign exchange risk exposure, and special markets are evaluated in the international corporate/investments setting. Cases and/or outside readings may be used to emphasize inter-related issues.

### **3581 Business in China (3)**

Prerequisites: A minimum campus GPA of 2.0 and junior standing. Introduces students to the practices of doing business in China. Students will be introduced to the Chinese economic and business environment. Issues related to trade and foreign direct investment in China will be discussed. The course adopts an innovative approach; utilizing lectures, case analysis, projects, and student presentations.

### **3582 International Investment (3)**

Prerequisites: BA 3500. This course explores the concepts of investing and hedging in international markets. Topics include equity and bond markets, global risk management, portfolio diversification, currency risk, asset pricing, and alternative portfolio strategies. Techniques for using derivatives are discussed in the context of hedging exchange rate risk. Reading foreign exchange quotes and understanding the functioning of global markets is central to the course. A prior course in investments is recommended but not required.

### **3590 Practicum in Finance (1-3)**

Prerequisites: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of finance electives and have consent of supervising instructor and Area Coordinator. A Business College GPA of at least 2.5 is also required. Students are employed in the field of finance where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience in a Track area are the primary goals. The student's program will be monitored by a finance faculty member with the student providing a formal written report at the end of the project. BA 3590 may not be counted toward the minimum 15 credit hours of finance electives for a finance emphasis.

### **3600 Management and Organizational Behavior (3)**

Prerequisites: Junior standing and a 2.0 campus GPA. This course involves the study of the behavior of individuals and groups in an organizational setting. Specific topics examined include: motivation, leadership, organizational design, and conflict resolution, as well as

basic coverage of management principles. In covering these topics, both at classic and current perspectives are provided.

### **3611 Advanced Management and Organizational Behavior (3)**

Prerequisite: BA 3600 and a 2.0 campus GPA. Building upon 3600, this course provides a more detailed examination of motivation, leadership, group process, decision-making, job design, and organizational development. In addition to providing more detail in terms of content, this course provides the student with considerable practical experience through the use of class exercises, case studies, and small group discussions.

### **3612 Professional Skills Development (3)**

Prerequisites: A minimum campus GPA of 2.0 and Junior Standing. This course focuses on career management. Topics include job search, interviews, resumes and cover letters, presentation skills, business etiquette, entry strategies, and career alternative.

### **3621 Human Resource Management (3)**

Prerequisites: MATH 1105 BA 3600 and a 2.0 campus GPA. In-depth examination of selected human resources management issues from a contemporary manager's viewpoint. Topics examined include: employee selection, performance appraisal, training and development, compensation, legal issues and labor relations.

### **3622 Industrial and Labor Relations (3)**

Prerequisite: BA 3600 and a 2.0 campus GPA. Emphasis is on the dynamic relationship between management, employees, unions, and government as determinants in the efficient and effective use of human resources. Current issues and case materials are used to supplement text and lecture.

### **3623 Industrial and Organizational Psychology (3)**

[Same as PSYCH 3318] Prerequisites: PSYCH 2201 or MATH 1105, BA 3600. This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance, appraisal, training, leadership, motivation, job satisfaction and organizational design.

### **3624 Employee Training and Development (3)**

Prerequisite: A minimum 2.0 campus GPA. In addition, BA 3600 or permission of instructor. An intensive study of training in organizations, including needs analysis, learning theory, management development, and development of training objectives and programs. Projects and exercises are used to supplement the readings.

### **3680 International Management (3)**

Prerequisites: A minimum 2.0 campus GPA. In addition, ECON 1002 and BA 3600; or consent of the instructor. A



study of international business and management practices. Topics covered include an introduction to international management and the multinational enterprise, the cultural environment of international management, planning in an international setting, organizing for international operations, directing international operations, international staffing, preparing employees for international assignments, and the control process in an international context.

### **3682 Managing the Global Workforce (3)**

Prerequisites: A minimum 2.0 campus GPA. In addition, BA 3600 and at least one of the following: BA 3611 or BA 3621 or enrollment in Honors College or consent of instructor. A study of the international dimensions of organizational behavior and human resource management. The course provides an overview of the tools and skills that are necessary to understand and manage people in global organizations. Topics include motivation, leadership, communication, hiring, training, and compensation.

### **3684 The Japanese Management System (3)**

Prerequisites: BA 3600 and a 2.0 minimum campus GPA. This course provides an introduction to various aspects of the contemporary Japanese business system. The emphasis is on interpretation of issues from a managerial perspective. Topics include an overview of Japan's economic growth, government policies, industrial and financial structure of Japanese business, labor-management relations, internal management practices, international competitive strategies, managing U.S. subsidiaries in Japan, penetrating the Japanese market, Japanese investment in the U.S.A., and current issues in U.S. -Japan economic relations.

### **3685 Role of the Global Corporation (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 3600 or permission of the instructor. The purpose of this course is to create awareness of controversial issues about international business. Students will gain a better understanding of resistance to and criticism of international business and will become better prepared for dealing with these issues and problems.

### **3689 International Business and Society (3)**

Encompasses the readings, lectures, company and government agency visits, and cultural visits that comprise annual Country Study Tours, (e.g., Austria, Japan, Thailand, etc.). The program includes 45 contact hours or more of classroom lectures covering aspects of the chosen country's business and society, in-depth pre-departure cross-cultural orientation and training supplemented by briefings on the country's economy and on U.S. market penetration by the Commercial Service, U.S. Embassy; a briefing by the in-country State of Missouri representative; briefings by host country agencies; company visits and factory tours; and tours of cultural sites. Student evaluation will be based on active

participation and on a research paper based on readings, lectures, interviews and field observations.

### **3690 Internship in Management (1-3)**

Prerequisites: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of Management electives and have consent of supervising instructor and Area Coordinator. A Business College GPA of at least 2.5 is also required. Students are employed in the field of Management where they apply the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A Management faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA

### **3700 Basic Marketing (3)**

Prerequisites: ECON 1001, junior standing, and a 2.0 campus GPA. An examination of the character and importance of the marketing process, its essential functions, and the institutions performing them. Attention is focused on the major policies (such as distribution, product, price, and promotion), which underlie the multifarious activities of marketing institutions and the managerial, economic, and societal implications of such policies.

### **3710 Consumer Behavior (3)**

Prerequisites: BA 3700 and a minimum campus GPA of 2.0. A study of such consumer functions as decision making, attitude formation and change, cognition, perception, and learning. The marketing concepts of product positioning, segmentation, brand loyalty, shopping preference and diffusion of innovations are considered in context with the environmental, ethical, multicultural and social influences on an increasingly diverse American consumer.

### **3720 Management of Promotion (3)**

Prerequisite: BA 3700 and a 2.0 campus GPA. A study of the design, organization, and implementation of the marketing communications mix. Various methods, such as advertising, personal selling, and publicity are analyzed as alternatives for use alone, or in combination, to stimulate demand, reseller support, and buyer preference. Particular topics considered include: media selection, sales promotional, packaging, and selling strategy, and their relationships in the promotion process.

### **3721 Internet Marketing (3)**

Prerequisites: BA 3700 and a minimum campus GPA of 2.0. This course will offer an opportunity to explore the impact of the Internet and information technology on the practice of marketing. The Internet and information technologies have revolutionized the way companies create and maintain exchange relationships between themselves and their customers. Companies, both big and small, are in the process of using the Internet to maximize the scope, effectiveness and efficiency of their existing

marketing programs. This course is designed to impart students with an understanding of the range of issues involved in planning and implementing effective marketing and information communication strategies for commercial or not-for-profit organizations. The course's emphasis will not be on actual design of a web site per se, even though the merits and demerits of different layout types will be discussed. Some of the topics covered include, among others, strategic planning and its tactical implementation in electronic marketing, target market analysis and identification, the Internet's marketing capabilities and limitations, management of customer and supplier relations concerns about privacy and ethics, and understanding how the new technology has had an impact on the field of Marketing.

### **3740 Marketing Research (3)**

Prerequisites: BA 1800, 3700, 3300 and a 2.0 campus GPA. An investigation of the acquisition, presentation, and application of marketing information for management. Particular problems considered are defining information requirements, evaluating research findings, and utilizing information. Statistical methods, models, and/or cases are employed to illustrate approaches to marketing intelligence problems, such as sales forecasts, market delineation, buyer motives, store location, and performance of marketing functions.

### **3741 Quantitative Marketing Methods (3)**

Prerequisites: BA 1800, 3700, 3300 and a 2.0 campus GPA. Applications of stochastic, deterministic, and simulation techniques to decision areas, such as market potential, product diversification, physical distribution alternatives, retail location, media selection, and market exposure. Quantitative and computerized methods are used heavily to enhance decision making in marketing, especially the selection, allocation, budgeting, and forecasting of marketing resources.

### **3750 Sales Management (3)**

Prerequisites: BA 3700 and BA 3600; (BA 3600) may be taken concurrently). Also a minimum campus GPA of 2.0. The aim of this course is to provide an understanding of how selling is critical to the success of marketing. The course will promote critical thinking skills as well as practical selling skills needed in a competitive marketplace. Course topics include, among others, selling principles and techniques, understanding of the tasks and roles of the sales manager, the management of sales professionals within an organization, developing and applying effective persuasive communications, creating a vision, developing and implementing a sales-team strategy, structuring sales-force, designing and assigning territories, recruiting, training, motivation and evaluating salespeople, methods of compensation, and forecasting sales. The emphasis will be on ways the sales-force can be molded to build long-lasting relationships with customers through the systematic analysis and solution of customers' problems.

### **3760 Business-to-Business Marketing (3)**

Prerequisites: Senior Standing, MATH 1105, BA 3700 and a 2.0 campus GPA. A study of the nature of the business-to-business(organizational) marketplace concentrating on those aspects that differentiate it from consumer markets. The major focus of the course is marketing strategy, starting with analysis of the market wants and segments, concepts of pricing, the distribution arrangements, and buyer/seller relations. In this last area, consideration will be given to service, personal selling, sales promotion, and advertising, as found in the organizational marketplace. At all times emphasis is given to relating business-to-business marketing strategy to basic concepts in underlying business disciplines. Lectures and case discussions are used heavily in the course.

### **3770 Introduction to Transportation (3)**

Prerequisites: A minimum campus GPA of 2.0; also Junior standing or instructor consent. This course provides an overview of the transportation sector, including history, providers, users, and government regulation. The importance and significance of transportation, the operational aspects of transportation modes of rail, water, motor, air and pipeline; the demand and supply of transportation, and the managerial aspects of these modes of transport will be covered in the course.

### **3771 Traffic and Transportation Management (3)**

Prerequisites: A minimum campus GPA of 2.0 and Junior standing or instructor's consent. This course focuses on the purchase of transportation and warehouse services and/or the operation of transportation services as a firm activity. This course is also designed to provide the student with an exposure to the managerial aspects of transportation management as a function of the firm's logistical strategy. In addition, it includes an introduction to the management of firms within the various transportation modes of rail, motor, air, water, and pipelines. This course is designed to provide the student with a basic understanding of the issues and work performed by traffic managers and the management of modern transportation firms.

### **3780 International Marketing (3)**

Prerequisite: BA 3700 and a 2.0 campus GPA. Marketing management problems, techniques and strategies needed to apply the marketing concept to the world marketplace. Understanding a country's cultural and environmental impact on the marketing plan is emphasized, as well as competing in markets of various cultures. Worldwide consumerism, economic and social development, the spread of multinational corporations, business ethics, and current economic and marketing issues are examined.

### **3790 Internship in Marketing (1-3)**

Prerequisite: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of Marketing electives and have consent of supervising marketing instructor and Area Coordinator. A

Business college of GPA of at least 2.5 is also required. Students are employed in the field of Marketing where they apply for the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A Marketing faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3790 may be counted toward the minimum credit hours of marketing electives required for a marketing emphasis.

### **3805 COBOL Programming (3)**

Prerequisite: BA 1800 or CS 1250. Structured COBOL programming techniques for business applications are presented. Included are report generation, control breaks, output editing, debugging, tables, and sort concepts.

**3806 Managerial Applications Of Object-Oriented Programming I (3)** Prerequisites: (BA 1800 or CS 1220 or 1250 and a 2.0 campus GPA. The course provides a study of the UNIX operating system and the C++ programming language as they pertain to managerial applications. In addition, the course will introduce the use of object-oriented programming methodologies.

### **3810 Information Systems Analysis (3)**

Prerequisites: BA 3805, or 3806, and a minimum campus GPA of 2.0. Techniques and philosophies of systems analysis are addressed. Included are: traditional versus structured design methods, computer-based tools for systems analysis, workbenches, design and analysis of database systems, maintenance of existing information systems, human/machine interfaces, and security and control.

### **3815 File Management (3)**

Prerequisite: BA 3805 and a 2.0 campus GPA. The course covers job control language, utilities, partitioned data sets, updating of sequential files, indexed files, and direct and/or relative files. The topics are implemented in a COBOL environment. A database management system is used to illustrate design and implementation of business applications.

### **3816 Managerial Applications of Object-Oriented Programming II (3)**

Prerequisites: BA 3806 and a minimum campus GPA of 2.0. This course expands object-oriented skills taught in BA 3806. The emphasis in this course is on object-oriented development tools and development in a client-server environment. The data management tools will include the use of SQL to access server-based databases.

### **3841 The Management of Information Systems (3)**

Prerequisites: [BA 3805 or 3806] and a minimum campus GPA of 2.0. Aspects and methods for managing the computer and information resources of organizations. Topics include aligning IS plans with corporate plans, MIS organizational structures, demonstrating the value of MIS to senior management, facility management,

purchase decisions, software acquisition, software metrics, project management, security issues, and economic evaluation, as they relate to information resources.

### **3842 Management of Telecommunications (3)**

Prerequisite: BA 1800 and a 2.0 campus GPA. The technical and managerial aspects of telecommunications as they apply to the business environment are discussed. Issues include: communications components and services, local area network architecture, managerial implementations, organizational issues, and cost/benefit analyses.

### **3843 Decision Support Systems (3)**

Prerequisites: BA 3300 and a minimum campus GPA of 2.0. Applications of decision support systems and expert systems in a business environment are studied. Relationships between decision support systems, expert systems, and database management systems are explored.

### **3844 End-User Computing for Business Applications (3)**

Prerequisite: BA 3805 or BA 3806 and a minimum campus GPA of 2.0. Methods for end user development of applications in a business environment are presented. An end-user programming language (for example, Visual Basic) is used for development of prototypical applications. Case studies and/or programming problems are used to illustrate technology available to end-users for creating software in a windows-based system.

### **3845 Database Management Systems (3)**

Prerequisites: BA 3815 or 3816 and a minimum campus GPA of 2.0. This course provides an introduction to the design and use of databases in meeting business information needs. Topics include database planning, conceptual design, and data administration. The concepts are studied with projects involving the use of a current database management system.

### **3890 Internship in Management Information System (1-3)**

Prerequisite: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 6 credit hours of management information systems electives at the 3000-level or above and have consent of supervising marketing instructor and Area Coordinator. A Business college of GPA of at least 2.5 is also required. Students are employed in the field of management information systems where they apply for the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A management information systems faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3890 may not be counted toward the minimum credit hours of marketing electives required for a management information systems emphasis.

**3900 Business Law: Contracts, Sales, Secured Transactions, Bankruptcy (3)**

Prerequisites: BA 2400, ECON 1001, and a 2.0 campus GPA, or junior standing and a 2.0 campus GPA. Introduction to the laws of contracts, sales, secured transactions, bankruptcy, and other selected topics.

**3901 Business Law: Negotiable Instruments, Business Organizations, Property (3)**

Prerequisites: BA 2400, ECON 1001, and a 2.0 campus GPA, or junior standing and a 2.0 campus GPA. Introduction to the laws of negotiable instruments, the principal-agent relationship, partnerships, corporations, property, and other selected topics.

**3980 The Law of International Business Transactions (3)**

Prerequisites: A minimum campus GPA of 2.0; also ECON 1002 and BA 2900 or consent of instructor. A study of the role and function of International Law and national laws in the regulation of international business transactions. The impact of various legal regimes on import-export transactions, foreign investments, and operations of multinational enterprises will be included. The role of national government supranational governmental organizations, and non-governmental organizations in forming and administering the international legal environment will be studied.

**3990 Internship in Business Law (1-3)**

Prerequisite: A minimum campus GPA of 2.0; one must have completed and/or be currently enrolled in at least 3 credit hours of Business Law electives and have consent of supervising marketing instructor and Area Coordinator. A Business college of GPA of at least 2.5 is also required. Students are employed in the field of Business Law where they apply for the knowledge and skills learned in the classroom. Professional development and obtaining specialized work experience are primary goals. A Business Law faculty member will monitor the student's program with the student providing a formal written report at the end of the project. BA 3990 may not be counted toward the minimum credit hours of marketing electives required for a marketing emphasis.

**4219 Strategic Management (3)**

Prerequisites: Senior standing and BA 3500, 3700, 3600, a minimum campus GPA of 2.0; and concurrent enrollment in BA 4220. This is a capstone course drawing on the subject matter covered in prerequisite courses. Emphasis is on the formulation and implementation of corporate, business and functional strategies designed to achieve organizational objectives. Topics include the role of top management, globalization of business and ethical perspectives. Case studies and research reports may be used extensively. (It is preferred that this course be taken during the student's final semester.)

**4220 Business Assessment Testing (0)**

Prerequisite: Concurrent enrollment in BA 4219. A one-time lab during which a major field exam in business is administered. Course graded on a Satisfactory/Unsatisfactory basis. Satisfactory grade required for graduation.

**4288 Internship in International Business (3-5)**

Prerequisites: ECON 1001 and 1002, BA 2400 and 2410, an additional 12 hours in BA, concurrent enrollment in a UM overseas program; also a 2.0 minimum campus GPA. The internship will be a supervised field experience in a business/international organization at a foreign site. Students will work for 10 weeks on projects directed by host organization supervisors in consultation with an UM-St. Louis faculty member. Prior to the field experience students will receive training that includes familiarization with the language and practices of the country's business, the background of the host firm, and international information sources. The student will complete a written report of his/her project. Course may not be repeated for more than 6 hours credit.

**4312 Business Forecasting (3)**

Prerequisites: A minimum campus GPA of 2.0 and either BA 3220 or [Math 3000 and Statistics 1320]. Further study of statistical tools for forecasting in a decision-making context. Topics include explanatory models (multiple regression), classical time series decomposition, and extrapolative techniques (exponential smoothing and Box-Jenkins procedures). In addition, methods for considering problems of intervention effects, seasonality, and collinearity will be discussed. Students will perform extensive analyses of time series data using computer packages.

**4314 Multivariate Analysis (3)**

Prerequisites: A minimum campus GPA of 2.0 and either BA 3320 or [Math 3000 and Stat 1320]. A study of statistical techniques applicable to multivariable relationships.

**4321 Production and Operations Management (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 3320. Application of the tools and techniques of statistical decision theory and operations research to production and operating problems. Emphasis is on the use of mathematical modeling and simulation techniques to analyze complex and ill-structured problems in large-scale systems.

**4322 Lean Production in Manufacturing and Service Operations (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 3320. Study of Lean Production philosophy and techniques in manufacturing and service operations. Topics include process analysis and continuous improvement techniques, quick set-ups, total productive maintenance, kanban scheduling, cellular production, team organization of workers, supplier relations, quality

management, and the environmental aspects of production.

#### **4324 Service Operations Management (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 3320. An examination of methods for designing and operating service delivery systems, such as in the health care, financial, transportation, hospitality, and governmental service industries. Topics include process and facility design, facility layout and location, queuing, demand forecasting and management, service quality, staffing, and personnel scheduling.

#### **4326 Quality Assurance in Business (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 3320. A study of statistical quality control concepts and procedures applicable to management systems, administrative activities, service industries, and nonprofit organizations. Some successful quality assurance programs will be examined.

#### **4330 Business Logistics Systems (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 3320. Analysis of business logistics systems, their design and operation. Topics include network design, facility location, transportation, vehicle routing, storage and handling, capacity planning, inventory management, and customer service.

