

University
of Missouri
St. Louis

B U L L E T I N

Undergraduate

Graduate

Professional

Catalogue

Undergraduate

Graduate

Professional

Catalogue

B U L L E T I N

1989/90

University of Missouri-**St. Louis** USPS 996-420
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Instructional Areas

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

accounting
administration of justice
adult education
American studies
anthropology
archaeology
art
astrophysics
biochemistry
biology
black studies
business administration
chemistry
Chinese
classical studies
communication (formerly speech communication)
communication theory and rhetoric
comparative politics
computer science
counselor education
early childhood education
East Asian studies
economics
educational administration
educational foundations
educational psychology
educational research and evaluation methods
educational technology
elementary education
English
European studies
French
geophysics
German
gerontology
Greek
Hebrew
history
home economics
interdisciplinary studies
international relations
Italian
Japanese
Latin American studies
Latin
library science
management information systems
mass communication
mathematics
modern foreign languages
music
philosophy
photographic studies
physical education
physics
political science
Portuguese
pre-architecture
pre-engineering
prejournalism
prelaw
premedicine
pre-optometry
prepharmacy
probability and statistics
psychology
public administration
public affairs journalism
public law
radio and television
religions
reserve officers training corps
Russian
secondary education
Spanish
special education
social work
sociology
theatre
urban politics
urban studies
women's 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.

On July 23, 1978, the North Central Association voted full accreditation to the University of Missouri-St. Louis for a ten-year period at the 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, age, handicap, or veteran status in any program or activity of the University.

Demographic data is 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.

For the benefit of prospective students, academic departments generally maintain current employment information including average starting salary, forecast of job opportunities, number of students being graduated, and number employed. Students may contact their major department for the latest information available.

While students should study current employment data, these points should also be considered: 1) Employment conditions are subject to sudden change, and may change considerably over a four-year period; 2) A student who excels is most likely to find employment; 3) A degree from a quality institution generally provides a competitive edge in the job market; 4) A degree offers more than a job opportunity.

Information regarding the provision of auxiliary aids and services to qualified disabled students can be found on page 43 of this *University of Missouri-St. Louis Bulletin*. Students considering such assistance should contact the Administrator for Special Student Programs, at 553-5211, for further details.

Address inquiries regarding admission to all divisions of the University of Missouri-St. Louis to the Director of Admissions, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499.

For information concerning the University of Missouri-Columbia, the University of Missouri-Rolla, or the University of Missouri-Kansas City, write directly to the Director of Admissions at the campus concerned.

Course Descriptions and Guide to Course Lists

Course numbers and titles are listed in this volume as part of the requirements for the various degree programs. For more detailed information on a particular course, including prerequisites, credit hours, or content, the student must consult the companion volume to this book, the *University of Missouri-St. Louis Bulletin: Description of Courses*.

Course Numbering

Each course bears a distinguishing number which identifies it within the department or academic unit and indicates, broadly, its rank. The numbering system is as follows:

0 to 099, nondegree credit

1 to 99, primarily for freshmen and sophomores.

100 to 199, primarily for upperclassmen, no graduate credit.

200 to 299, for undergraduates and appropriate professional and graduate students, except those whose graduate majors are in the department in which the course is given.

300 to 399, for undergraduate, appropriate professional, and graduate students without restriction as to students' graduate majors.

400 to 499, primarily for graduate and appropriate professional students in special programs; upperclass students are admitted to courses in this series only with the approval of the graduate dean.

500 to 599, for professional optometry students. Other students are admitted to courses in this series only with the approval of the Optometry Dean.

General Education Requirement Courses

Courses which fulfill the University's general education requirements, as outlined in the Academic Policy section of this *Bulletin*, are listed at the beginning of each departmental course section in the *Description of Courses*, a companion booklet to this catalogue.

Each list of course numbers also is identified by one of the following breadth of study areas:

[H] Humanities requirement

[SM] Natural sciences and mathematics requirement

[SS] Social sciences requirement

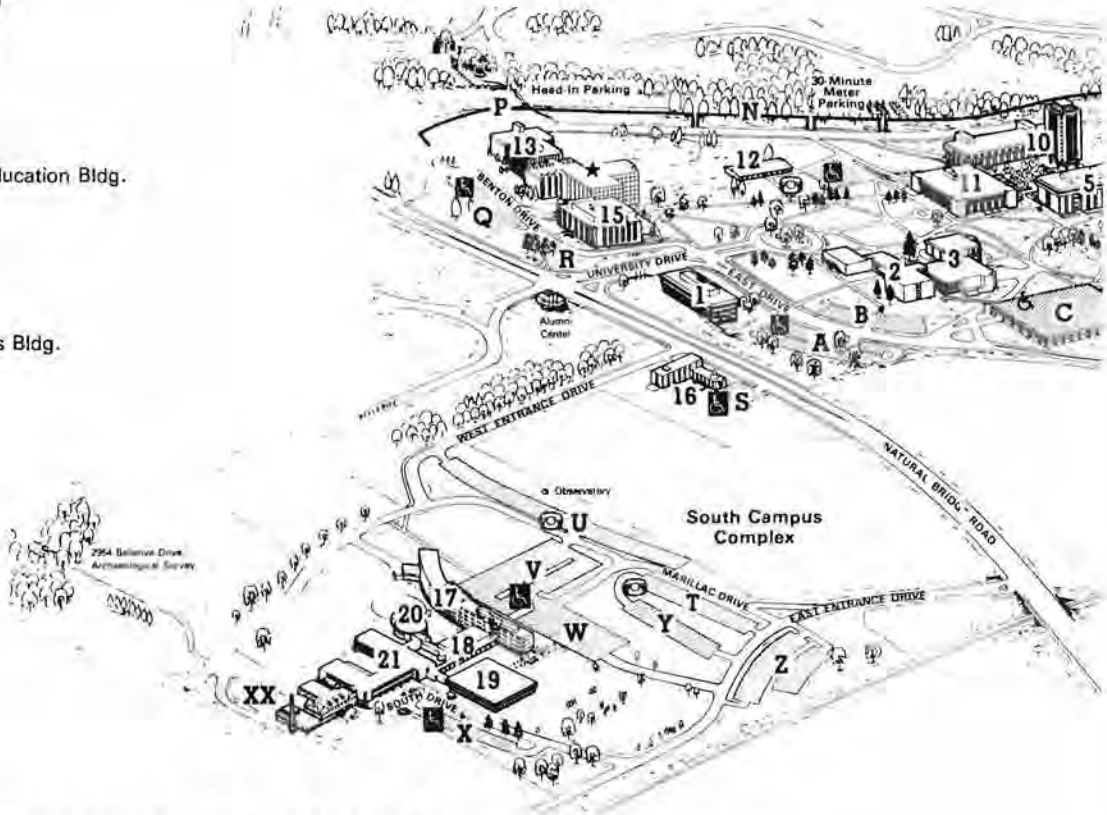
Eye Protection Law

It is now a law in the state of Missouri that every student, teacher, and visitor must wear approved eye protection devices when participating in or observing certain university courses. Definitely included in this act, which is posted along with University policy in selected buildings on this campus, are courses requiring chemical, physical, combined chemical-physical laboratories and shops, as well as certain vocational, technical, and industrial arts courses. Consult your instructors for exact requirements. Approved safety glasses and goggles must meet ANSI Standard Z87.1-1968 and are available from the UM-St. Louis Bookstore.

Campus Map

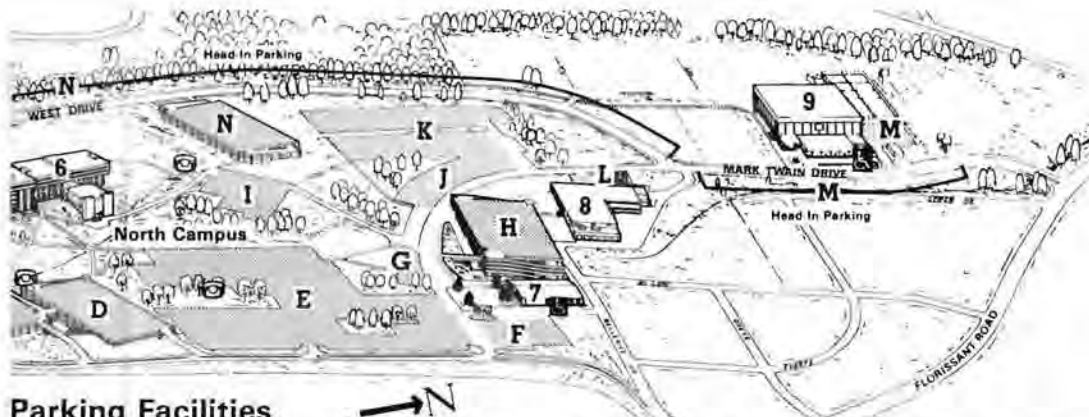
Buildings

- 1 Woods Hall
- 2 J.C. Penney Continuing Education Bldg.
- 3 University Center
- 5 Clark Hall
- 6 Lucas Hall
- 7 Blue Metal Office Bldg.
- 8 General Services Bldg.
- 9 Mark Twain Bldg.
- 10 Social Sciences & Business Bldg.
- 11 Thomas Jefferson Library
- 12 Library Annex
- 13 Benton Hall
- 15 Stadler Hall
- 16 Music Bldg.
- 17 Marillac Hall
- 18 Health Sciences Library
- 19 Ward E. Barnes Education Library
- 20 Education Administration Bldg.
- 21 South Campus Classroom Bldg.
- ★ Science Complex



University Programs and Offices

- Academic Affairs, Vice Chancellor for,** 401 Woods, 553-5371
- Administration of Justice Department,** 598 Lucas, 553-5031
- Administrative Services, Vice Chancellor for,** 414 Woods, 553-6100
- Admissions and Records,** 101 Woods, 553-5451
- Affirmative Action Office,** 440 Woods, 553-5695
- Alumni Relations,** 426 Woods, 553-5776
- Alumni Center,** 7956 Natural Bridge, 553-5722
- Anthropology Department,** 607 Tower, 553-6020
- Art Department,** 506 Lucas, 553-5975
- Arts and Sciences, College of,** 305 Lucas, 553-5501, Academic Advising, 303 Lucas, 553-5300
- Athletics Office,** 225 Mark Twain, 553-5641
- Behavioral Studies Department,** 469 Marillac Hall, 553-5782
- Biology Department,** 326 Stadler, 553-6200
- Bookstore,** 50 University Center, 553-5763
- Bridge Program,** 102 South Campus Classroom Bldg., 553-5196
- Bush Center for Law, Social Change and Conflict Resolution,** 344 SSB, 553-6595
- Business Administration, School of,** 487 SSB Bldg., 553-5881
- Cable TV Studio,** 116 Lucas, 553-5175
- Cafeteria, "Underground,"** U. Center
- Cafeteria, South Campus Complex,** Marillac Hall, Level 1
- Career Planning and Placement,** 308 Woods, 553-5111
- Cashier's Office,** 206 Woods, 553-5151
- Center for Academic Development (CAD),** 506 Tower, 553-5194
- Center for