#### **4350 Management Science Methods (3)**

Prerequisites: A minimum campus GPA of 2.0 and either BA 3320 or [Math 3000 and Stat 1320]. Applications of the theories and techniques of operations research to problems of business, government, and industry, with emphasis on the construction and utilization of quantitative decision models.

#### **4354 Operations Research II (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 4350. Topics of special interest including mathematical programming, stochastic decision-making, digital simulation, game theory, and other selected techniques. (Formerly Mathematical Programming).

#### **4381 International Logistics and Operations Management (3)**

Prerequisites: A minimum campus GPA of 2.0 and BA 3320. A study of business logistics and supply chain strategies involving shipments across national boundaries. Topics include the effects of international agreements and regional trading blocks on supply chain strategies; the design of global logistics networks; managerial processes and systems for international production and distribution; and risk management for international logistics.

#### **4401 Financial Accounting and Reporting III (3)**

Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030 and BA 3402. Accounting theory and practice related to topics such as income taxes, pensions, owner's equity, earnings per share, and the statement of

cash flows. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

#### **4402 Financial Accounting and Reporting IV (3)**

Prerequisites: A minimum 2.0 campus GPA. In addition, MATH 1030 and BA 3402. Accounting theory and practice related to topics such as business combinations, consolidated financial statements, multinational operations, foreign exchange transactions, and governmental and nonprofit organizations. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

#### **4405 Professional Accounting Research (3)**

Prerequisites: BA 4401 and a minimum campus GPA 2.0. Discussion of the research tools and methods available to resolve questions concerning accounting standards and practices. Critical analysis of topics of current interest and importance in accounting practice is the focal point of the course.

#### **4435 Auditing (3)**

Prerequisites: A minimum campus GPA of 2.0. In addition, MATH 1105, BA 3402, and BA 3421 or 3810. An introduction to auditing practice. Includes the social role of auditing and the services offered by auditors in internal, governmental, and public accounting practice. Emphasis is on the financial auditing process, including professional ethics, audit risk assessment, study and evaluation of internal control, gathering and evaluating audit evidence, and audit reporting decisions.

#### **4441 Advanced Federal Income Tax: Tax Research and Business Taxation (3)**

Prerequisite: A minimum campus GPA of 2.0 and BA 3441. Uses internet-based tax research service to conduct research that resolves tax law questions. Also focuses on federal income taxation of corporations, S corporations, partnerships, LLCs and their owners.

#### **4614 Entrepreneurship/Small Business Management (3)**

Prerequisites: BA 2900, 3500, 3700, 3600, and a 2.0 campus GPA. This integrative general management course is designed to communicate the academic principles of business management applicable to solving of problems of small- and medium-size businesses and assist in their development. This course will provide a background in the forms of business, the development of business plans and systems integration, venture capital, accounting, procurement, promotion, financing, distribution and negotiations for initial organization, and operation and expansion of the firm.

#### **4689 International Strategic Management (3)**

Prerequisites: A minimum 2.0 campus GPA and BA 3682, 3780 and 3580 or consent of the instructor. A study of the international dimensions of strategic management.

Provides an introduction to the key concepts and tools necessary for international competitive analysis. Topics include the international dimensions of strategy formulation and implementation, diversification, strategic alliances, and divestment.

#### **4700 Marketing Management (3)**

Prerequisites: Math 1105, BA 3700, three other marketing elective courses, senior standing, and a 2.0 campus GPA. An intensive analysis of major marketing decisions facing the firm, such as level, mix, allocation, and strategy of marketing efforts. Specific decision areas investigated include market determination, pricing, physical distribution, product policy, promotion, channel management, and buyer behavior. Competitive, political, legal, and social factors that may affect such areas of decisions are discussed. Cases, models, and problems are used heavily.

#### **4850 Information Systems Design (3)**

Prerequisites: BA 3845, 3810, one of either 3815 or 3816 and a minimum campus GPA of 2.0. System design, implementation, and methods of systems installation and operation are presented. A system development project is required.

### **Accounting Graduate**

#### **5400 Financial and Managerial Accounting (3)**

This course provides an introduction to accounting, with emphasis on preparation of financial statements for external parties (financial accounting) and accumulation of cost information to aid internal planning and control (managerial accounting). Topics covered include measurement of assets and liabilities, revenues and expenses, the accounting cycle, financial statements, cost terminology, cost behavior, product costing, and relevant costs for decision making. This course provides the necessary background for ACCT 5401 (Financial Reporting Analysis).

#### **5401 Financial Reporting & Analysis (3)**

Prerequisites: ACCT 5400 or the equivalent. This course builds on the foundations covered in ACCT 5400 emphasizing in-depth analysis of published financial statements. The course begins with discussion of the role of financial accounting information in capital markets and contracting, and continues with examination of a number of specific accounting issues. Students are encouraged to look behind the numbers to better understand the economics of the underlying transactions, and properly interpret what the reported numbers mean about a firm's future prospects.

#### **5402 Professional Accounting Research (3)**

Prerequisite: BA 4401. Discussion of the research tools and methods available to resolve questions concerning accounting standards and practices. Critical analysis of topics of current interest and importance in accounting practice.

#### **5403 Seminar in Financial Accounting (3)**

Prerequisite: BA 4401. A study of current financial reporting issues. Analysis of current problems and approaches pertaining to the communication of corporate financial information to the U.S. and international investment communities.

#### **5411 Concepts in Management Accounting (3)**

Prerequisites: MATH 1100 or ECON 3150 with a minimum grade of "C" and ACCT 5400. The development, interpretation, and uses of accounting reports and supplementary information for management planning, control, and decision-making. Emphasizes the application of relevant cost behavior, control, and traceability concepts in the preparation of internal accounting reports, with a secondary emphasis upon product costing techniques as appropriate to financial accounting needs. Topics include break-even analysis, operational budgeting, direct costing, absorption costing, standard costs and variance analysis, business segment analysis, responsibility accounting, distribution cost accounting, and gross profit analysis.

#### **5412 Accounting Systems for Management Planning and Control (3)**

Prerequisites: ACCT 5411 and LOM 5300, or permission of instructor. A study of advanced managerial accounting techniques useful in facilitating the planning and control process in modern organizations. Emphasis on the implementation and administration of these techniques, their integration with management information systems, and the organizational role of the corporate accountant.

#### **5435 Seminar in Auditing (3)**

Prerequisites: BA 4435 or permission of instructor. A study of advanced auditing and attestation issues, with an emphasis on operational auditing. Topics include professional ethics, risk analysis, internal control, fraud detection, analytical procedures, determining and assessing operational objectives, and reporting and implementing audit findings.

#### **5436 Systems Auditing (3)**

Prerequisites: ACCT 5400, IS 6800, or consent of instructor. Study of techniques involved in the control and audit of computer-based accounting information systems. Emphasis on the review of internal controls at operational and administrative levels and on computer-assisted audit techniques.

#### **5441 Tax Research (3)**

Prerequisite: BA 3441 or consent of instructor. A discussion of the research tools and methods available to resolve questions pertaining to the tax laws. Addresses techniques for locating, verifying, and evaluating authority. Students will be expected to complete a number of tax research and writing problems throughout the semester. A basic understanding of the federal income tax law is presumed.

**5442 Taxation of Estates, Gifts, and Trusts (3)**

Prerequisites: BA 3441 and ACCT 5441, or consent of instructor. Consideration of the transfer tax systems in general; the elements of the gross estate (includible versus nonincludible property), deductions (including the marital deduction) and credits; the gift tax and what it embraces; basic estate planning considerations; and income taxation of grantor and nongrantor trusts.

**5443 Taxation of Corporations and Shareholders (3)**

Prerequisites: BA 3441 and ACCT 5441, or consent of the instructor. Addresses tax aspects of the formation, operation, and liquidation of a corporation, as well as changes in the corporate structure through division or reorganization. Topics include establishment of the corporate structure, distributions to shareholders, and stock dividends and redemptions.

**5444 Taxation of Partnerships and Partners (3)**

Prerequisites: BA 3441 and ACCT 5441, or consent of instructor. Addresses tax aspects of the formation, operation, and termination of a partnership. Topics include special allocations and disposition of a partnership interest. Compares partnerships with Subchapter S corporations.

**5445 Tax Practice and Procedure (3)**

Prerequisite: BA 3441 or consent of the instructor. Addresses the audit process; practice before the Internal Revenue Service; administrative appeals; the notice of deficiency; waivers and extensions; amended returns and claims for refund; statute of limitations on deficiencies and overpayments; and taxpayer and tax return preparer penalties.

**5446 Advanced Topics in Taxation (3)**

Prerequisites: BA 3441 and ACCT 5441, or consent of instructor. Addresses various topics selected by the instructor, such as property transactions, compensation plans, charitable contributions, the alternative minimum tax, and tax planning.

**5451 Management Accounting and Auditing in Governmental and Not-for-Profit Entities (3)**

Prerequisites: BA 5450 and ACCT 5411 or consent of instructor. A study of accounting for use in the public sector and in not-for-profit organizations. Cost behavior controllability, and traceability concepts for management planning and control will be investigated, as well as auditing in the public sector.

**5452 Seminar in Governmental and Non-Profit Accounting (3)**

Prerequisites: BA 5450. Consideration of the positions of authoritative groups concerning accounting theory and practice for governmental and nonprofit entities. Evaluation and critical analysis of these positions in view of current accounting literature and research findings.

**5455 Taxes and Managers' Decisions (3)**

Provides a framework for understanding how taxes impact decisions of both business and individual taxpayers. The framework enables the student to become an effective evaluator of the tax planning strategies being implemented at both the firm and individual level. Students also learn how to quantify the effect taxes have on any transaction in order to maximize the after-tax return on assets or minimize the after-tax cost of financing. Unlike tax law knowledge, that becomes irrelevant when laws are repealed or changed, the analytical skills developed in this course will remain relevant.

**5480 International Accounting (3)**

Prerequisites: BA 3402. Accounting practices for multinational businesses. Discussion of comparative financial accounting practices, the development of international accounting standards, and managerial accounting practices related to multinational operations.

**5491 Seminar in Advanced Theory and Contemporary Issues in Accountancy (3)**

Prerequisite: ACCT 5403 and LOM 5300. Examines the theory underlying accounting practice. The course includes an in-depth analysis of contemporary developments in financial accounting with a succinct overview of accounting research paradigms.

**6441 Seminar in Taxation (3)**

Prerequisite: At least nine hours of Graduate level tax courses including ACCT 5441 or consent of the instructor. Addresses tax policy topics drawing on literature from accounting, economics, and public finance. Other topics of current interest will be selected by the instructor.

**Business Administration Graduate****5000 Economics for Managers (3)**

The first portion of this course introduces microeconomic analysis of consumers, firms, and government. The concepts and tools of economic analysis are applied to the production and distribution functions of organizations. The last portion is devoted to the macroeconomic influence of capital markets, the influence of interest rates, inflation, and the business cycle.

**5001 Managerial Economic Analysis (3)**

Prerequisites: BA 5000 or ECON 1001 and ECON 1002. Microeconomic analysis of consumers, firms, and government. The concepts and mathematical tools of economic analysis are applied to the production and distribution functions of organizations.

**5002 Analysis of National Economic Environment (3)**

Prerequisites: BA 5000 or ECON 1001 and ECON 1002. The character and functioning of the national economic system; analyzing and forecasting fluctuations in national income and product, employment, and prices; the

influence of monetary and fiscal policies. Emphasis is on the acquisition of knowledge concerning forces affecting all business firms.

### **5100 Managerial Communication (3)**

An analysis of business writing and speaking, and the communication conventions common in organizations. Emphasis is placed on developing skills critical to career advancement and necessary for effective organizational functioning. A second goal is to prepare students for assignments in other business courses. This course must be taken within the first 12 credit hours of study, preferably in the student's first semester.

### **5198 Seminar in Business Administration (3)**

An intensive study of a specific area of business administration of some specific business or economic phenomenon, or a specific problem or theory. Several different courses may be offered under this course number.

### **5280 International Business Operations (3)**

Prerequisite: FIN 6580. Functional management within multinational corporations; case studies of operations abroad; and focus on managerial decision making.

### **5289 Internship in International Business (3)**

Prerequisites: Consent of IMBA Director  
Students will apply both their language skills and knowledge of international business by working in an organization located outside the student's country of origin. This course requires students to submit regular evaluations and prepare a research report summarizing their global experience and how it relates to the international business program.

### **5290 Current Topics in Business Administration (1)**

Examination of a Business Administration topic of current interest. Instruction by regular graduate faculty, frequently supplemented by outside authorities (practicing managers, government officials, consultants, visiting faculty, etc.). Course may be taken three times for credit.

### **5299 Individual Research (1-10)**

Prerequisite: Consent of instructor and graduate director. Special individual research topics under the guidance of a specific professor.

### **5450 Governmental Budgeting and Financial Control (3)**

Prerequisite: Completion of the MPPA Computer Proficiency Exam OR demonstrated proficiency with spreadsheets. (Same as Public Policy Administration 6180) A study of municipal and federal financial control and budgeting procedures with emphasis on public policy. The impact of financial control on top management decisions and the effect of budget strategies on the allocations of public funds.

### **5900 Law, Ethics, and Business (3)**

Analysis of the relationship between law and business with emphasis on the ability of, and extent to which, governments regulate business activities. Topics covered include the employer-employee relationship, protection of consumers, antitrust regulation, and securities law. Also discussed are ethical issues confronting management of the modern business enterprises.

### **5905 Societal, Environmental, and Management Decisions (3)**

Prerequisites: BA 5000. An examination of the external relationships of a business enterprise with the broad and diverse interests of society. These are government and social forces that sometimes operate counter to the potential dictates of theoretical internal economic policies for an individual organization. The primary objective is to examine the increasingly complex set of interrelationships among business, government, other economic groups, and "the public." A series of major current problems, chosen to raise some of the major issues involved in these interrelationships, and in particular to explore the development of public policy on such problems.

### **6990 Strategy Formulation and Implementation (3)**

Prerequisites: FIN 6500, MGT 5600, MKT 5700, LOM 5320 and special consent. Graduate program capstone course examining concepts and methods that integrate functional areas of business. The perspective is that of general management charged with directing the total enterprise. Interactions between the environment, organization, strategy, policies and the implementation of plans are explored. Special emphasis is given to globalization of business and ethical perspectives. This course should be taken during the semester prior to graduation. In no case may it be taken sooner than two semesters prior to graduation.

### **7001 Doctoral Research (1-12)**

Prerequisites: Must have Ph.D. Program Director or Area Coordinator approval. Investigation of an advanced nature culminating in preparation for comprehensive examinations and/or development of dissertation proposal. The course may be repeated.

### **7002 Dissertation Research (1-12)**

Prerequisites: Must have Ph.D. Program Director or Area Coordinator approval. Investigation of an advanced nature culminating in the preparation of a doctoral dissertation. The course may be repeated.

### **7020 Seminar in Business Administration Teaching (1)**

Prerequisites: Admittance into the Ph.D. Program. This course explores the practice and pedagogy of teaching business administration.

### **7021 Qualitative Methods and Philosophical Foundations of Business Administration Research (3)**

Prerequisites: Admittance into the Ph.D. Program. This course investigates the ontology and epistemology of



business administration research, particularly as they pertain to qualitative research methods, such as case studies, action research, and ethnomethodology.

### **7300 Statistical Modeling (3)**

**Prerequisites:** LOM 5300; Admittance into the Ph.D. Program. Study of the multivariate analytical techniques and their application to the analysis of business systems. Topics include the construction and adaptation of statistical models and extrapolative techniques to accommodate factor interactions, nonlinearities, and periodic effects. Methodologies include multiple regression, ANOVA, the general linear model, MANOVA, structural equation modeling, and time series modeling.

### **Finance Graduate**

#### **6500 Financial Management (3)**

**Prerequisites:** ACCT 5400 or BA 2400, LOM 5300 or BA 3300, and BA 5000 or ECON 1001 and ECON 1002. This course provides an in-depth analysis of corporate finance including asset pricing, risk and return, short- and long-term investment decisions, capital structure choices, dividend policy, derivatives, mergers and acquisitions, and a host of other current topics. The material is taught through lectures and problem solving.

#### **6501 Advanced Financial Management (3)**

**Prerequisites:** FIN 6500 and LOM 5300. Exposure to recent financial management theory through selected readings. Financial management problems are considered by the use of cases and simulation models. An original research project under the supervision of the instructor is required.

#### **6520 Security Analysis (3)**

**Prerequisites:** FIN 6500 and LOM 5300. An in-depth study of techniques used in evaluating various financial assets as investment opportunities. Financial assets studied include common stock, preferred stock, and fixed income securities. Other related topics such as sources of investment information and current market trends are discussed.

#### **6521 Introduction to Derivatives (3)**

**Prerequisite:** FIN 6500. An in-depth study of advanced risk management techniques utilizing futures, forwards, options, swaps and synthetic securities. A broad study of speculative market characteristics will be reviewed in conjunction with a variety of financial innovations. Portfolio management theories combined with mathematical models will be utilized to demonstrate the effects of hedging techniques and portfolio insurance.

#### **6540 Capital Markets and Financial Institutions (3)**

**Prerequisite:** FIN 6500 The theory of financial intermediation is discussed in the context of banks, savings and loans, public and private insurance companies, and investment banking. In this framework,

the relationship with money and capital markets, markets for corporate control, complex financial contracting, and regulatory environment is developed.

#### **6541 Commercial Bank Management (3)**

**Prerequisite:** FIN 6500. This course explores the various bank management techniques required to manage a modern commercial bank in a rapidly changing environment. Topics include asset and liability management, capital adequacy, bank holding companies, profitability, and bank market structure and regulation.

#### **6542 Real Estate (3)**

**Prerequisite:** FIN 6500. This course provides a broad introduction to real estate with a focus on legal issues, market analysis, valuation, financing, leasing and investment decisions. Classes are conducted in a standard lecture format with discussion on current topics. No prior knowledge of the industry is required.

#### **6580 International Finance, Investment, and Commercial Relations (3)**

**Prerequisite:** FIN 6500. This course provides students with a working knowledge of the international environment relating to the financial and securities markets along with the impact on corporate operations. International risk and tools to control risk are studied in a practical environment that may include cases. Individual research may be required to reinforce the topics studied in the classroom. Class discussion of current issues and related readings are encouraged.

#### **6581 Seminar in International Investments (3)**

**Prerequisite:** Fin 6500. This course covers topics related to the determination of exchange rates, international parity relations and portfolio diversification. In addition, methods for using foreign exchange derivatives are explored in their use for hedging exchange rate risk. Learning to read foreign exchange quotes and understanding the functioning of global markets is an integral part of the course material. Each student is assigned a foreign country to study throughout the semester with the completion of a comprehensive project report. A prior investments course is recommended but not required.

#### **6590 Seminar in Finance (3)**

**Prerequisite:** FIN 6500. This course incorporates a wide range of advanced topics in finance including, but not limited to, an evaluation of various financial assets as investment opportunities, trends in capital markets, derivatives and management of financial and non-financial firms.

#### **6591 Finance Internship (1-3)**

**Prerequisite:** Students must have completed and/or be enrolled in at least 6 credit hours of finance electives and have consent of supervising faculty member and Area Coordinator. Student work in the field of Finance where they apply the knowledge and skills learned in the

classroom. Professional development and obtaining specialized work experience are the primary goals. The student's program will be monitored by a Finance faculty member with the student providing a formal report at the end of the project.

### Information Systems Graduate

#### 6800 Management Information Systems (3)

Prerequisite: ECON 3150. (Same as PPA 6800). An overview of management information systems is presented, including IS managerial concepts and hands-on exposure to technology. Concepts include alignment of information systems strategy with organizational strategy, MIS components and organizational structures, issues in the design and implementation of systems, and understanding the role of information systems in organizations. Students are exposed to several technologies, including the information superhighway, application software packages, and a programming language.

#### 6805 Applications of Programming for Business Solutions (3)

Prerequisite: IS 6800. This course provides a study of business-oriented programming. A programming language will be introduced and discussed in detail. Emphasis will be on program definition and the use of such programs in business-oriented applications.

#### 6806 Managerial Applications of Object-Oriented Technologies (3)

Prerequisite: IS 6805. This course deals with business-oriented programming in an object-oriented environment. The emphasis will be on program definition, and tools and development in a client-server environment. The course will involve the study of an object-oriented language in addition to object-oriented methodologies for systems development.

#### 6807 Business Programming and File Systems (3)

Prerequisite: IS 6805. The course provides a study of business-oriented programming in a traditional centralized environment. The programming language COBOL will be introduced and studied in detail. Emphasis will be on program definition and the use of file structures in business-oriented applications.

#### 6808 Internet Programming for Business (3)

Prerequisite: IS 6805. Focus on web-based applications development for business. It will begin with the fundamentals of web-based computing, including web client and server interaction, the MIME standard, server and client data frame headers, the CGI standard, and error conditions as they pertain to business applications. In addition, JAVA will be introduced to build web-based GUI-interfaces and back-end servers. Finally, business applications issues such as firewalls, proxy servers and data encryption using secure servers will be included.

#### 6825 Management Information Systems: Theory and Practice (3)

Prerequisite: IS 6800. The course presents and analyzes critically current MIS topics in the context of business organizations. Issues may include: organizational and behavioral concerns, the fit between information systems and organizations, information systems development and implementation, software evaluation and procurement, systems performance, and information systems planning and control.

#### 6831 Internship in Advanced MIS Applications (3-6)

Prerequisite: IS 6840 or permission of instructor. The internship will be a supervised field experience in a US-based business/organization or a US-based international business/organization. Students will be employed off-campus for a 10-16 week period on projects directed by host organization supervisors in consultation with a UM-St. Louis faculty member. The project requires students to apply MIS concepts to a real-world problem. The project does not duplicate, but builds upon material in the MIS curriculum. A professional written report will be required. The course may not be repeated for more than six hours credit.

#### 6832 Information Systems Strategy (3)

Prerequisite: IS 6825. This course presents the management of computer-based information resources in the context of business organizations. Issues may include: management strategies and policies for improving organizational productivity, measurement, evaluation and acquisition of management information services, office automation, end-user computing, computer use in international environments, social organizational perspectives and ethical implications. The course will be taught using cases.

#### 6833 Decision Support Systems (3)

Prerequisite: LOM 5300. Applications of decision support systems in a business environment are studied. Issues pertaining to maintenance of data, construction of models and provision of supporting technology are explored. Students will analyze, design and implement a managerial decision support system using current development tools.

#### 6834 Fourth Generation Languages and End User Computing (3)

Prerequisite: IS 6805. The course presents fourth generation languages and covers managerial issues of end-user computing. A specific fourth generation language will be introduced and programming applications will be assigned. In addition, the course will explore the problems of providing and managing micro-to-mainframe links, end-user software packages, and security/confidentiality issues.

#### 6835 Electronic Commerce (3)

Prerequisite: IS 6800. Electronic commerce is a modern business methodology that addresses the needs of

organizations, merchants, and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery. In this course, students will examine critical information technologies that provide a basis for electronic commerce and their application in a variety of sectors and industries. It will begin with coverage of the tools, skills and business concepts that surround the emergence of electronic commerce and the consequences of applying these information technologies to difference commercial processes from both an operational and strategic perspective. We will also explore several of the problems surrounding electronic commerce such as security, privacy, content selection and rating, intellectual property rights, authentication, encryption, acceptable use policies, and legal liabilities.

**6836 Telecommunications: Design and Management (3)**

Prerequisite: IS 6800 (may be taken concurrently). The topic of telecommunications is addressed from both a technical and managerial viewpoint. In particular, the course will address issues such as communications components and services, local area network architecture, managerial implementations, organizational issues, and cost/benefit analyses.

**6837 Management of Client/Server Computing (3)**

Prerequisite: IS 6836. This course explores a wide range of topics necessary for the management of client/server computing technology. Students will explore the business advantage and opportunities that client/server systems can provide an organization. In addition, the course will introduce topics of importance to implementing technology in an organization. Finally, the course will provide a framework for understanding the diverse technical components of client/server technology, technical standards and their implications for inter-operability of components.

**6838 Business Process Design (3)**

Prerequisites: IS 6800 and IS 6825 (may be taken concurrently). This course presents the concepts of process design for improving customer service and satisfaction. Issues related to characteristics, goals, benefits and costs of enterprise-wide design, and the role of information technology during the design process will be discussed. Further topics may include: computer-based modeling tools for process design, total quality management and quality circles, and organizational learning.

**6840 Information Systems Analysis (3)**

Prerequisite: IS 6805. The theory and practice of structured analysis are presented. Topics may include: traditional vs. structured analysis methods, requirements analysis, user/analyst interaction, investigation of existing systems, human/ machine interfaces, CASE tools, and workbenches.

**6845 Database Management Systems (3)**

Prerequisite: IS 6805. The course introduces the concepts of database management systems for business applications. Issues in database architecture, design, administration, and implementation are covered. Projects are assigned on a mainframe DBMS and a microcomputer-based DBMS to illustrate the concepts and applications.

**6850 Information Systems Design (3)**

Prerequisites: IS 6840 and IS 6845. This course builds upon the analysis techniques presented in IS 6840. It requires the student, usually working in a group, to design and implement a system in a real-world environment. Advanced design concepts are presented to support the students in their project work

**6881 Management of Transnational Information Systems (3)**

Prerequisites: IS 6800 and IS 6825 (may be taken concurrently). The course presents concepts of managing global information technology. Issues covered include: global information technology, systems development, electronic data interchange, cross-border data flows, and national and international information structures. Further topics may include information technology enabled economic development, global outsourcing of information systems services, and social, organizational and ethical implications.

**6890 Management Information Systems Thesis Research (1-6)**

Credit to be awarded upon successful defense of thesis.

**6891 Seminar in Management Information Systems (3)**

Prerequisite: IS 6800. Topics of current interest in management information systems. Topics may include international information systems, electronic commerce, decision support systems, information systems strategy, telecommunications, and information systems management

**6892 Seminar in Current Management Information System Topics (3)**

Prerequisite: IS 6800 and IS 6825 (may be taken concurrently). Advanced topics of current interest in management information systems. Content to be determined each time the course is offered. May be repeated for credit.

**7890 IS Research Seminar (3)**

Prerequisites: IS 6800; Admittance into the Ph.D. Program. Analysis of the research problems, approaches, and findings of Management Information Systems Research. May be repeated for credit when the subject matter is different.

**7891 Quantitative Research Methods in IS (3)**

Prerequisites: IS 6800; Admittance into the Ph.D. Program. Analysis of research design and validity of

quantitative methods applied to the study of Management Information Systems, including laboratory experiments, sample surveys, and field experiments.

### **7892 Doctoral Seminar in Current Information Systems Topics (3)**

Prerequisites: IS 6800; Admittance into the Ph. D. Program. Theoretical and empirical analysis of topics of long-term importance to the IS field such as systems analysis and design, systems development and implementation, and database management. A historical perspective of the technical and behavioral issues associated to IS artifacts is provided such that contemporary issues and trends can be appreciated.

### **7893 Special Topics in IS (3)**

Prerequisites: Consent of instructor; Admittance into the Ph.D. Program. In-depth analysis of special topics in IS research. May be repeated for credit when the subject matter is different.

### **7894 Theoretical Foundations of Information Systems Research (3)**

Prerequisites: IS 6800, Admittance to the Ph.D. Program. The theoretical foundations of information systems are largely built upon the theories from other disciplines, including the physical sciences, computer science, sociology, psychology, and mathematics. In this course, we survey a variety of theoretical foundations from other disciplines by reading the original works, critical responses to these theories, and representative applications of these theories in the IS domain.

## **Logistics and Operations Management Graduate**

### **5300 Statistical Analysis for Management Decisions (3)**

Prerequisites: IS 6800 (may be taken concurrently) and ECON 3150 with a minimum grade of a C. The role of statistical evidence in the formation of inference and in the selection of strategies in solving business problems is developed. Probability and probability distributions are studied as a basis of statistical inference. An introduction to multivariate analysis is provided, which includes analysis of variance and regression methods.

### **5301 Introduction to Geographic Information Systems (3)**

Prerequisites: LOM 5300 or equivalent, and consent of instructor. Geographic information systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation and maintenance of geographically referenced data. This course includes extensive use of GIS software and provides a foundation in using GIS for spatial analyses. A range of examples is used to emphasize use of GIS as a tool to support analysis and decision-making.

### **5312 Advanced Statistical Methods for Management Decisions (3)**

Prerequisite: LOM 5300 The application of statistical methods to managerial problems, forecasting and business research. Topics include the blending of multiple regression and analysis of variance into a general linear model, logistic models, techniques for projecting seasonal time series, and forecasting techniques (ARIMA models) which deal with serially correlated data. Through class presentations, assigned exercises and a major project, students gain experience in constructing explanatory and predictive models for problems in marketing, finance, etc. Students use commercial software (e.g., the Statistical Analysis System) for analyzing data, constructing models and producing reports.

### **5320 Production and Operations Management (3)**

Prerequisite: LOM 5300. This course discusses issues related to the creation and delivery of goods and services. Topics include the design of production processes, the layout and location of facilities, forecasting, scheduling, inventory control, queuing, materials planning, and quality control. Analytical techniques such as linear programming are used in studying these problems.

### **5322 Lean Production (3)**

Prerequisite: LOM 5320. Study of lean production philosophy and techniques in manufacturing and service operations. Topics include process analysis and continuous improvement, set-up reduction, total productive maintenance, kanban scheduling, cellular production, work teams, supplier relations, quality management, and the environmental aspects of production. Cases and a course project will be used to integrate and apply the course material

### **5324 Service Operations Management(3)**

Prerequisite: LOM 5320. An examination of methods for designing and operating service delivery systems, such as in the health care, financial transportation, hospitality, and governmental services industries. Topics include process and facility design, facility layout and location, queuing, demand forecasting and management, service quality, staffing, and personal scheduling.

### **5326 Quality Management (3)**

Prerequisite: LOM 5300 or STAT 4200 or consent of instructor. (Same as MATH 5370). An applied course on total quality management. Quality improvement approaches are presented and the managerial implications and responsibilities in implementing these approaches are discussed. Topical coverage includes the construction and interpretation of control charts, graphical methods, quality function deployment, robust experiments for product design and improvement, mistake-proofing (poke yoke), the Deming approach, Baldrige award criteria, quality cost audits, worker empowerment and reward systems. Cases involving both business processes and physical processes are used to illustrate successful quality improvement efforts.

**5333 Topics in Logistics and Supply Chain Management (3)**

Prerequisite: Consent of instructor. This course covers topics in logistics and supply chain management. This may include subjects such as domestic and international transportation, transportation economics, supply chain strategy, logistics system design, procurement, reverse logistics, e-logistics, and information systems for logistics and supply chain management.

**5334 Internship in Logistics and Supply Chain Management (1)**

Prerequisite: Consent of instructor. Students receive practical experience in the area of logistics or supply chain management. The internship is supervised by a professional in the host organization in consultation with a faculty member.

**5354 Simulation for Managerial Decision Making (3)**

Prerequisite: LOM 5320. Introduction to simulation as a managerial decision-making aid. Application of simulation to a number of management science-oriented problems. The course introduces and requires use of a simulation language.

**5381 International Logistics and Operations Management (3)**

Prerequisite: LOM 5320. A study of international logistics and operations management strategy, planning and operations. Topics may include multinational logistics and supply chain strategies, global network design and sourcing, international transportation, distribution and operations, import-export, risk management, etc.

**6330 Business Logistics Systems (3)**

Prerequisite: LOM 5320 (may be taken concurrently). Analysis of business logistics systems and their role in supply chain management. Covers both design and operation of logistics systems and their components. Topics may include network design, facility location, transportation, vehicle routing, inventory management, customer service, reverse logistics and logistics information systems.

**6331 Logistics and Supply Chain Operational Modeling (3)**

Prerequisites: LOM 5320 and LOM 6330. A study of the application of leading software packages to modeling problems and issues arising in the operational management of logistics and supply chains. This course covers the economic tradeoffs involved in such decisions, data requirements, operating parameters, and application of software packages to problems such as vehicle routing and scheduling, freight shipments consolidations, cross-docking, and other operational and tactical strategies. This "hands on" course is designed to prepare students for higher-level supply chain analyses and consulting work.

**6332 Logistics and Supply Chain Strategic Modeling (3)**

Prerequisites: LOM 5320 and LOM 6330.

A study of the application of leading software packages to modeling problems and issues arising in the planning and strategic management of logistics networks and supply chains. The course identifies and explores the economic and customer service tradeoffs involved in such networks. Issues such as location of facilities, assignment of production and distribution missions to facilities, identification of sourcing relationships amongst facilities, and identification of cost and customer service consequences of alternative supply chain designs are addressed by the application of commercial software packages to support decision making. This "hands on" course is designed to prepare students for high-level supply chain and analyses and consulting work.

**6350 Management Science Methods (3)**

Prerequisite: LOM 5320. This course provides a working knowledge of management science techniques. It emphasizes analytical approaches to solving business problems, construction of mathematical models, and manipulation of model variables for managerial decision-making. Topics include mathematical programming, including integer and network models, heuristics, and simulation models.

**6354 Advanced Operations Research Topics (3)**

Prerequisite: Consent of instructor. Advanced topics from such areas as mathematical programming, stochastic processes, decision theory, or game theory are studied in depth.

**6360 Advanced Logistics and Operations Management Applications (3)**

Prerequisites: LOM 5320 and consent of instructor. Application of analytical techniques to business problems in logistics, operations and supply chain management. After a brief review of techniques and an examination of typical applications reported in the literature, the major portion of the term is spent in analyzing and solving an actual business problem. A team approach may be used, with groups of students responsible for finding and solving a problem. Primary emphasis is placed on the use of analytical techniques to solve management problems.

**6395 Seminar in Logistics and Operations Management (3)**

Prerequisite: LOM 5320. Topics of current interest in logistics and operations management. Topics may include just-in-time and lean production, quality management, manufacturing and service systems, transportation and logistics, quantitative management tools, etc.

**6840 Experimental and Survey Design and Analysis (3)**

Prerequisite: LOM 7310. This course covers the linear model and analysis of variance, including survey design,

validity and reliability, design of experiments and applied regression methods. Topics may include analysis of covariance, multiple comparison procedures, cluster analysis and factorial experiment designs.

### **7350 Operations Research-Deterministic Models (3)**

Prerequisite: MATH 4450 or equivalent. (Same as MATH 5350. A study of deterministic methods and models in operations research. This course provides an introduction to operations research and focuses on model building, solution and interpretation of results. Topics include formulation, solution, duality and sensitivity analysis in linear programming, integer programming, network flow models, nonlinear optimization, and dynamic programming.

### **7352 Operations Research-Stochastic Models (3)**

Prerequisite: STAT 4200 or equivalent. (Same as MATH 5360). A study of stochastic methods and models in operations research. Provides an introduction to probabilistic models for decision making under uncertainty. Topics include stochastic processes, queuing theory and models, probabilistic inventory theory and models, Markovian decision problems, simulation and reliability.

### **7381 International Supply Chain Management (3)**

Prerequisites: LOM 5320; Admittance into the Ph.D. Program. A comprehensive examination of international logistics and supply chain management strategies, planning and operations from the firm's perspective. Topics may include multinational logistics and supply chain issues and management strategies, multinational sourcing and network design, transportation issues in international supply chains, multinational distribution and operations, legal and financial issues in import and export, risk identification and management in international supply chains, and the relationship of supply chain management to other activities of international firms.

### **7390 Research Seminar in LSCM (3)**

Prerequisites: LOM 6330; Admittance into the Ph.D. Program. Analysis of research approaches, and findings in Logistics and Supply Chain Management. May be repeated for credit when the subject matter is different.

### **7393 Special Topics in LSCM (3)**

Prerequisites: Consent of instructor; Admittance into the Ph.D. Program. In-depth analysis of special topics in Logistics and Supply Chain Management research. May be repeated for credit when the subject matter is different.

## **Management Graduate**

### **5600 Organizational Behavior and Administrative Processes (3)**

Same as PPA 6600. The theoretical and research contribution of the behavioral sciences to management and administration are examined and applied to selected organizational situations. Areas to be considered from the

standpoint of both individual and organizational performance are communication, motivation, conflict, decision-making, goal setting, leadership, organizational design, climate, development, and control. Utilizing a systems perspective, the course attempts to develop in each student an ability to analyze and solve organizational problems.

### **5611 Advanced Organizational Behavior and Administrative Processes (3)**

Prerequisite: MGT 5600. An in-depth examination of selected organizational and individual theories affecting behavior and operating performance. Organizational structure and design, formal and informal organization, decision making, communications, and motivation are analyzed for their organizational impact. The course seeks to develop further the ability to analyze and evaluate organizational processes and individual behavior.

### **5612 Negotiating Workplace Conflict (3)**

Prerequisites: PPA/MGT 6600, and Graduate Standing (Same as Public Policy Administration & Sociology 5451). Examines conflict and cooperation between individuals, groups, and organizations over the control of work. A central theme is how this conflict is expressed, controlled and resolved. Students will participate in exercises to learn the basics of two-party negotiations.

### **5613 Dynamics of Interpersonal Relations (3)**

Prerequisite: MGT 5600 or academic background in general psychology. The self-concept, personality dynamics, and mechanisms of adjustment. Catalysts and barriers to effective communication. Examination of the functional relationship between ego-needs, perceptual distortion, and stereotypical thinking. Roleplaying, the resolution of role-conflict, and objective self-evaluation. The development of cooperation and trust as a prerequisite to effective human relations.

### **5614 Managing Organizational Change and Design (3)**

Prerequisite: BA 5600 (may be taken concurrently) This course examines the ways to manage organizational change to meet the rapid pace of change in the business environment. Cases and current research inform class discussions of different types of restructuring. Topics may include creating learning organizations, designing for innovation, managing growth and downsizing, and building sustainable organizations.

### **5621 Managing Human Resources (3)**

Prerequisite: MGT 5600. In-depth examination of selected human resource management issues from a contemporary manager's viewpoint. Topics examined include: personnel planning; employee selection; performance appraisal, training, and development; compensation; legal issues; discipline; and labor relations. The course examines these topics as they relate primarily to operational activities in organizations.

**5622 Union-Management Relations and Collective Bargaining (3)**

Prerequisites: MGT 5600 and BA 5900. Primary concern is with the setting and the dynamics of contract negotiation and administration. Emphasis is on the development of insight and understanding of the forces affecting the decisions of the parties to a labor contract within the context of the social, political, and economic environment of the organization. A dynamic approach is taken to examine difficulties that arise in attempting to administer a collectively established relationship between employer and employee.

**5623 Compensation and Benefits (3)**

Prerequisites: MGT 5621 and LOM 5300. An in-depth study of compensation and benefit programs in organizations. Topics include job evaluation, incentive systems, performance appraisal, and employee benefits. Discussion of relevant laws, such as the Equal Pay Act, is also provided.

**5624 Organizational Training (3)**

Prerequisite: MGT 5600 or MGT 5621 or permission of department. An intensive study of training and developmental methods/issues in organizations. Topics include needs analysis, learning theory, training techniques, evaluation, and management development. Other topics include memory, training objectives, and training facilities. Projects and exercises are used to supplement reading and lecture.

**5625 Selected Topics in Human Resource Management (3)**

Prerequisites: MGT 5621 and LOM 5300. This course provides an advanced treatment of selected human resource management topics. Primary focus is on topics such as job analysis, pre-employment screening devices, test validation, and civil rights laws. Other topics, such as performance appraisal, recruitment, promotions, and terminations may be covered. Various class projects may be assigned to supplement readings, lectures, and discussion.

**5626 Leadership Through People Skills (3)**

Prerequisite: MGT 5600 (or permission)  
This seminar will help students learn leadership strategies and develop skill sets that will allow them to: (1) Adapt to different people in appropriate and productive ways; (2) Gain commitment from others through the use of effective people skills; and (3) Develop an awareness of their own current style of management and clearly see its impact on their staff and peers. Students will spend approximately 75 percent of their time "learning by doing" as they engage in and receive feedback on skills practices and role-plays. The seminar culminates with students planning and practicing a "real-life" interaction they will face on the job, thus creating a strong transfer of skills and learning from the seminar back to the workplace.

**5689 International Business Strategies (3)**

Prerequisites: BA 5000 and ACCT 5400. This course focuses on those managerial issues, which follow from the definition and implementation of corporate strategy for worldwide operations, as distinguished from purely domestic firms or those only marginally involved in international activities. It aims to develop an appreciation for the unique competitive, sociocultural and political environments in which international business takes place and the skills required to deal with these changes.

**5695 Seminar in Management (3)**

Prerequisite: MGT 5600. Topics of current interest in management. Possible topics include, human resource management, international management, and entrepreneurship.

**Marketing Graduate****5700 Contemporary Marketing Concepts (3)**

Prerequisite: BA 5000. Designed for students with no prior course work in the field of marketing. A wide spectrum of marketing institutions and activities is covered. The impact of marketing on the total firm, the economy, and society in general is assessed. The course is intended to develop and organize the fundamental marketing concepts necessary to an analytical study of consumer behavior, the economic environment, and four managerial aspects of marketing. The acquisition and utilization of marketing research data for problem solving is stressed. Relation and integration of basic marketing knowledge to the successful development of sound marketing policy, planning, and strategy is developed.

**5701 Marketing Planning and Strategy (3)**

Prerequisite: MKTG 5700. Emphasizes the development of a total marketing program through an analytical study of the marketing-mix, the diagnosis of the business situation, along with the influence of exogenous variables and the development of an effective campus marketing strategy. Stresses importance of an integrated marketing plan and utilizes modern decision-making tools. Supplementary readings, journal articles, and current periodicals are used to place the theoretical framework of the course into the contemporary environment of the market place.

**5710 Consumer Motivation and Behavior (3)**

Prerequisite: MKTG 5700. An analysis of the socio-psychological foundations of consumer behavior including personality differences, needs and wants, status symbols, social change and mobility, and fads and fashions. Consumer spending and saving habits, product preferences, leisure-time patterns, shopping behavior, and motivation research also are examined for their impact on advertising, selling, and marketing management.

**5720 Marketing Communications (3)**

Prerequisite: MKTG 5700. Deals with managerial decision making by placing particular emphasis on

assimilating and integrating all forms of marketing communication in the development of promotional policies, plans, and procedures. Course approach is analytical rather than descriptive in investigating the areas of advertising, public relations, sales management, packaging, and other forms of demand stimulation.

### **5730 Product Planning and Pricing (3)**

Prerequisite: MKTG 5700. A study of product management focusing on new product development. The steps of the new product development process are covered in detail. Current issues in new product research are discussed. Projects are emphasized and involve the application of several of the key techniques to the student's own new product ideas. Selected pricing topics are also covered, such as measuring consumer price sensitivity.

### **5740 Marketing and Business Research (3)**

Prerequisites: MKTG 5700 and LOM 5300. A broad approach to marketing research as a model for acquiring, retrieving, and analyzing decision-making information. Includes market measurement, evaluation of sales, and cost effectiveness, sales forecasting, and primary marketing research studies aimed at solving specific problems. Emphasis is placed also on building a theoretical and analytical framework to provide flexibility in the design of marketing experiments and in judging recent research innovations.

### **5760 Marketing Channel Strategy (3)**

Prerequisites: MKTG 5700 and LOM 5320. A study of the marketing institutions involved in the distribution of goods and services, industrial and consumer markets, as well as the establishment and integration of marketing channels. The planning and analysis of the macrodistribution and microdistribution systems which contribute to creation of optimal time and place utility. Some attention is paid to quantitative applications to marketing situations including simulation and logistics.

### **5761 Business to Business Marketing (3)**

Prerequisite: Graduate standing or consent of instructor. This course provides graduate students with an understanding of the role of business to business marketing as it pertains to business, government, and institutional customers. The course places a heavy emphasis on buyer-seller interaction embodying business to business marketing. In addition to discussing the standard theories and covering the subject domain of business marketing, the course focuses on the finer aspects of business to business marketing negotiations

using exercises and readings. Student groups enact complex industrial buyer-seller negotiations striving to achieve their respective organizational goals.

### **5770 Supply Chain Management (3)**

Prerequisite: Consent of Instructor. This course addresses supply chain management and its implications, with a focus on what firms can do to maintain competitiveness in the quickly changing business landscape. Topics may include, but are not limited to, value chain analyses, marketing business-to-business, supply chain analytics, procurement, production, logistics, and inventory management within supply chains.

### **5775 Domestic Transportation (3)**

Prerequisite: Graduate standing or consent of instructor. Domestic Transportation is the study of North American transportation modes, their management and operating characteristics. This graduate course is part of the Mid-West Transportation Consortium where UMSL, along with 5 other Universities, provides guest lecturers that comment on aspects of transportation. UMSL students concentrate on the business aspects of transportation.

### **5780 Seminar in International Marketing (3)**

Prerequisite: BA 5700. An advanced seminar on topics in international or global marketing. Possible topics include the globalization of trade, export marketing, international market opportunity analysis, and negotiation for international marketers. Students who take one version of this course (e.g. globalization of trade) can take a second version of the course (e.g. negotiation for international marketers) with prior permission.

### **5795 Seminar in Marketing (3)**

Prerequisite: MKTG 5700. This course addresses advanced problems in contemporary marketing. Topics may include, but are not limited to, marketing strategy, marketing communications and advertising, product management, consumer behavior, channels of distribution, international marketing, and marketing research.



## College of Education

### Accreditation

The University of Missouri-St. Louis, through the College of Education, is accredited by the National Council for Accreditation of Teacher Education for the preparation of early childhood, elementary, special education, physical education, secondary school teachers and school service personnel.

### Course Designations in the College of Education

The following abbreviations are used to indicate instructional areas in the course listings and descriptions in the College of Education.

Adult Education Courses (**Adu Ed**)  
 Counselor Education Courses (**Cns Ed**)  
 Early Childhood Education Courses (**Ech Ed**)  
 Educational Administration Courses (**Ed Adm**)  
 Educational Foundations Courses (**Ed Fnd**)  
 Educational Psychology Courses (**Ed Psy**)  
 Educational Research and Evaluation Methods Courses (**Ed Rem**)  
 Educational Technology Courses (**Ed Tec**)  
 Elementary Education Courses (**Ele Ed**)  
 Middle Education Courses (**Mid Ed**)  
 Higher Education Courses (**Hir Ed**)  
 Physical Education Courses (**Phy Ed**)  
 School-Wide Education Courses (**Educ**)  
 Secondary Education Courses (**Sec Ed**)  
 Special Education Courses (**Spc Ed**)  
 Teacher Education Courses (**Tch Ed**)

### Teacher Education

#### Degrees and Areas of Concentration

The College of Education offers certification programs leading to the B.S. in education with specialization in any of the following: early childhood education, elementary education, special education, physical education, and secondary education. Courses are also available for those seeking certification for middle school music and art. In cooperation with other schools and colleges of the university, the College of Education provides a program for students pursuing other degrees and also planning for a teaching career in secondary education.

#### General Education Requirements

Students in the College of Education must meet university and departmental general education requirements specified for their degrees.

#### Academic Residence

Students must be in residence for 30 of the last 30 semester hours of credit. Courses graded on a satisfactory/unsatisfactory basis are not accepted within these last 30 semester credit hours. This residency requirement applies to students seeking a degree or teacher certification.

### Education Majors

Professional education courses must be completed with a grade point average of 2.5 and no grade lower than a C (2.0). A C- grade is not acceptable.

### Admission to the College of Education

Any students who designate education degree programs as their intended degree paths will have Education as their assigned academic unit. Students admitted to the College of Education must also be admitted to the Teacher Education Program.

### Application and Admission to the Teacher Education Program

All students (pre- and post-degree) who wish to become teachers must be admitted to the Teacher Education Program regardless of the college in which they are enrolled. The admission program requires student action at the following levels.

Applications to the Teacher Education Program are processed through the Office of Advising, Professional Experience and Certification (APEC). Eligibility is based upon fulfillment of the following requirements:

- Submission of qualifying scores on C-BASE in areas of English, writing, mathematics, science and social studies, as mandated by the Missouri Excellence in Education Act of 1985. Consult Office of Advising, Professional Experiences, and Certification (APEC), College of Education, for test descriptions, cost, required scores, dates of administration, retest policies, etc. Acceptable C-BASE scores are required in addition to acceptable ACT or SAT scores. (C-BASE not applicable to students with a bachelor's degree. Graduates of the general studies program in the UM-St. Louis Evening College, however, must take the C-BASE).
- Scores of either 20 on the ACT Composite (18, when taken prior to 11-1-89) or 800 on the SAT (verbal plus math)\*.
- Completion of 60 hours of college or university courses (at UM-St. Louis or another accredited school).
- A grade point average of 2.5 or better.
- Completion of level one courses, or the equivalent, with a grade of C or better.
- Agreement to subscribe to a standard of preprofessional behavior. (This standard is available at <http://coe.umsl.edu/divisions/teaching/learning>)
- Submission of a criminal record check and child abuse/neglect screening.

## General Information

**\* Policy for Students Scoring Below ACT and SAT Qualifying Requirements** Students who do not achieve satisfactory scores of 20 on the ACT or 800 on the SAT may retake the test(s) until the requirement is met. Students with a documented disabling condition, preventing valid test administration of the ACT or SAT, may be evaluated for basic educational competencies through appropriate testing instruments and/or procedures designated and approved by the Dean of the College of Education.

Students who do not meet the initial ACT or SAT qualifying scores may seek assistance in upgrading basic competencies through contact with one or more of the following University of Missouri-St. Louis services: Center for Academic Development; Women's Center; Counseling Service; Veteran Affairs Office; Video Instructional Program; Horizons (Peer Counseling Center).

In addition, assistance may be available through correspondence courses, University of Missouri-Columbia. Copies of this policy are available in the office of teacher education.

**Application to the Student Teaching Program** The application for student teaching is a two-part process that begins the semesters prior to student teaching.

### Deadlines for the Formal Application

Fall Student Teaching      February 1 of the previous year  
Winter Student Teaching    September 1 of the previous year

\*Check 'My Gateway' and the student teaching bulletin board in Marillac Hall for exact date.

Upon receipt, formal applications for both pre- and post degree students are checked to ensure they have met the following requirements:

- Full admission to the teacher education program for both pre- and post degree students.
- A cumulative grade point average of 2.5 or above by the semester before the one in which students plan to do their student teaching. The 2.5 cumulative grade point average must be maintained in order to graduate with a B.S. in education degree and/or be certified to teach in the state of Missouri.
- Grade point average of 2.5 in the teaching field (secondary education students only).
- Completion of English 3100, Advanced Expository Writing, or equivalent, with a grade of C- or better.
- Completion of Comm 1040, or equivalent, Introduction to Public Speaking, with a grade of C- or better.
- Completion of general education requirements and near completion of course requirements in the teaching major.

- A grade of C or better in all professional education courses so designated. Lists of these courses available in the APEC office and from advisers. A grade of C- is not acceptable.
- Satisfactory recommendations by student teaching area representatives in the teacher education program.
- Completion of TB screening, police, and child abuse checks.

The student teaching experience in the early childhood, music, physical education, and special education certification programs has been strengthened by providing assignments in two different school settings. Students will be expected to do student teaching on a full-day basis for 14-weeks an entire semester. The student teaching experience in elementary, middle school and secondary content areas completed at one site for a full semester. The student teaching experience must be completed in residence. Secondary student teaching in science education, mathematics education, and foreign language education is offered only during the winter semester. Secondary education majors student teach for an entire semester, full days.

Policies regarding withdrawal or removal from student teaching are found in the appropriate student teaching handbook. These are found in the 'online student teaching application' section of the College webpage.

For further information regarding certification, contact the Office of Advising, Professional Experiences, and Certification (APEC) at 155 Marillac Hall.

### Application for Degree and/or Certificate

#### Bachelor of Science in Education (B.S.)

Candidates for the B.S.Ed. degree must complete degree and certificate application forms in the APEC when they apply for admission to student teaching or during the semester before the one in which they expect to finish degree requirements. See information below on the on PRAXIS examination.

The College of Education requires a background check, current within one year, for every UMSL student in the teacher education program. The College of Education may use information that students provide to the University through the admission or course registration data to automatically request background checks of students, without further notification to the student. Please note that students wishing to be certified will still be responsible for an additional, more thorough, fingerprint background check as required by Missouri State Law before a certification will be issued. All background check information will be available to students upon their request.

#### Bachelor of Educational Studies (B.E.S.)

Candidate should consult the APEC Office, 155 Marillac Hall for more information. This degree offers three areas of

study: Early Childhood, Exercise Science and Professional Studies.

### **Bachelor of Science in Community Education**

Candidate should consult the APEC Office, 155 Marillac Hall for more information.

Students taking evening course offerings should complete degree application forms and certification application forms in the APEC Office.

### **Bachelor of Arts**

Students seeking the B.A. degree with teacher certification must complete a state certification form with the APEC. See note below on the on PRAXIS examination.

### **Certification**

In cooperation with the Missouri State Department of Elementary and Secondary Education, the College of Education is responsible for recommending teaching certificates for students completing B.S. in education degree requirements, recommending for certification students completing degrees in other UM-St. Louis colleges and schools, as well as all certification requirements, and for advising and recommending for certification those post degree students who meet requirements.

All individuals must pass the appropriate Praxis/National Teacher's Examination to meet graduation and/or certification requirements. This exam should be taken during the semester immediately prior to that of student teaching.

Students may earn certification in the fields of elementary education, early childhood education, middle school, music education, physical education special education (cross categorical), art education, as well as the secondary education areas of biology, chemistry, English, foreign languages (French, German, Spanish), mathematics, physics, social studies, and speech/theater. Graduate programs leading to certification in counseling; reading; school administration (elementary and secondary principal, school superintendent); and special education.

### **Graduate Studies in Education**

#### **Degrees and Areas of Emphasis**

M.Ed. programs are offered in adult and higher education, counseling, educational administration, elementary education, secondary education, and special education. Within the counseling program are the emphasis areas of elementary, secondary, and community counseling. Within the educational administration program are the emphasis areas of community education, elementary administration, and secondary administration. Within the elementary education program are the emphasis areas of reading and early childhood education. Within the secondary education program are the emphasis areas of curriculum and instruction, and reading. Within the special education program are the emphasis areas of behavioral disorders,

learning disabilities, mental retardation, and early childhood/special education. Courses are available for areas of specialization in physical education, educational technology, and severe handicaps.

Ed.S. degree programs are available in school psychology and educational administration.

Programs leading to the Ed.D. degree are offered in four broad interdisciplinary emphasis areas: Educational Administration; Adult & Higher Education; Teaching-Learning Processes; and Counselor Education. Programs leading to the Ph.D. degree are offered in the areas of Counseling, Educational Psychology, Teaching-Learning Processes, and Educational Leadership and Policy Studies.

### **Master of Education Degree**

#### **Admission and General Requirements**

The College of Education follows Graduate School policies relating to admissions, academic standards, residency, transfer credit, time limitations, and thesis options (see Graduate Study in this *Bulletin*). In addition to meeting the general requirements of the Graduate School, applicants for school or community counseling must complete a separate application (see graduate studies in the Counseling division in this *Bulletin*). The minimum number of hours required for the M.Ed. degree is 32 or 33 except that the elementary, secondary, and community counseling emphases require 48 hours. The school has adopted a flexible policy on exit requirements, which are determined divisionally.

#### **Advisement and Program Planning**

Upon acceptance, each student can contact the Office of Graduate Education for an appointment with the graduate advisor for a first semester course of study (314) 516-5483 or [NAshford@umsl.edu](mailto:NAshford@umsl.edu). After acceptance, each student completes an adviser form, sent by the College of Education's Office of Graduate Studies, 123 SCCB. A faculty adviser is then appointed who counsels the student in registration and program planning. A program for master's degree form must be submitted for approval during the first half of the student's program. This form includes all course work in the program and the exit requirement. Once approved, the degree program may be changed only by petition.

Students working toward teacher and/or school service personnel certification as graduate students should complete state certification forms in the Office of Advising, Professional Experiences, and Certification (APEC), 155 Marillac Hall, one year before those requirements will be completed.

### **Educational Specialist Degree**

The Ed.S. degree is intended to be a terminal degree for school personnel preparing for a specific role, either that of a school psychologist or that of a building or district administrator. The programs require 60 hours of course work, post-baccalaureate. Both programs are designed to meet the respective Missouri certification requirements.

The Ed.S. in School Psychology degree program requires three years of intensive, full-time training but students may be able to complete up to half of the curriculum as a part-time student. The Ed.S. in Educational Administration can be pursued on a part time or a full time basis.

#### **Admission and General Requirements**

The College of Education follows Graduate School policies relating to admissions, academic standards, residency, transfer credit, time limitations, and exit requirements. Specific materials required for application vary by program, but generally applicants should submit an application to The Graduate School, transcripts of previous college work, GRE scores, and letters of recommendation.

#### **Advisement and Program Planning**

For advising and program planning, school psychology students should contact the Division of Educational Psychology, Research and Evaluation, 402 Marillac Hall, 314-516-5783. Educational administration students should contact the Division of Educational Leadership and Policy Studies, 269 Marillac Hall, 314-516-5966.

#### **Doctor of Education Degree**

The Ed.D. degree is designed primarily for the field practitioner and prepares professional leaders who are competent in identifying and solving complex problems in education. Four emphasis areas embrace general categories of professional activities: Educational Administration; Adult & Higher Education; Teaching-Learning Processes; and Counselor Education.

Students seeking the Ed.D. degree are expected to meet the doctoral degree requirements and procedures adopted by the Graduate School. (See Doctoral Degree Requirements for details.)

#### **Admission and General Requirements**

In addition to meeting the application and admissions requirements of the Graduate School, students must submit three letters of recommendation (two letters must be from individuals with an earned doctorate, preferably prior instructors), along with a professional resume. Because enrollment is competitive, admission standards are comparatively high. Successful candidates must exhibit significantly above-average academic records and GRE scores. In exceptional cases, other criteria may outweigh these customary indicators of probable academic success.

At least two years of teaching or other school service experiences are required for admission. Exceptions may be made by substituting a supervised internship during the first year of the program.

#### **Admission Application**

In order to ensure time for review and decision, complete applications and accompanying materials must reach the office of admissions in a timely manner. In addition, applicants are urged to request transcripts and letters or

recommendation two weeks before submitting their papers. Consideration of applications cannot be undertaken until all materials are available.

#### **Degree Requirements**

1. Foundations, 12 hours from: philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction and supervision.
2. Research Methods, 12 hours:  
6 hours from:  
Quantitative research methodology, Ed Rem 671C and above.  
6 hours from  
Qualitative research methodology
3. Common doctoral seminars, 6 hours  
EDUC 7050, The Research Process I: Framing Research Questions with the Education Literature  
EDUC 7950, The Research Process II: Developing and Refining Education Research Proposals
4. Major Specialization, 21-39 hours:

#### **Educational Administration Option**

Educational Administration (ED ADM) or other courses selected in consultation with the advisory committee, including internship (3-9 hours)

#### **Adult and Higher Education Option**

Adult Education (ADU ED) or Higher Administration (HIR ED) or other courses selected in consultation with the advisory committee, including internship (3-9 hours)

#### **Teaching-Learning Processes Option**

Teacher Education (TCH ED) courses or courses in education in a teaching field, including courses on curriculum construction and the design and improvement of instruction, all selected in consultation with the advisory committee, including internship (3-9 hours)

#### **Counselor Education Option**

Counseling Education (CNS ED) or other courses selected in consultation with the advisory committee, including internship (3-9 hours)

#### **5. Minor Specialization, 12-18 hours**

A secondary area of expertise identified in consultation with the advisory committee

#### **6. Dissertation, 12 hours**

Total: minimum 90 hours, post baccalaureate

#### **Doctor of Philosophy Degree**

The Ph.D. degree in education, offered in cooperation with the School of Education at the University of Missouri-

Kansas City and the College of Education at the University of Missouri-Columbia, is designed for educators who desire directed research experience promoting scholarly inquiry in education. Four emphases are available:

- Teaching-learning processes
- Educational leadership and policy studies
- Educational psychology
- Counseling

#### **Admission and General Requirements**

In addition to meeting the application and admissions requirements of the Graduate School, students must submit:

- Three letters of recommendation (at least two from individuals with earned doctorates, preferably prior instructors).
- An original essay.
- A professional resume.
- Evidence of above-average academic records.
- GRE scores

A favorable vote of an admission interview committee, composed of faculty in the emphasis area, is required. Admission is competitive.

#### **Admission Application**

To ensure time for review and decision, complete applications and accompanying materials must reach the office of admission in a timely manner. In addition, applicants are urged to request transcripts and letters of recommendation at least two weeks before submitting their papers. Consideration of applications cannot be undertaken until all materials are available. Applicants to the Counseling emphasis are asked to apply by January 15<sup>th</sup>.

#### **Degree Requirements**

##### **1. Foundations, 9-12 hours:**

Philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction, and supervision.

##### **2. Research Methods 15-18 hours:**

Educational Research and Evaluation Methods (Ed Rem) 6710: Educational Research Methods I  
Ed Rem 7771: Quantitative Research Methods I  
Ed Rem 7781: Qualitative Research Methods in Educational Research I  
Either Ed Rem 7772: Quantitative Research Methods II or Ed Rem 7782 Qualitative methods in Educational Research II  
Plus an additional Ed Rem course numbered above 6710 or a relevant research methods course in the discipline.

##### **3. Foreign Language Proficiency or Other Research Tools, equivalent to 6 hours**

#### **4. Emphasis Area (Primary Discipline) courses, 21-27 hours, with at least 16 in residence, in one of the following areas:**

##### **A. Teaching-Learning Processes**

Minimum 15 hours in cognate area

Minimum 3 hours in curriculum or instruction

Minimum 3 hours in educational psychology

##### **B. Educational Leadership and Policy Studies**

Minimum 21 hours in educational leadership, either in K-12, higher education, work, adult, or community education settings, selected in consultation with the faculty advisor and advisory committee.

##### **C. Educational Psychology**

Minimum of 21 hour in educational psychology. Program may include courses in research and evaluation methods, school psychology, developmental psychology, cognition and learning, character education, and socio-cultural theory. Courses in the primary discipline will be selected in consultation with the faculty adviser and advisory committee.

##### **D. Counseling**

Cns Ed 6030, Foundations for Multicultural Counseling

Cns Ed 6040, Group Procedures in Counseling

Cns Ed 6050, Individual Inventory

Cns Ed 6370, Community Counseling Practicum (or Cns Ed 6270, School Counseling Practicum)

Cns Ed 6380, Community Counseling Field Experience (6 hours) (or Cns Ed 6280, School Counseling Field Experience I and Cns Ed 6285 School Counseling Field Experience II)

Cns Ed 6400, Career Information and Development

Cns Ed 6410, Advanced Career Development

Cns Ed 7000, Advanced Theories of Counseling and Family Therapy

Cns Ed 7010, Advanced Multicultural Counseling

Cns Ed 7020, Seminar in Counseling Research

Cns Ed 7030, Counselor Education and Supervision

Cns Ed 7770, Doctoral Practicum (3 hours)

Additionally, all students should complete Cns Ed 7780, Doctoral Internship (6 hrs) as a research internship; and a secondary discipline in Ed Psy consisting of at least Ed Psy 6310, Psychology of Learning Processes, Ed Psy 6113, Personality Development and Adjustment, and Ed Rem 6718, Psycho-Educational Assessment II

##### **5. Related (Secondary Discipline) Courses, 12-15 hours, in education or another department.**

##### **6. Required Exit course, 3 hours**

Education 7950, The Research Process II: Developing and Refining Education Research Proposals

##### **7. Research Internship, 6-9 hours**

**8. Dissertation, 12 hours**

methods to engage K-12 students; and programs that connect school classrooms to the workplace.

**Total: Minimum 90 hours, postbaccalaureate**

**Support Services**

The College of Education maintains a number of offices and centers to directly assist students, faculty, and people in the metropolitan area and to support its instructional, research, and service activities.

**Office of Advising, Professional Experiences and Certification -155 Marillac**

This office supplies advisement services for undergraduate teacher education and certification students. It coordinates the clinical experiences of the College of Education and directs the student teaching program.

**Office of Graduate Education - 123 SCCB**

Information about admission to, and requirements of, graduate programs in education may be obtained in this office. The office also assists students with advisement, registration, graduation and related topics, and maintains student records.

**Teacher Education Resource Center-G01**

The center is designed as an instructional media laboratory. The Instructional Technology Center located in Lucas Hall also has an office in the center.

**Human Services Unit -B23A ED LIB**

The human services unit is a training facility for graduate students supervised by faculty in the Division of Counseling. Career counseling and assistance with vocational, adult, or adolescent developmental concerns are available to individuals in the community.

**Reading Clinic-B9 ED LIB**

The reading clinic provides a laboratory setting for graduate level elementary and secondary teachers who are seeking certification as reading specialists. The clinic has been providing services to the surrounding community in diagnosing and treating severe reading problems in children and adults since 1966. The clinic also serves as a demonstration and materials center for preservice and inservice teacher education, as well as a clinical research facility for the faculty.

**University Child Development Center-130 SCB**

The center provides university students with observation, participation, research, and similar educational and clinical opportunities; it also offers quality child care programs for children of student, faculty, staff, and community families.

**Technology and Learning Center-100 Marillac**

The center provides education students and faculty a model environment for managing new methods of teaching through the newest technologies; a place to research and develop technology-enhanced teaching

## Schoolwide Courses in Education (Educ)

### 1065 The University (3)

A College of Education interdisciplinary course on the principles, development, and organized structure of the university. Special emphasis will be placed on the role of the university in modern society and upon forces affecting the direction of the university and its potential for change. Methods include outside speakers, discussion groups, and laboratory research on UM-St. Louis.

### 2204 Special Topics in Education (1-3)

Prerequisites: Completion of 75 hours and consent of instructor. Examination of a special area or topic within the field of education. Topics to be considered will be announced prior to registration and may vary. For elective credit only. This course may be repeated for different topics. Not to exceed a total of six hours credit.

### 2290 Internship I (6)

Prerequisites: Senior standing and consent of instructor. Field experience in educational setting under university supervision. Includes planning, research, evaluation, and other professional activities in the student's area of concentration.

### 2291 Internship II (6)

Prerequisite: Completion of or concurrent enrollment in Educ 2290. Continuation of Educ 2290.

### 2297 Independent Study (1-3)

Prerequisites: Completion of 75 hours and consent of instructor. Independent study through readings, research, reports, and conferences designed to provide depth in areas of study previously introduced in education courses. For elective credit only. May be repeated. Not to exceed a total of three hours credit.

### 4301 Introduction to Microcomputers in Education (3)

A course designed to introduce individuals to the microcomputer as an instructional medium. The course will emphasize (1) the history, role, and use of microcomputers in education; (2) learning the elements of programming for the microcomputer; and (3) beginning program construction and debugging operations.

### 5006 Graduate Workshop (1-10)

Prerequisite: Consent of instructor.

### 5993 Practicum in Individualized Instruction (3-6)

Prerequisites: Completion of the course(s) to which assigned for instruction and consent of instructor. Supervised instruction in individualized programs. Seminar accompanies instructional experience. May be repeated.

### 6308 Graduate Institute (1-10)

Prerequisite: Consent of instructor.

### 6408 Graduate Seminar (1-10)

Prerequisite: Consent of instructor. Intensive study of selected issues in education.

### 6475 Microcomputer Applications in Music Education (3)

Same as Music 5750. Prerequisites: Graduate standing in music. An examination of the potential of microcomputers in the music education field. Experiences with available hardware and software suitable for applications that include inventory, budget, music library cataloging, digital music synthesis, and computer-assisted instruction at all levels.

### 6476 Microcomputer-Assisted Instruction Curriculum Development in Music (3)

Same as Music 5760. Prerequisites: Graduate standing in music. Design and development of Computer-Assisted Instruction (CAI) lessons in music. Commercial courseware and various CAI models will serve as the basis for creating original programs that can be used effectively to implement objectives of the music curriculum for a specific school or school district. The design, refinement, and production of a major CAI program for use in an elementary, secondary, or postsecondary setting is required.

### 6477 Advanced Microcomputer Application in Music (3)

Same as Music 5770. Prerequisite: Graduate standing in music. The study of complex microcomputer applications including music synthesis, MIDI, music-oriented graphics, voice and pitch recognition, administrative applications, and computer-assisted instruction.

### 6491 Staff Development and Professional Growth (1-10)

Designed in conjunction with an individual school district or educational agency and related to problems of education confronting that specific district or agency.

### 6998 Thesis Research (1-10)

Prerequisite: Consent of instructor

### 7050 The Research Process I: Framing Research Questions within the Education Literature (3)

An overview of the essential elements of research proposals and familiarization with the techniques and tools used to identify significant research questions within the education literature. Emphasis is placed on exploring the research literature and both framing and justifying research questions within that literature.

### 7414 Common Doctoral Seminar(s) (3)

Prerequisite: Admission to the doctoral program. Two Educ 7414 seminars are required for all doctoral students, for a total of six hours of Educ 7414 seminar credit. One, "Elements of Educational Leadership," is to be taken early in the program. The other, "Research: Implementing Change in Educational Systems," is to be taken following completion of the research courses identified in the student's approved program.

**7415 Emphasis Area Seminar(s) (3)**

Prerequisite: Admission to the doctoral program. All doctoral students are required to take at least two emphasis area seminars consistent with their programs. Students may take additional emphasis area seminars. Obtain a list of emphasis area seminars from the office of graduate studies in education.

**7495 Doctoral Research Tools (1-6)**

Prerequisites: Ed Rem 6710. Structured individual or small group instructional or supervised investigative experience in and with a specific research skill and/or procedure that will be needed in the production of a doctoral dissertation. May not substitute for any existing graduate courses that cover same research tool skills.

**7880 Research Internship I (3)**

Prerequisite: Nine hours of research methods or statistics and consent of instructor. Supervised experience in the conduct of research studies or scholarly inquiry.

**7881 Research Internship II (3)**

Prerequisite: Educ 7880 and consent of instructor. Supervised experience in the conduct of research studies or scholarly inquiry.

**7882 Research Internship III (3)**

Prerequisite: Educ 7881 and consent of instructor. Supervised experience in the conduct of research studies or scholarly inquiry.

**7950 The Research Process II: Developing and Refining Education Research Proposals (3)**

Prerequisites: Completion of 6 hours of ED REM courses numbered 7771 or higher. An in depth examination of the essential elements of a research proposal. Particular emphasis is placed on examining the validity and reliability or the trustworthiness of the design of the proposed research. Tools for identifying research strengths and weaknesses are applied to proposals. Presentation of a written proposal and oral defense of that proposal are required.

**7999 Dissertation Research (1-12)**

Prerequisite: Admission to the doctoral program. Credit awarded only upon successful defense of the dissertation.



## Division of Counseling and Family Therapy

### Faculty

**Therese S. Cristiani**, Associate Professor\*, Chairperson  
Ed.D., Indiana University

**R. Rocco Cottone**, Professor  
Ph.D., Saint Louis University

**Patricia A. Jakubowski**, Professor Emerita\*  
Ed.D., University of Illinois

**Susan Kashubeck-West**, Associate Professor\*,  
Ph.D., Ohio State University

**Mark Pope**, Associate Professor\*  
Ed.D., University of San Francisco

**W. Glenn White**, Associate Professor Emeritus\*  
Ph.D., University of Missouri-Columbia

**Lela K. Bunch**, Assistant Professor\*  
Ph.D., University of Missouri-Columbia

**S. Kent Butler**, Assistant Professor\*  
Ph.D., University of Connecticut

**Dawn M. Szymanski**, Assistant Professor\*  
Ph.D., Georgia State University

\* members of graduate faculty

### General Information

The Division of Counseling and Family Therapy is housed on the fourth floor of Marillac Hall. Information about offerings and related matters may be obtained in the Division office, 469 Marillac Hall. The Division of Counseling and Family Therapy offers course work leading to four degrees: the Ph.D. in Education with an Emphasis in Counseling; the Ed.D. in Behavioral Developmental Processes with an emphasis in Counselor Education and supervision; an M.Ed. in Community Counseling and an M.Ed. in School Counseling (elementary or secondary). Information on the doctoral degrees is presented in this Bulletin in the general College of Education listing.

The following Division of Counseling and Family Therapy areas have been accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP):

- M.Ed. in Community Counseling
- M.Ed. in Community Counseling with a Specialization in Career Counseling
- M.Ed. in School Counseling

CACREP, a specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation, grants accredited status to graduate-level programs in the professional counseling field.

Students wishing to receive Missouri certification in elementary school counseling, or secondary school counseling, must complete all required courses for the M.Ed. in School Counseling in addition to holding teaching certificates valid in Missouri or taking the equivalent course

work. (Consult your advisor if you have questions on these matters.) The M.Ed. in Community Counseling is appropriate for students planning to practice counseling in non school settings, and graduates may pursue the Missouri state license as a professional counselor (in order to practice independently).

The M.Ed. degree programs have an exit requirement of a comprehensive examination. Students may sit for the exam after completing 36 units of the degree program. There is a service charge for taking the exam. The exam will be given at least twice a year. All degree students should consult with their advisers about this requirement.

### Graduate Studies

#### Admission

In addition to meeting the general admission requirements of the Graduate School, applicants to the M.Ed., must complete the divisional application in addition to the application to Graduate School, have three completed references on file, must have an undergraduate GPA of 3.0, and must take Cns. Ed 6000, Personal and Professional Development in Counseling, in their first semester. Admissions will be conducted twice a year. The deadlines for application are June 1 for the fall semester and October 15<sup>th</sup> for the spring semester. M.Ed. students, are accepted on a provisional basis pending their completion of application materials, Cns Ed 6000, and a review of the Counseling Faculty Review Board.

Since it is the objective of the counseling faculty to identify students with low potential for competent practice as early as possible and to initiate the necessary procedures for dealing with such students, the faculty of the counseling program reserves the right to review students at any stage of their coursework. Any grade less than a B in any core counseling course (Cns Ed 6000), Personal and Professional Development in Counseling; Cns Ed 6010, Theories of Counseling; Cns Ed 6370, Community Counseling Practicum or Cns Ed 6270 School Counseling Practicum; Cns Ed 6380 Community Counseling Field Experience or Cns Ed 6280 School Counseling Field Experience I) will automatically trigger a review process which may result in the termination of the student's degree program.

Students admitted to the M.Ed. degree programs in counseling as "restricted graduate students" (see the "graduate study" rules in this Bulletin) must attain a 3.0 GPA for the first 12 hours of graduate course work at UM-St. Louis with no grade less than a B. Restricted students must include the following courses in the first 12 hours of coursework: Cns Ed 6000, Personal and Professional Development in Counseling; Cns Ed 6010, Theories of Counseling; Cns Ed 6370 Community Counseling Practicum or Cns Ed 6270 School Counseling Practicum; a student earning any grade less than a B in any of these courses, but still maintaining a 3.0 GPA, will be allowed to repeat the course one time and must earn a grade of B or better to be admitted.

### Master of Education: Emphasis in Elementary School Counseling

The courses listed below meet the course work requirements for the M.Ed. degree, state certification, and licensing as a professional counselor:

#### Counselor Education (Cns Ed)

6000, Personal and Professional Development in Counseling

6010, Theories of Counseling

6600, Theories & Techniques of Counseling Children and Adolescents

6020, Ethical and Professional Issues in Individual and Relationship Counseling

6050, Individual Inventory

6040, Group Procedures in Counseling

6200, Foundations of School Guidance

6400, Career Information and Development

6270, School Counseling Practicum

6280, School Counseling Field Experience I

6285, School Counseling Field Experience II

6030, Foundations for Multicultural Counseling

#### Psychological Foundations and Human Development (Ed Psy)

6210, Lifespan: Individual & Family Development

6532, Psycho-Educational Differences in Childhood

#### Educational Research and Evaluation Methods (Ed Rem)

6709, Educational and Psychological Measurement

6710, Educational Research Methods and Design

Individuals seeking certification as a professional school counselor in the State of Missouri who are non-teacher certificated must take the following courses in addition to their counseling degree: Ed Psych 6111, Spc Ed 6416, Spc Ed 6320, and Elem Ed 6410 or Sec Ed 6415.

### Master of Education: Emphasis in Secondary School Counseling

The courses listed below meet the course work requirements for the M.Ed. degree, state certification, and licensing as a professional counselor:

#### Counselor Education (Cns Ed)

6000, Personal and Professional Development in Counseling

6010, Theories of Counseling

6600, Theories & Techniques of Counseling Children and Adolescents

6020, Ethical and Professional Issues in Individual and Relationship Counseling

6050, Individual Inventory

6040, Group Procedures in Counseling

6200, Foundations of School Guidance

6400, Career Information and Development

6270, School Counseling Practicum

6280, School Counseling Field Experience I

6285, School Counseling Field Experience II

6030, Foundations for Multicultural Counseling

#### Psychological Foundations and Human Development (Ed Psy)

6210, Lifespan: Individual & Family Development

6532, Psycho-Educational Differences in Childhood

#### Educational Research and Evaluation Methods (Ed Rem)

6709, Educational and Psychological Measurement

6710, Educational Research Methods and Design

Individuals seeking certification as a professional school counselor in the State of Missouri who are non-teacher certificated must take the following courses in addition to their counseling degree: Psych Ed 6111, Spc Ed 6416, Spc Ed 6320, and Elem Ed 6410 or Sec Ed 6415.

### Master of Education: Emphasis in Community Counseling

The community counseling emphasis allows flexibility for developing programs appropriate to particular non-school settings. Students must have their adviser's approval before taking other than required courses.

#### Core Curriculum (CNS ED)

The courses listed below meet the course work requirements for the M. Ed. Degree and the license to practice as a professional counselor:

6000, Personal and Professional Development in Counseling

6010, Theories of Counseling

6020, Ethical and Professional Issues in Individual and Relationship Counseling

6050, Individual Inventory

6300, Foundation of Community Counseling

6040, Group Procedures in Counseling

6400, Career Information and Development

6370, Community Counseling Practicum

6380, Community Counseling Field Experience (I)

6030, Foundations of Multicultural Counseling

#### Psychological Foundations and Human Development (Ed Psych)

The following course is required:

6113, Personality Development and Adjustment

#### Educational Research and Evaluation Methods (Ed Rem)

The following course is required:

6710, Educational Research Methods and Design

#### Area of Specialization (9 hours)

Course work in the area of specialization is to be selected in consultation with the adviser and may include career counseling, mental health counseling, rehabilitation counseling, child and adolescent counseling, couples and family counseling, and others.

## Career Outlook

### Elementary and Secondary School Counselors

The demand for school counselors throughout the state is quite high. There is a shortage of school counseling personnel at all levels. Additionally, many teachers who do not intend to leave the classroom pursue this program to be better able to meet the needs of their students. Some graduates of the program have left the field of education and have obtained positions such as those cited under Community Counseling.

**Note:** It should be noted that in Missouri, persons who engage in "professional counseling" in many of these settings are required by law to be licensed as professional counselors.

### Community Counselors

Graduates have been employed in a wide variety of settings: as counselors in community colleges, universities, employment agencies, vocational rehabilitation agencies, probation and parole work, juvenile detention, alcoholism and drug abuse clinics, career planning and placement centers, community mental health agencies, family and children services, and various federally funded public service projects. Additionally, graduates are employed in career development, and business and industry positions, especially in training and personnel areas. Others have moved into roles calling for research and evaluation skills.

### Course Descriptions

Prerequisites may be waived by consent of the department. For information about certification and licensure, an adviser should be consulted. Course descriptions in this section are Counseling (Cns) courses.

### Counseling (Cns)

#### 1400 Making a Career Choice (1)

Introduces students to career development theories (Holland, Super, Bolles, etc.) and the career decision-making process. Students receive an overview of career development theory and learn how these theories pertain to the formulation of career plans. Self-assessment and decision-making techniques learned in this class can be revisited throughout the life span. The seminar format allows for small group discussion of career-related issues and personal application of career development principles.

#### 3000 Introduction to the Counseling Profession (3)

Prerequisite: Junior or senior level standing. This survey course will provide undergraduates and noncounselors with a broad overview of the counseling profession. Topics include a history of the profession, foundations of counseling, ethical, and legal considerations and the role of the counselor in various settings.

#### 3210 Counseling Gifted Students (3)

Prerequisites: Spc Ed 3313, Ed Psych 3312, or equivalent. This course emphasizes the social and emotional

development of gifted and talented individuals. Subject areas will include current research, factors affecting the development of the gifted, and resources and strategies utilized in counseling these students and their parents.

#### 3220 Counseling Individuals with Special Needs (3)

Prerequisite: Spc Ed 3313, or equivalent. A course emphasizing counseling skills for individuals who plan to work with the handicapped. Emphasis is placed on using counseling strategies with school-age handicapped children.

#### 3710 Counseling the Chemically Dependent (3)

This course is an introduction to the problems resulting from the abuse of alcohol and other chemicals, with an emphasis on the impact of chemical dependence on the individual, the family, the employer, and the community. The special problems resulting from chemical dependence as it affects various populations, e.g., women, individuals with disabilities, and the elderly, will be analyzed and linked to appropriate counseling strategies.

#### 3720 Youth and Chemical Dependence (3)

Prerequisite: Junior standing. This course provides information about adolescent and preadolescent chemical dependency and its relationship to numerous other developmental and societal factors that place the adolescent "at risk" for the development of substance abuse problems. Skills in the identification, intervention, and referral of chemically-dependent adolescents are emphasized, along with preventive measures and family and school issues.

#### 6000 Personal and Professional Development in Counseling (3)

Prerequisite: Provisional acceptance to the Counseling Program or consent of instructor. This course provides an in-depth view of the professional counseling field. Attention is focused on the development of the helping relationship, including a review of research on factors which influence helping processes and rapport building, a development of skills used in the counseling process, and increased awareness of how students' values, beliefs, and behaviors are related to counselor effectiveness.

#### 6010 Theories of Counseling (3)

Prerequisite: Cns Ed 6000. This course will explore the philosophical foundations of counseling theory. The major constructs of contemporary counseling approaches will be discussed, and the practical applications of these theories will be analyzed.

#### 6020 Ethical and Professional Issues in Individual and Relationship Counseling (3)

Prerequisite: Cns Ed 6000. Ethical, legal, and professional issues related to counseling are addressed. Ethical dilemmas in the provision of counseling services to individuals, couples, families, and groups are defined. Specific ethical codes of professional organizations are examined.

**6030 Foundations for Multicultural Counseling (3)**

Prerequisite: Cns Ed 6010. This course will focus on: (1) reviewing knowledge and research in the area of multicultural counseling, (2) developing and/or enhancing skills useful in counseling with individuals from minority populations, and (3) developing levels of personal awareness about stereotypes, and learning how feelings and attitudes about these may impact counseling with individuals from minority populations.

**6040 Group Procedures in Counseling (3)**

Prerequisites: Cns Ed 6010 and Cns Ed 6270 or 6370. This course examines the process dynamics of groups including group development, leadership, norms and therapeutic factors. Group counseling theories and approaches used for other group work including skills, personal growth, support, vocational, and developmental guidance groups are included. Knowledge and skills of how to facilitate therapeutic groups are included. Students will be required to be participant-observers or facilitators of a group outside of class time.

**6050 Individual Inventory (3)**

Prerequisites: Ed Rem 6709. Uses of educational and psychological appraisal techniques in counseling. Develops counselors' abilities in assisting clients toward self-awareness through the use of test and nontest data. Ethical practices in the use of tests and the maintenance of personnel records are stressed.

**6200 Foundations of School Guidance (3)**

The purpose of this course is to give students a foundation for understanding the history, philosophy, and development of school guidance programs. The role functions of the school counselor within a developmental, comprehensive program are examined, along with communication skills necessary for consultation with students, parents, school support staff, and resource people in the community nonacademic needs.

**6270 School Counseling Practicum (3)**

Prerequisite: Cns Ed 6000 and 6010 (both courses with a grade of B or better) or consent of the instructor. Supervised practice in counseling with children and adolescents and the opportunity for students to learn to facilitate personal change and problem solutions using a defined systematic framework, theoretical orientation, or research base.

**6280 School Counseling Field Experience I (3)**

Prerequisite: Cns Ed 6270 with a grade of B or better and consent of instructor. A 300-hour closely supervised field experience under the direction of a graduate faculty member. Designed to move the student to an appropriate level of competence and evidence of growth in the professional school counselor role. Students will receive 1.5 hours of group and 1 hour of individual supervision weekly by field experience site supervisor.

**6285 School Counseling Field Experience II (3)**

Prerequisites: Cns Ed 6280 with a grade of B or better and consent of instructor. A 300-hour closely supervised field experience under the direction of a graduate faculty member. The course will build on and extend the School Counseling Field Experience I. The student will acquire counseling competencies and ethical practice in keeping with the Missouri state guidelines for school counselors. Students will receive 1.5 hours of group and 1 hour of individual supervision weekly by field experience site supervisor.

**6300 Foundation of Community Counseling (3)**

Prerequisites: Cns Ed 6000 and Cns Ed 6010. A study of counseling profession applicable to a variety of human service settings. Introduction to the basic philosophical, historical, and psychological foundations of community and agency counseling. Designed to acquaint the student with the foundations and roles of the counselor in various community and agency settings.

**6370 Community Counseling Practicum (1-6)**

Prerequisite: Cns Ed 6000 and 6010 and consent of instructor. One hundred clock hours of supervised practice in counseling to provide the opportunity for students to pragmatically integrate and process materials, theories, techniques, and methodologies as they are applied in the counseling profession.

**6380 Community Counseling Field Experience (1-6)**

Prerequisite: Cns Ed 6370 and consent of instructor. A 100-hour field experience for each semester-credit-hour of enrollment. Students will be closely supervised under the direction of a graduate faculty member. Students must demonstrate counseling competencies and skillful ethical practice. Students will receive 1.5 hours of group supervision weekly by a graduate faculty member and 1 hour of individual supervision weekly by field experience site supervisor during terms of enrollment.

**6400 Career Information and Development (3)**

Prerequisites: Graduate standing. Emphasis is on the nature of the changing labor market and the impact on personal, social, economic, career and educational aspects of individuals and society. Use of occupational and educational information systems and resources to assist with career decisions are examined. The needs of culturally diverse populations are discussed. Use of career and labor market information and programs such as computer technology to access up-to-date career and labor market information is explored. Techniques and methods of career counseling are discussed. Various theories of career development and career choice will be examined.

**6404 Seminars (1-10)**

Prerequisite: Graduate Standing

**6410 Advanced Career Development (3)**

Prerequisites: Cns Ed 6400 or consent of instructor. Emphasis is on current theories of career development, career choice, and techniques and methods of career counseling. Issues concerning education and training, work, leisure, the family, life roles, and culturally diverse populations are studied. The role of career theory in planning, development, and delivery of a career development program is explored.

**6420 Career Assessment in Counseling and Rehabilitation (3)**

Prerequisites: Cns Ed 6050 and 6400 or consent of instructor. This course provides an in-depth and specialized look at the educational and psychological assessment techniques used in career counseling, especially the assessment of career interests, work values, work environment, work skills, work samples, career development stages, career maturity, career decision making, and career beliefs. Issues of using computers in the delivery of career development services will be discussed.

**6497 Problems (1-10)**

**6500 Introduction to Systems Theory for Marriage and Family Counseling (3)**

Prerequisite: Cns Ed 6010. This course is an introduction to general systems theory and application to marriage and family counseling. Students learn the theoretical basis for intervention and counseling strategies in the context of an ecology of human development. Developmental issues at individual, sibling, marital, family, and community levels and the ways in which various social systems interact with and mutually influence one another are presented.

**6510 Couple Counseling and Enrichment (3)**

Prerequisite: Cns Ed 6500 or consent of instructor. This course focuses on the theory and technique of marital or couples counseling and enrichment. Models and methods for prevention and treatment of relationship dysfunction are explored. Relationship developmental issues are addressed. Students are challenged to develop the critical skills necessary to be effective marriage counselors and marital life educators.

**6520 Family Counseling (3)**

Prerequisites: Cns Ed 6500 and Cns Ed 6260 or 6370, or consent of instructor. This course offers an in-depth analysis of strategic, structural, experiential, communications, behavioral, and psychodynamic approaches to systems change and family counseling. The range of techniques and applied practices evolving from each orientation are explored as are normal and dysfunctional family processes. Various counseling modalities, such as individual, concurrent, collaborative, conjoint, group, intergenerational, and networking are also considered.

**6530 Assessment and Case Management in Couple and Family Counseling (3)**

Prerequisites: Cns Ed 6500, 6510, or 6520. Techniques measures for assessing couple, marriage and family functioning are reviewed. The case management process is outlined, including stages of case development. Ethical issues related to case recording keeping are reviewed

**6540 Preventive Interventions with Couples and Families (3)**

Prerequisite: Cns Ed 6500, 6510, or 6520. Interventions for preventing the development of mental health problems in a couple or family context are surveyed. Premarital counseling, couple and marriage enrichment training, family life education, and relationship enhancement training will be reviewed. Outreach approaches will also be presented.

**6550 Trends, Family Counseling (3)**

Prerequisites: Cns Ed 6500, 6520. The evolution of family types and structures in American cultures will be reviewed. Cultural influence on diverse system structures will be surveyed. Problems that impede family functioning and development, such as socioeconomic disadvantage, discrimination, addiction, unemployment, family blending, and abuse will be addressed, with special emphasis on the effects on family development and intervention strategies. Research data on normative and non-normative family functioning will be presented.

**6600 Theories and Techniques of Counseling Children and Adolescents (3)**

Prerequisite: Cns Ed 6000, 6010 (with a grade of B or better in both courses) or consent of the instructor. Focus is on counseling theories and their applicability to the developmental special concerns of children and adolescents including child-at-risk issues such as: abuse, suicide, divorce, and death and dying. Individual, group, and family intervention techniques and consultation skills will be emphasized, as well as legal and ethical considerations for counselors. Strategies presented can be utilized in a variety of settings. Multicultural considerations are also addressed.

**6610 Counseling Parents of Exceptional Children (3)**

The development of counseling skills to enable human service professionals to interact productively with families who have handicapped children.

**6700 Introduction to Addictive Behaviors and Addiction Counseling (3)**

Prerequisites: Cns Ed 6010 consent of instructor. Exploration of the theoretical foundations of contemporary approaches to such addictive behaviors as alcohol and drug abuse, smoking, compulsive gambling, and sexual addiction. The nature, etiology, prevention, and treatment of addictions are discussed and analyzed from a variety of theoretical perspectives. The applications of these specific theoretical models to various treatment settings are examined. Multicultural considerations are also addressed.

**6782 Advanced Strategies in Addictions Counseling (3)**

Prerequisite: Cns Ed 6700, or consent of instructor. Study of advanced, empirically supported counseling approaches and techniques for the treatment of addictive behaviors. An emphasis is placed on screening and assessment procedures and on matching interventions to individual client and community needs.

**6784 Counseling the Dual Diagnosed Substance Abuser (3)**

Prerequisites: Cns Ed 6700 and Cns Ed 6010. This course introduces the student to the special needs, concerns, and problems encountered when counseling clients who are both mentally ill and chemically dependent. Subject areas include an overview of counseling methodologies, diagnosis, and psycho-pharmacology.

**6800 Rehabilitation Counseling (3)**

Prerequisite: Cns Ed 6000; 6010; 6270; or 6370. This course addresses: a) the history of vocational rehabilitation; b) specialty issues in rehabilitation counseling; c) medical aspects of disability; d) the rehabilitation process; e) theories of rehabilitation; f) the assessment process of individuals with disabilities; g) the job placement and work adjustment process of individuals with disabilities; h) ethical issues in rehabilitation counseling.

**7000 Advanced Theories of Counseling and Family Therapy (3)**

Prerequisites: Cns Ed 6010, Cns Ed 6500, and Cns Ed 6270 or 6370, or consent of instructor. Contemporary and emergent theories in counseling and family therapy are presented and analyzed. Research issues are addressed.

**7010 Advanced Multicultural Counseling (3)**

Prerequisite: Cns Ed 6030 and doctoral standing or consent of instructor. This advanced course addresses theories and research in multicultural counseling

**7020 Seminar in Counseling Research (3)**

Prerequisite: Ed Rem 6710, doctoral standing or consent of instructor. The purpose of this course is to review and analyze current counseling research literature. Ethical issues will be addressed.

**7030 Counselor Education and Supervision (3)**

An introduction to clinical supervision in counseling. Theories, models, and research in supervision will be presented. Students will supervise master's level students in practicum and internship courses in counseling.

**7040 Counseling Women Toward Empowerment (3)**

Prerequisite: Cns Ed 6000, 6010 and Cns Ed 6270 or 6370 or consent of instructor. An introduction to Women's issues in counseling. Relational theory, healthy female development, and an overview of clinical issues most common to females will be presented.

**7050 Advanced Assessment in Counseling (3)**

Prerequisite: Cns Ed 6050 and doctoral standing or consent of the instructor. This course develops advanced skills in the assessment process which includes the administration, scoring, and interpretation of psychological tests and environmental inventories, clinical interviewing, observation, and the gathering of historical and collaborative information; and the integration of this information into patterns to predict human functioning.

**7070 Advanced Clinical Issues in Counseling (3)**

Prerequisite: Doctoral standing or consent of instructor. This course will address advanced clinical issues with seriously disturbed clients.

**7770 Doctoral Practicum (3)**

Prerequisites: Doctoral standing. 100 hours of on-campus doctoral-level supervised counseling practice. Students will counsel clients and will be introduced to teaching and supervising beginning counseling trainees in a clinical context. As a prerequisite to the doctoral internship, students will be expected to demonstrate competence in skills required of counselor educators and clinical supervisors. Students will receive 1.5 hours of group and 1 hour of individual supervision by a graduate faculty member.

**7780 Doctoral Internship (1-6)**

Prerequisites: Cns Ed 7770; Ed Rem 7804 and Ed Rem 7781. A 100-hour field experience for each semester-credit hour of enrollment under the direction of a graduate faculty member. Students provide counseling services to clients at field sites, teach and supervise beginning counseling trainees, and conduct clinical research projects. Students are supervised by a graduate faculty member in two hours per week of group supervision, and they receive one hour per week of individual supervision by the field site supervisor.

**7802 Theory and Practice of Clinical Hypnosis in Counseling (3)**

Prerequisite: Cns Ed 6270 or 6370 or consent of instructor. Clinical hypnosis is conceptualized and approached as a system of skilled communication. Historical perspectives, major models (Traditional, Standardized, and Utilization [Ericksonian]), myths, and misconceptions will be explored. Students will develop skills in direct and indirect trance induction procedures, and case conceptualization with individuals and multiple participants. Legal and ethical considerations will be presented.

**7806 Practicum in Group Counseling (3)**

Prerequisite: Cns Ed 7804 and doctoral standing or consent of instructor. Students will lead or co-lead a supervised counseling group in the community.

## Division of Educational Leadership and Policy Studies

### Faculty

**Carole A. Murphy**, Associate Professor\*, Chairperson  
Ed.D., Texas A & M University

**Lynn Beckwith, Jr.**, Interim E. Desmond Lee Professor in  
Urban Education, Ed.D., St. Louis University

**Judith A. Cochran**, E. Desmond Lee Professor in Tutorial  
Education\*  
Ph.D., Arizona State University

**Lloyd I. Richardson Jr.**, Professor\*  
Ph.D., George Peabody College

**Charles D. Schmitz**, Professor\*, Dean  
Ph.D., University of Missouri-Columbia

**Joy E. Whitener**, Dean Emeritus, Professor Emeritus\*  
Ed.D., Washington University

**Charles J. Fazzaro**, Associate Professor\*  
Ed.D., West Virginia University

**John A. Henschke**, Associate Professor\*  
Continuing Education Specialist, University Outreach and  
Extension-East Central Region  
Ed.D., Boston University

**Lowe S. (Sandy) MacLean**, Vice Chancellor Emeritus\*  
Ed.D., Indiana University-Bloomington

**Kent Farnsworth**, President in Residence  
Ph.D., University of Iowa

**Thomas R. Schnell**, Associate Professor\*  
Ph.D., Southern Illinois University, Carbondale

**Ken Owen**, Affiliate Associate Professor\*  
Ed.D., Saint Louis University

**Patricia Boyer**, Associate Professor\*  
Ph.D., University of Missouri-Columbia

**Mary Cooper**, Assistant Professor of Adult Education\*  
Ph.D., University of Minnesota

**E. Paulette Isaac-Savage**, Associate Professor\*  
Ed.D., University of Georgia

**James E. Murray**, Assistant Professor\*  
Ph.D., University of Missouri – St. Louis

**Kathleen Sullivan-Brown**, Associate Professor\*  
Ph.D., Washington University

**Shawn Woodhouse**, Associate Professor\*  
Ph.D., University of Missouri-Columbia

**Wendell L. Smith**, Assistant Professor\* Special Assistant to  
the Chancellor and Dean Emeritus  
Ph.D., Ohio State University

**Margaret R. Dolan**, Affiliate Assistant Professor\*  
Ph.D., St. Louis University

**John Ingram Jr.**, Affiliate Assistant Professor  
Ph.D., University of Wisconsin-Madison

**Gladys E. Smith**, Affiliate Assistant Professor\*  
Director of PreCollegiate Programs  
Ph.D., St. Louis University

\* members of Graduate Faculty

### General Information

The Division of Educational Leadership and Policy Studies (ELAPS) faculty is housed on the second floor of Marillac

Hall. Questions about the division and its offerings may be directed to the division office, 269 Marillac Hall (314)516-5944.

### Graduate Studies

The ELAPS Division offers graduate programs in:

- K-12 Administration: including Missouri State School Administrator Certifications
- Higher Education: including Community College
- Adult and Community Education

**K-12 School Administration:** Includes academic degree programs at the master's (M.Ed.), specialist (Ed.S.), and doctoral (Ed.D. and Ph.D.) levels. These programs are consistent with the academic requirements for Missouri State certification for elementary, middle, and secondary school administration as well as school superintendent and special education administration. The programs are accredited by the National Council for Accreditation of Teacher Education (NCATE) and the Missouri Department of Elementary and Secondary Education (DESE).

The Programs in K-12 school administration are not merely a list of courses. The M.Ed. and Ed.S. degree programs are organized into a continuous two-phase academic/practice experience. In the first phase the students earn the M.Ed. degree and meet the academic requirements for the initial Missouri State elementary and secondary school administrator's certificates. The second phase leads to the Ed.S., concentrating more on the relationship of academics to practical schooling experiences and solution to school-based problems. With proper selection of courses in the Ed.S. phase, students can meet the academic requirements for the Missouri school superintendent's certificate.

### Education Specialist (Ed.S.) in Education Administration

The Education Specialist Degree (Ed.S.) in Education Administration is a logical extension of the UM-St. Louis M.Ed. in Education Administration and is designed to prepare administrators to serve in school settings from Kindergarten to grade twelve. The Ed.S. in Education Administration requires at least sixty (60) graduate credit hours of a planned program and may include no more than thirty (30) credit hours of an approved NCATE accredited master's degree. The Ed.S. is a terminal academic degree within the College of Education (COE); therefore, one-half (30 credit hours) must be completed within the COE after being admitted to the program. As constituted, the minimum course requirements for the Ed.S. in Education Administration collaterally meets the academic standards for both Elementary and Secondary advanced school administrator certification in Missouri. To be recommended for the Missouri School Superintendent certificate requires an additional six (6) credit hours.

### Admission Standards

To be admitted to the Ed.S. in Education Administration program students must meet the following criteria:

1. Be admitted without qualification to the UM-St. Louis Graduate School;
2. Have scores on the Verbal, Quantitative, and Analytical Writing sections of the Graduate Record Examination that is at least the mean for the applicant's major field, gender, and ethnicity,
3. Have a graduate grade point average of at least 3.25 on a scale of 4.00.
4. Have on file at least four (4) recommendations including the following: one (1) from an educator presently occupying a position equal or similar to that which the applicant aspires upon completing the Ed.S., two (2) from university professors with direct knowledge of the applicant's graduate degree work, and one (1) from someone other than a member of the applicant's family who can comment on the applicant's character.
5. Students already possessing a master's degree from an NCATE accredited institution may transfer those credit hour into the Ed.S. degree program; however, at least thirty (30) credit hours must be completed after acceptance into the program; and
6. Pass an oral interview conducted by the ELAPS K-12 faculty.

### Degree Program

There are three (3) phases to this degree program. **Phase 1.00** must be completed by students not possessing a UM-St. Louis M.Ed. in Education Administration and those wanting to transfer appropriate grade courses from other NCATE institutions. **Phase 2.00** applies to those students meeting all of the requirements in Phase 1.00. There are two (2) sections to **Phase 2.00**— Section 2.10 *Technical Aspects of Education Administration* and Section 2.20 Human Aspects of Education Administration. Courses in these two sections may be taken simultaneously. There are two (2) sections to **Phase 3.00**— Section 3.10 *Writing Exit Requirements* and Section 3.20 *Examination Exit Requirements*. Both sections must be completed no sooner than one (1) semester before completing all degree requirements.

#### Phase 1.00

##### 1.00 Elementary and Secondary School Education Emphases

###### 1.10 Contexts Core

ED ADM 6201, Knowledge Contexts of Education Administration and Policy (3)  
ED ADM 6202, Social Contexts of Education (3)  
ED ADM 6203, Political Contexts of Education (3)  
ED ADM 6204, Economic Contexts of Education (3)  
ED ADM 6205, Legal Contexts of Education (3)  
Required Semester Hours Section 1.10..... 15

###### 1.20 Research/Change Core (6-9 semester hours)

\*ED REM 6707, Classroom Measurement and Evaluation (3)

\*\*ED ADM 6301, Education Administration and Policy Research(3)

ED ADM 6503, Organizational Change in Educator. (3)  
Required Semester Hours Section 1.20 .....6-9

###### 1.30 School Specialization Core

###### 1.31 Elementary School Administration

ED ADM 6302, Elementary School Administration (3)

ED ADM 6401, School Staff Development and Supervision (3)

ELE ED 6411, Curricular Issues in Elementary School; **OR**

\*\*\* ED ADM (6900) Internship (3)

Required Semester Hours Section 1.31.....12  
**OR**

###### 1.32 Secondary School Administration

ED ADM 6304, Secondary School Administration (3)

ED ADM 6401, School Staff Development and Supervision (3)

SEC ED 6415, Secondary School Curriculum **OR**

\*\*\* ED ADM 6900 Internship (3)

Required Semester Hours Section 1.32 .....12

**TOTAL Phase I..... 33-36**

\* Required if student had no equivalent course at the undergraduate level

\*\* Must be taken during the first semester of Phase 2.00 courses

\*\*\* This course must be taken within the last (10) ten semester hours of completion of Phase 1.00

### Phase 2.00

#### Section 2.10

**Technical Aspects of Education Administration**  
(12 Semester hours required)

At least 12 graduate semester hours are required from the following list of recommended courses. Other courses must be approved by the student's advisor and ELAPS division chairperson.

ED ADM 6303, Middle School Administration (3)

ED ADM 6305, School District Administration (3)

ED ADM 6501, Principles of Public School Finance in Missouri (3)

ED ADM 6502, School Buildings and Sites (3)

ED ADM 6601, Administration of Adult and Community Education (3)

ED ADM 6603, Financing of Community Education (3)

HIRED 6473, Curriculum in Higher Education (3)

HIRED 6476, Organization and Administration of Higher Education (3)



- ELE ED 6411, Curricular Issues in the Elementary School (3)
- ELE ED 4316, Middle Level Curriculum and Instruction (3)
- SEC ED 6415, Secondary School Curriculum (3)
- SEC ED 6420, Improvement of Secondary School Teaching (3)
- SEC ED 4315, The Middle Level School (3)
- ED ADM 6306, Special Education Administration (3)
- ED TEC 5340, Selection and Utilization of Educational Media (3)
- ED TEC 6433, Educational Technology Systems Management (3)
- ED TEC 6449, Using Technology in Administrative Processes (3)
- ED REM 6708, Education and Psychological Measurement
- ED REM 6709, Individual Assessment of Cognitive Abilities (3)

**Section 2.20**

**Human Aspects of Education Administration**  
 (12 semester hours required)

At least 12 graduate semester hours are required from the following list of recommended courses. Other courses must be approved by the student's advisor and ELAPS division chairperson.

- ED ADM 6402, School Personnel Administration (3)
- ED ADM 6403, Problems in School Public Relations (3)
- ED ADM 6404, Collective Negotiations in Education Organizations (3)
- ED ADM 6602, Programming in Adult and Community Education (3)
- HIRED 6474, The College Student (3)
- HIRED 6477, History and Philosophy of American Higher Education (3)
- ED FND 6421, Philosophy of Education (3)
- ED FND 6422, Analysis of Education Issues (3)
- ED FND 6435, History of Western Education (3)
- ELE ED 4317, The Middle Level Child (3)
- ED PSY 6225, Psychology of Adolescence (3)
- CNS ED 6200, Foundations of School Guidance (3)
- POL SCI 6462, Political Theory and Public Policy (3)
- POL SCI 6470, Proseminar in Urban Politics (3)
- CNS ED 6200, Foundations of School Guidance (3)
- ED ADM 6900, Internship (School District Level) (3)
- ED ADM 6900, Internship (Special Education Setting) (3)
- Total Section 5.32..... 12

**TOTAL Education Specialist Degree in Education Administration** ..... 60

**Phase 3.00**

**Writing and Examination Exit Requirements**

**Section 3.10-Writing Requirements**

At least four (4) months before the completion of all course work for the degree, each student must present to the ELAPS Division K-12 Regular faculty *Ed.S. Writing Committee* a

**scholarly paper** on a topic approved by the student's academic advisor. The paper submitted may be original in that it has been written especially for this requirement or it may be a more comprehensive version of a paper written for a class taken after being admitted to the Ed.S. program. The paper must conform to the writing standards found in the booklet *ELAPS K-12 Writing Requirements-Form and Style*. The topic and substance of the paper will be central to the oral comprehensive examination (see below).

**Section 3.20-Examination Requirements**

There is both a written and oral portion to this examination requirement.

**Written:** At least three (3) months before completion of all course work for the degree, each student must complete a written examination of no less than three (3) hours on two (2) topics agreed upon by the student's academic advisor and the student. The examinations will be read and evaluated on scholarly substance of content and quality of writing as either PASS or FAIL by at least two (2) Regular members of the ELAPS K-12 faculty. Students receiving a FAIL grade may retake the examination no more than twice. Students failing the examination a third time will be dropped from the program.

**Oral:** Within two (2) weeks after receiving a PASS grade on the written portion of this examination, each student must stand to a one (1) hour oral examination by at least three (3) members of the ELAPS K-12 administration faculty (at least one must be Regular). The examination must include the student's scholarly paper and may include any other aspect of the student's program deemed important to the examiners. The grade for the oral portion will be either PASS or FAIL. Students receiving a FAIL grade may retake the oral portion of the examination no more than twice. Students failing the oral examination a third time will be dropped from the program.

**Master of Education (M.Ed.) and Initial Missouri School Administration Certification:** The program of study for the M.Ed. in Education Administration is thirty-three (33) graduate credit hours. All courses in the program are required and must be taken in a particular sequence. The program meets the academic requirements for either the Missouri elementary or secondary school administrator certificate.

**Degree Requirements**

**1.00 Contexts Core (15 semester hours)**

- Ed Adm 6201, Knowledge Contexts of Education Administration and Policy
- Ed Adm 6202, Social Contexts of Education
- Ed Adm 6203, Political Contexts of Education
- Ed Adm 6204, Economic Contexts of Education
- Ed Adm 6205, Legal Contexts of Education

### 1.20 Research/Change Core (6-9 semester hours)

\*Ed Rem 6707, Classroom Measurement and Evaluation

\*\*Ed Adm 6301, Education Administration Policy  
Research

Ed Adm 6503, Organizational Change in Education

### 1.30 School Specialization Core (12 semester hours)

#### 1.31 Elementary School Administration

Ed Adm 6302, Elementary School Administration

Ed Adm 6401, School Staff Development and  
Supervision

Ele Ed 6411, Curricular Issues in Elementary Schools

\*\*\* Ed Adm 6900, Internship

#### 1.32 Secondary School Administration

Ed Adm 6304, Secondary School Administration

Ed Adm 6401, School Staff Development and  
Supervision

Sec Ed 6415, Secondary School Curriculum

\*\*\*Ed Adm 6900, Internship

\* Required if student had no equivalent course at the  
undergraduate level.

\*\* Exit course--must be taken during last semester of M.Ed.  
program.

\*\*\* Must be taken within the last 10 semester hours before  
completion of M.Ed. program.

Master of Education: Educational Administration with  
Emphasis in Community Education

This is a 32-credit hour program for students interested in  
community education.

### Degree Requirements

2.10 Ed Fnd 6421, Philosophy of Education  
Ed Fnd 6435, History of Western Education  
OR

Ed Fnd 4330, History of American Education

Ed Fnd 6422, Social Contexts of Education

Ed Adm 6203, Political Contexts of Education

Total Required Sem. Hrs. Section 2.10 = 12

### 2.20 Research Core

Ed Adm 6301, Educational Administration Policy  
Research

Ed Rem 5730, Educational Statistics

Total Required Sem. Hrs. Section 2.20 = 6

### 2.30 Community Education

Ed Rem 6601, Administration of Community and  
Adult Education

Ed Adm 6602, Programming in Community and  
Adult Education

Ed Adm 6900, Internship: Community Education

Total Required Sem. Hrs. Section 2.30 = 9

### 2.40 School Specialization\*\*

### 2.41 Elementary School Administration

Ed Adm 6302, Elementary School Administration

Ele Ed 6411, Curricular Issues in the Elementary  
School

Total Required Sem. Hrs. Section 2.41 = 6

### 2.42 Secondary School Administration

Ed Adm 6304, Secondary School Administration

Sec Ed 6415, The Secondary School Curriculum  
OR

Total Required Sem. Hrs. Section 2.42 = 6

TOTAL Master of Education--Community Educ = 33

\*Exit Requirement--Taken within the last 9 semester hours  
of the M.Ed. program.

\*\*Students take either section 2.41 or section 2.42, not both  
sections.

### Master of Education in Adult & Higher Education

The M.Ed. in Adult & Higher Education is intended for 1)  
faculty and other educators who want to improve their adult  
teaching skills; 2) persons who occupy and seek to advance  
into administrative or management positions in a variety of  
educational settings; and 3) others who work with adults in a  
variety of agencies. The degree program includes courses in  
foundations, curriculum and teaching (including distance  
learning), organization and administration, research, and  
electives so that students can create an emphasis area to fit  
their career goals. To help address student interests, special  
topic seminars are offered from time to time. An internship  
in the student's emphasis area is a required exit experience.  
Students elect either the adult education or higher education  
emphasis area.

#### Admission Requirements:

This degree program follows the policies of The College of  
Education and the Graduate School relating to admissions,  
academic standards, residency, transfer credit, time  
limitations, and thesis options (see Graduate Study in the  
Bulletin). The minimum number of hours required for the  
M.Ed. degree is 32 credit hours.

#### Education Requirements

##### Foundation Courses (12 hours required)

##### A course focusing on the learner

ADU ED 6410, The Adult Learner (3) OR

HIR ED 6474, The College Student (3)

##### A course in historical foundations

ADU ED 6411, History of Adult Education (3) OR

HIR ED 6477, History and Philosophy (3)

##### A course on the improvement of instruction

ADU ED 6413, Improvement of Instruction in Adult  
Education (3) OR

HIR ED 6473, Curriculum in Higher Education (3) OR

ED PSY 7647, Teaching for Learning in the University (3)

**One of the following:**

- ADU ED 6412, Philosophical Foundations of Adult Education (3)
- ADU ED 6414, Curriculum Theory & Development in Adult Education (3)
- HIR ED 6476, Organization and Administration (3)

*Adult and Higher Education Electives (12 hours minimum)*

- ADU ED 4311, Teaching Basic Reading Skills to Adults (3)
- ADU ED 6430, Comparative Education: Adult & International (3)
- ADU ED 6411, History of Adult Education (3)
- ADU ED 6416, Survey of Adult Distance Education (3)
- ADU ED 6417, Multicultural Issues in Adult Education (3)
- ADU ED 6418, Assessment in the Adult Classroom (3)
- ADU ED 6230, Adult Learning and Development (3)
- ADU ED 6420, Survey of Human Resource Development & Adult Ed (3)
- ADU ED 6425, Principles of Business Education (3)
- ADU ED 6426, Coordination of Cooperative Vocational Programs (3)
- ADU ED 6427, Improvement of Instruction in Teaching Business Subjects (3)
- ADU ED 6432, Teaching in the Community College (3)
- ADU ED 6435, Problems in Teaching College Biology (3)
- ADU Ed 6997, Problems in Adult Education Research (3)
- ADU ED 6404, Seminar (3)
- HIR ED 5401, Current Issues in Higher Education (3)
- HIR ED 5402, Student Affairs Administration (3)
- HIR ED 6404, Seminar (3)
- HIR ED 6405, Economics and Finance (3)
- HIR ED 6406, Governance of Higher Education (3)
- HIR ED 6407, Legal Aspects of Higher Education (3)
- HIR ED 6421, Legal Aspects of Postsecondary Teaching (3)
- HIR ED 6422, Policy Analysis of Higher Education (3)
- HIR ED 6430, The Community College (3)
- EDUC 6308, Foundations of Adult Basic Education (3)
- ED ADM 6461, Administration of Adult and Community Education (3)
- ED ADM 6462, Programming in Adult and Community Education (3)
- ED PSY 6111, Psychology of Education (3)
- ED TEC 5340, Selection and Utilization of Educational Multimedia (3)
- ED TEC 6415, Teaching and Learning with Technology: Authoring Tools (3)
- ED TEC 6416, Teaching and Learning with Technology: Data Rep. Tools
- ED TEC 6436, Computer-Mediated Communication in Education (3)
- ED TEC 6437, Distance Learning via Networks and Telecommunications (3)
- ED TEC 6452, Educational Multimedia Design (3)
- ED TEC 6454, Instructional Video Production (3)

*Research Course(s) (3-6 hours required)*

- ED REM 6710, Research Methods\* (3)
- ED REM 6707, Classroom Measurement and Evaluation (3)

ED REM 6709, Educational & Psychological Measurement (3)

\*Required for Higher Education

*Exit Requirement (3 hours required)*

One of the following taken during the 9 semester hours of the program

HIR ED 6490, Internship or Thesis in Higher Education (3)

ADU ED 6990, Internship in Adult Education (3)

**Adult Basic Education Certification**

\*Adu Ed 4311, Teaching Basic Reading Skills to Adults

\*Ele Ed 6455, Problems of Teaching Arithmetic in the Elementary School or Ele Ed 4346, Advanced Methods in Elementary School Mathematics

\*Eight semester hours from these six courses, and 3 hours of adult education electives, in addition to Spc Ed 3313, Psychology and Education of Exceptional Individuals, are required for five-year certification from the Missouri Department of Elementary and Secondary Education.

**Adult Basic Education (ABE) Certification**

1) Requirements for two-year teacher's certificate in ABE:

- a. A holder of a bachelor's degree from a four-year college or university.
- b. Annual attendance at Department of Elementary and Secondary Education (DESE) approved adult basic education teacher certification workshops.

(The two-year ABE certificate may be renewed twice.

Requirements for a five-year certificate must be completed by the end of the sixth year.)

2) Requirements for a five-year teacher's certificate in ABE:

- a. Hold a bachelor's degree from a four-year college or university.
  - b. Earn eight semester hours in DESE-approved adult education classes, institute or workshops.
- (The five-year ABE certificate may be renewed an unlimited number of times by repeating the requirements during the previous five years.)

**Note** This would provide certification for (1) ABE teachers who are teaching less than half time and/or without a contract and/or not in a public school or an accredited private school and (2) ABE teachers with bachelor's degrees who have experience teaching adults, but do not have regular teacher certification. Information is available for professional certificates for full-time ABE teachers.

**Graduate Certificate in Institutional Research**

The Post-Master's Certificate in Institutional Research (CPIR) is for academics who want training in Institutional Research in preparation for working in an IR Office at a postsecondary institution, a government agency, or a private education organization. The program consists of 18 hours and may be taken as part of a doctoral program. Of the 18 hours, 12 are in the required core (6 hours are in research methods and 6 hours in IR seminars), plus a 3-hour Higher

Education (HIR ED) or an Educational Research (ED REM) elective and a 3-hour capstone. Students may transfer up to 5 hours of post-Master's work into the program with the approval of the advisor.

### **Course Descriptions**

#### **Adult Education (Adu Ed)**

##### **4311 Teaching Basic Reading Skills to Adults (3)**

A study of the reading process and of the characteristics of adult learners with a focus on instructional techniques and materials useful in upgrading the performance of adults with deficient reading skills.

##### **4410 The Non-Traditional Adult Learner (3)**

An introduction to the non-traditional adult learner. At the completion of the course the students will be able to identify the characteristics of non-traditional adult learners and various theories of how they learn, as well as the implications of these characteristics and theories on adult

##### **6230 Adult Learning and Development (3)**

Prerequisites: Ed Psy 6210 or Ed Psy 6111, or Adu Ed 6410. (Same as Ed Psy 6230). Study of how life stage theories and theories of learning pertain to adult learner. Research bases of these theories explored in relationship to instructional practice with adult learners.

##### **6404 Seminar in Adult Education Research (1-10)**

Prerequisites: Adu Ed 6410 or consent of instructor. A review of current research on various topics in the field of adult education. An in-depth study of these research topics will be conducted. Application to the field of adult education will be considered. Special focus will be placed on assessing and improving competency in educational, corporate and community settings.

##### **6410 The Adult Learner (3)**

This course is designed for those who help adults learn in a variety of settings. A study will be made of the characteristics of Adult Learners and various theories of how they learn, as well as the implications of these characteristics and theories for adult education research, programming, curriculum, planning, and instructional practice.

##### **6411 History of Adult Education (3)**

Prerequisites: Adu Ed 6410. A study of the historical foundation of adult education in America will include the major theorists and their contributions and the continuing education of the adult in a progressive social context

##### **6412 Philosophical Foundations of Adult Education (3)**

Prerequisites: Adu Ed 6410 or consent of instructor. A comprehensive, systematic philosophical foundation for adult education. Exploration of philosophical underpinnings of various approaches to education of adults--role of learner, teacher, and objectives within each philosophy.

##### **6413 Improvement of Instruction in Adult Education (3)**

Prerequisites: Adu Ed 6410 or consent of instructor. A study of selected methods and instructional techniques appropriate for the teaching of adults. An examination of current research will be made as it relates to the problems of instructing adults.

##### **6414 Curriculum Theory and Development in Adult Education (3)**

Prerequisites: Adu Ed 6410 or consent of instructor. A study of curriculum theory and its application to adult education. Particular emphasis will be placed on the development of model curricula for various programs in adult education.

##### **6416 Survey of Adult Distance Education (3)**

Prerequisites: Adu Ed 6410. Survey of distance education covers concept, theories, history, present practice, delivery systems, major issues and directions of distance learning. Emphasis on research and practice in U.S.; however, course will explore topics and issues in distance education from international perspective, identifying similarities and differences among countries.

##### **6417 Multicultural Issues in Adult Education (3)**

Prerequisites: Adu Ed 6410. Discussion of cultural diversity from an adult education perspective. Topics include cultural self-awareness, challenges/issues in intercultural educational settings, theoretical perspectives of multicultural education, and practitioner concerns and strategies for implementing multiculturalism in adult education settings.

##### **6418 Assessment in the Adult Classroom (3)**

Prerequisites: Adu Ed (6) 6410 & Ed Rem 6707 or consent of instructor. This course addresses assessing how effectively adult educators are facilitating adult learning. Emphasis will be on knowledge and skills, learner characteristics, and learner reactions to instruction effectiveness in the adult classroom. Special attention will focus this assessment in the adult classroom within educational, corporate, community, and non-formal settings.

##### **6420 Survey of Human Resource Development and Adult (3)**

Prerequisites: Graduate standing and permission of instructor. Overview of fields of human resource development and adult education. Examines societal contexts within which training of adults and organization development occur. Explores systems theory that frames a discussion of adult education, training, and organization development. Represents unique characteristics of each field as well as ways in which two fields come together, along with general concepts: definitions, philosophies, goals, sponsoring agencies, professional roles, processes, participants, and resources.

##### **6424 Intervention Determination in Adult Learning and Human Resource Development (3)**

Prerequisites: Adu Ed 6410. A variety of strategies will be studied with a view to examining systemic problems in

workforce and adult learning situations. The determination of interventions for program planning and development is the major focus. As key outcomes for this course, learners will be able to design and develop plans and distinguished among workplace, community and educational needs that can be met with educational interventions and those that require other, and more appropriate, non-training solutions. While specifically focused on HRD applications, the content of this course will apply to any educational setting for adults.

#### **6425 Principles of Business Education (3)**

Prerequisites: Business education certification and consent of instructor. Designed for the business education teacher, this course examines in depth the principles, practices, and problems of business education programs. It emphasizes research into historical and philosophical implications, the influence of contemporary attitudes on business education, evaluation of current programs, and development of innovative approaches. It may be applied toward Missouri Vocational Business Education certification.

#### **6426 Coordination of Cooperative Vocational Programs (3)**

This course deals with student selection procedures. Coordinating vocational instruction and planned employment experiences; research techniques for collecting and analyzing data for process and product evaluation; procedures for implementing new ideas and innovations in cooperative vocational education programs. The course is designed for vocational teachers and for teachers who wish to qualify as coordinators of cooperative vocational programs. This course may be applied toward Missouri Vocational Certification.

#### **6427 Improvement of Instruction in Teaching Business Subjects (3)**

Prerequisites: Business education certification or consent of instructor. Designed for business education teachers, this course examines current trends in planning, organizing, developing, and evaluating instructional materials relevant to business education classes. Emphasis is placed on research techniques and strategies for selecting and utilizing appropriate curriculum materials, resources, and media to match learning needs. This course may be applied toward Missouri Vocational Certification.

#### **6432 Teaching in the Community College (3)**

This course is designed for students considering a teaching career in the community college. The main emphasis of the course will be to expose students to the unique features of the community college with respect to the special goals of the institution, variety of degree and nondegree programs, and diversity of community college students. A second objective will be to offer a brief review of teaching techniques that will be useful in the community college classroom.

#### **6435 Problems in Teaching College Biology (3)**

Same as Biology 5985. Prerequisites: Teaching experience, 30 semester hours in biology, and consent of the instructor. Basic philosophies underlying undergraduate biology

Education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

#### **6494 Directed Readings in Adult Learning (1.0-6.0)**

Prerequisites: Graduate Standing, Adu Ed 6410 and consent of instructor. Self-directed learning, as a key concept in Adult Education, is encouraged as a means of understanding the adult experience, both personally and professionally, and is a recognized core competency in the field of Adult Education. This course consists of supervised, independent study into the current research, literature, and issues in the area of Adult Learning. Learners are given the opportunity to meet with other learners and the instructor on a regular basis to share resources, ideas, and to gain feedback.

#### **6497 Problems in Adult Education (1-10)**

Prerequisites: Adu Ed 6410 or consent of instructor. Independent study on topics in adult education.

#### **6990 Internship (1-10)**

Prerequisites: Adu Ed 6410 or consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

#### **Educational Administration (Ed Adm)**

Prerequisites may be waived by consent of the department.

#### **6201 Knowledge Contexts of Education Administration and Policy (3)**

Prerequisites: Admission to masters, doctoral, and/or certification programs in Education Administration or consent of instructor. This course is a survey of the various views of knowledge that have influenced the nature of the organizational structures and policies of American educational institutions. The course is framed both by the purposes of American education and the scientific management movement of the first quarter of the 20<sup>th</sup> Century.

#### **6202 Social Contexts of Education (3)**

Prerequisites: Ed Adm 6201, concurrent with Ed Adm 6201, or consent of instructor. This course is a critical examination of different perspectives on the social structures within which education policies are constituted and their concomitant practices implemented.

#### **6203 Political Contexts of Education (3)**

Prerequisites: Ed Adm 6201, concurrent with Ed Adm 6201, or consent of instructor. This course is a critical examination of those aspects of local, state, and federal politics which

significantly influence the political contexts within which education policies are constituted and their concomitant practices implemented.

**6204 Economic Contexts of Education (3)**

Prerequisites: Ed Adm 6201, concurrent with Ed Adm 6201, or consent of instructor. This course is a critical examination of those aspects of local, state, and national economic structures which influence the nature of education policies and their concomitant practices.

**6205 Legal Contexts of Education (3)**

Prerequisites: Ed Adm 6201, concurrent with Ed Adm 6201 or consent of instructor. This course is a critical examination of both (1) local, state, and federal laws and (2) Western notions of justice within which education policies are constituted and their concomitant practices implemented.

**6301 Education Administration Policy Research (3)**

Prerequisites: Completion of at least twenty-four (24) credit hours towards the M.Ed. in Education Administration or consent of instructor. A study of issues and trends in basic, applied, and action research in educational policy making.

**6302 Elementary School Administration (3)**

Prerequisite: Completion of at least (15) credit hours of the M.Ed. in Education Administration or consent of instructor. This course is a comprehensive, systematic study of the elementary school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of elementary schools.

**6303 Middle School Administration (3)**

Prerequisites: Completion of at least (15) credit hours of the M.Ed. in Education Administration or consent of instructor. This course is a comprehensive, systematic study of the middle school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of middle schools.

**6304 Secondary School Administration (3)**

Prerequisites: Completion of at least (15) credit hours of the M.Ed. in Education Administration or consent of instructor. This course is a comprehensive, systematic study of the secondary school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of secondary schools.

**6305 School District Administration (3)**

Prerequisite: Enrolled in Advanced Certification Program and/or consent of instructor. Course focuses on current research about school district administration; also deals with major central office issues including: board/ superintendent relations, central office organization, the function and authority of assistant superintendents and program directors, and the administrative team approach to school district administration.

**6306 Special Education Administration (3)**

Prerequisites: Completion of graduate degree in Special Education, Education Administration or consent of instructor. A study of organizational issues in special education and implications for practices and procedures. Specific attention will be given to special education delivery systems, compliance standards, funding sources, and regulatory standards.

**6315 Middle School Educational Philosophy (3)**

Prerequisites: Graduate standing.

An in-depth examination of the educational philosophy and historical basis of middle level schools, and the relationship between philosophy and middle school organizational practices. Includes a review of the research, organizational structures and current trends and practices.

**6317 Supervision and the Middle School Child (3)**

Prerequisites: Graduate standing.

The unique developmental characteristics and needs of early adolescents are explored through a variety of supervisory activities involving middle level students, teachers, administrators. The implications of economic and ethnic diversity for middle level schools will also be addressed.

**6401 School Staff Development and Supervision (3)**

Prerequisite: Ed Adm 6201, concurrent with Ed Adm 6201, or consent of instructor. This course provides an examination of the conceptual bases and practical applications of staff development and supervision in educational settings. It explores relevant conceptual models presented as heuristic devices to consider a variety of administrative techniques to assess needs, plan, deliver, and evaluate staff development and supervision programs in schooling.

**6402 School Personnel Administration (3)**

Prerequisite: Advanced graduate standing and/or consent of instructor. This course is a comprehensive, systematic study of problems in planning, recruitment, selection, induction, and retention relative to school personnel.

**6403 Problems in School Public Relations (3)**

Prerequisites: Advanced graduate standing and/or consent of instructor. This course is an examination of a range of both traditional and critical perspectives relevant to home-school-community relations.

**6404 Collective Negotiations in Educational Organizations (3)**

Prerequisites: Advanced graduate standing and/or consent of instructor. This course focuses on the concepts, issues, and processes involved with collective negotiations (bargaining) in American educational organizations. The major issues addressed in the course include recognition procedures, bargaining unit determination, the scope of negotiations, the proposal and counterproposal, compromise, impasse procedures, and master contract management.

**6405 Extracurricular Activities (3)**

Prerequisites: Graduate standing and/or consent of instructor. Activities related to the extracurricular program of secondary schools will be studied in depth. Analyses of appropriate activities will include the nature and purposes of these activities.

**6406 Leadership in Educational Administration (3)**

Prerequisites: Advanced graduate standing and/or consent of instructor. This course is designed to acquaint the administrator with the factors of groups and interpersonal relationships directly affecting job performance. The consequences of various types of group relationships upon the institution will be studied in detail. The administrator will study various rationales for and methods of improving interpersonal relationships within the institution.

**6449 Using Technology in Administration Processes (3)**

Prerequisites: A course in measurement, statistics or evaluation, or consent of instructor. (Same as Ed Tec 6449). This course will explore how the use of data analysis with technology can be applied in the administration of schools or other work settings. Administrators will explore software tools and their implications for making decisions. A case study will be completed on the implementation of a technology in a school or other appropriate setting.

**6497 Problems (1-10)**

**6501 Principles of Public School Finance in Missouri (3)**

Advanced graduate standing and/or consent of instructor. Course is designed to analyze and study critical areas of public school finance at the local and state levels, highlighting the role of such factors as legislative procedures, principles of local and state support, budgeting and accounting procedures, assessment of property, etc.

**6502 School Buildings and Sites (3)**

Prerequisites: Advanced graduate standing and/or consent of instructor. This course deals with methods and procedures for (1) projecting the future building and facility needs of a public school district, (2) supervising actual planning and construction of educational facilities, (3) optimizing the use of current facilities, and (4) maintenance of buildings, grounds, and equipment.

**6503 Organizational Change in Education (3)**

Prerequisite: Advanced graduate standing and/or consent of instructor. This course deals with (1) developing strategies for assessing educational needs, (2) methods of assessing the school's organizational health, (3) the designing of educational change strategies involving theory-based models, (4) using systems-analysis techniques to implement educational change, and (5) methods of involving students and staff in incorporating meaningful organizational change strategies in educational institutions.

**6504 Organizational Change in Special Education Administration (3)**

Prerequisites: Advanced graduate standing and/or consent of instructor.

This course deals with developing strategies for assessing special educational needs, methods of district wide self-assessment of inclusive practices, the designing of educational change strategies involving theory based models, using collaborative-problem solving techniques to implement educational change, and methods of involving students and staff in incorporating meaningful organizational change strategies in special education.

**6601 Administration of Adult and Community Education (3)**

Prerequisites: Graduate standing and/or consent of instructor. A course designed to familiarize the student with the structure, purpose, and processes of community education with particular emphasis being placed on the administrative theories and functions of adult education.

**6602 Programming in Community and Adult Education (3)**

Prerequisite: Ed Adm 6601 and/or consent of instructor. Study and analysis of basic situations in which community and adult educational programming take place. Within this framework, application will be made of a fundamental series of steps essential to sound educational programming.

**6603 Financing of Community Education (3)**

Prerequisites: Graduate standing and/or consent of instructor. The student will develop the necessary skills needed to construct an operational budget for the administration of community education programs. Emphasis will be placed on developing a support base from federal, state, and local funding resources. The student will be exposed to proposal writing and funding procedures.

**6800 Education Policy Studies Seminar (1-6)**

Prerequisites: Admission to doctoral program and consent of instructor. Intensive directed study of selected education policy issues.

**6900 Internship (1-10)**

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

**7800 Education Administration Doctoral Seminar (1-6)**

Prerequisites: Admission to doctoral program and consent of instructor. Intensive directed study of selected issues related to the administration of educational institutions.

### **Higher Education (Hir Ed)**

#### **5401 Current Issues in Higher Education (3)**

Prerequisites: Graduate admission. Familiarizes student with nature and characteristics of American higher education--structure of higher education, roles played by various constituencies, and current issues.

#### **5402 Student Affairs Administration (3)**

Prerequisites: Graduate admission. Survey course in student personnel administration with emphasis on understanding college student and on learning ways to meet his/her academic and nonacademic needs.

#### **6404 The Seminar (1-10)**

Prerequisites: Graduate standing.

#### **6405 Financial Issues in Higher Education (3)**

Prerequisites: Graduate standing. Provides an overview of the state/federal funding mechanisms for higher education in the U.S. Addresses practices in budgeting at various types of postsecondary institutions.

#### **6406 Governance of Higher Education (3)**

Prerequisites: Graduate admission. Concentrates on study of unique system of governance in higher education, including faculty, institutional, system, and state governing mechanisms.

#### **6420 Legal Aspects of Higher Education (3)**

Prerequisites: Graduate admission. Examines legal rights and responsibilities of faculty, students, staff, and administrators. Includes fair employment, due process, affirmative action, and liability.

#### **6421 Legal Aspects of Postsecondary Teaching (3)**

Prerequisites: Graduate admission. Examines legal issues of interest to faculty. Areas include faculty (contracts, grievances/appeals/affirmative action, free speech, tenure) and student (disability, sexual harassment, academic integrity, free speech, classroom incivility, student behavioral standards, grades) issues.

#### **6422 Policy Analysis of Higher Education (3)**

Prerequisite: Graduate admission. Introduces students to the analysis of higher education public policy. Includes state and local policy analysis and examination of legislative history of major federal higher education laws.

#### **6430 The Community College (3)**

Prerequisites: Graduate admission. Develops an understanding of the two-year college--its past, present, and future. Examines history, operations, funding, internal constituents, curricular mission, societal role, and current issues.

#### **6431 Community College Leadership (3)**

Prerequisites: Graduate admission. Introduces students to leadership theory and practice and the literature of leadership

development. Applies theory and practice to the unique role of the leader in community colleges, including the community college presidency. Particular emphasis is given to the diverse roles expected of the successful leader in today's community college.

#### **6440 Issues in Institutional Research I (3)**

Prerequisites: Graduate standing. Provides a history and overview of institutional research in postsecondary education. Other areas of interest include student issues, student outcomes, higher education funding, productivity funding, and legal issues.

#### **6441 Issues in Institutional Research II (3)**

This course provides the study of key issues in institutional research, including faculty workload and salary, program assessment, fact books, peer institutions, national databases, and strategic planning.

#### **6473 Curriculum in Higher Education (3)**

Prerequisites: Graduate standing and/or consent of instructor. The development, implementation, and assessment of curriculum in higher education as well as historical and philosophical perspectives; major figures and emerging trends are included.

#### **6474 The College Student (3)**

Prerequisites: Graduate standing and/or consent of instructor. A comprehensive overview of the theories and research related to college and university student development. Particular attention is given to student demographics, patterns of growth and development, and attitudinal changes.

#### **6476 Organization and Administration of Higher Education (3)**

Prerequisites: Graduate standing and/or consent of instructor. This course includes the study of the missions, governance, and organizational structures of American higher education institutions. Within this context, particular attention is given to administrative roles, responsibilities, and issues of leadership.

#### **6477 History and Philosophy of American Higher Education (3)**

Prerequisites: Graduate standing and/or consent of instructor. This course is a systematic study of the historical and philosophical contexts that have conditioned the evolution of American higher education. Particular attention is given to significant events, trends, and movements within American higher education.

#### **6497 Problems (1-10)**

Prerequisites: Graduate standing and/or consent of the instructor.

#### **6900 Internship (1-10)**

Prerequisites: Graduate standing and/or consent of the instructor. Closely supervised experience in a field under the direction of a graduate faculty member. An appropriate level



of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

**7800 Higher Education Doctoral Seminar (1-6)**

Prerequisites: Doctoral standing and/or consent of instructor.  
Intensive directed study of selected issues related to the administration of higher education institutions.

**Division of Educational Psychology, Research and Evaluation**

**Faculty**

**Matthew W. Keefer**, Associate Professor and Chair\*  
Ph.D., University of Toronto

**Wolfgang Althof**, Theresa Fischer Endowed Professor of  
Citizenship Education, Dr. Phil., University of Fribourg  
and Dr. Phil. Habil, Carl-Von-Ossietzky

**Marvin W. Berkowitz**, Sanford N. McDonnell Professor  
of Character Education\*  
Ph.D., Wayne State University

**Thomas E. Jordan**, Curator's Professor\* of Child  
Development, Professor Emeritus  
Ed.D., Indiana University

**William L. Franzen**, Professor \*, Dean Emeritus  
Ph.D., University of Wisconsin

**Victor A. Battistich**, Associate Professor\*  
Ph.D., Michigan State University

**Margaret W. Cohen**, Associate Professor\*  
Interim Associate Vice Chancellor of Academic Affairs,  
Director, Center Teaching Excellence  
Ph.D., Washington University

**Michael W. Bahr**, Associate Professor  
Ph.D., Indiana University

**Elisha A. Chambers**, Assistant Professor\*  
Ph.D. Southern Illinois University, Carbondale

**Cody S. Ding**, Assistant Professor\*  
Ph.D., University of Minnesota

**Donald A. Gouwens**, Assistant Professor\*  
Psy.D., Central Michigan University

**Clark J. Hickman**, Assistant Professor and Associate  
Dean of Continuing Education and Outreach\*  
Ed.D., University of Missouri-St. Louis

**Stephen A. Sherblom**, Assistant Professor\*  
Ed.D., Harvard University

\* members of Graduate Faculty

**General Information**

Faculty in the Division of Educational Psychology, Research, and are housed on the fourth floor of Marillac Hall. Information about course offerings may be obtained in the division office, 402 Marillac Hall.

At the undergraduate level, the division coordinates educational psychology and measurement courses required in the various B.S. in education degree programs.

At the graduate level, the division offers courses in educational psychology and in educational research and evaluation methods required in the various M.Ed. degree programs and in the doctoral programs. Students choosing to pursue a Ph.D. in education may elect an emphasis in educational psychology. The Missouri certificate in school psychology is coordinated through this division.

**Educational Specialist in School Psychology**

The Educational Specialist in School Psychology program is a terminal degree program designed to train future school psychologists to work in school settings and meet Missouri certification as a School Psychologist. The program consists of 60 hours of graduate coursework designed to prepare school psychologists for professional roles in the scientist-practitioner model of service delivery. In addition to courses in psychological and educational foundations, assessment, and direct interventions, a primary emphasis within the program is upon prevention and early intervention of academic, behavioral, and social-emotional problems through consultation, interdisciplinary collaboration, and the facilitation of organizational change. Throughout the program, including 400-hours of supervised practicum and a year-long 1,400 hour internship in the schools, students will work closely with the school psychology faculty and field based supervisors to develop practical skills.

Interested applicants are required to submit undergraduate and graduate transcripts, current Graduate Records Examination scores, two letters of recommendation, and a personal statement describing professional goals (not to exceed five double-spaced typed pages). All required application materials will be considered in making admission decisions, but preference will be given to applicants with at least 3.0 GPA and a combined GRE verbal/quantitative score of 1,000. Finalists will be invited for a personal interview with members of the school psychology faculty. A prerequisite of 12 hours of graduate or undergraduate psychology courses in developmental psychology, statistics, tests and measurement, and theories of personality is required for admission. Conditional acceptance into the program may be granted pending completion of prerequisites and/or satisfactory progress in the program (i.e., 3.0 graduate GPA) for students who lack prerequisites or do not quite meet the admission requirements.

The Educational Specialist in School Psychology degree program requires three years of intensive, full-time training; however, students may be able to complete up to half of the curriculum as a part-time student. Graduate coursework completed prior to entering the program will be evaluated and considered for credit on an individual basis, but a minimum of 30 hours used for the degree must be completed at the University of Missouri-St. Louis. In addition, students must satisfy a residency requirement that involves taking nine credit hours per semester for two consecutive semesters or the completion of a planned sequence of required activities. Please note that the internship year involves a full-time placement with a school district during an academic school year, and as such cannot be done on a part-time basis. Students planning to work toward the specialist degree on a part-time basis are advised to meet with their adviser and develop a professional education plan at the start of their program.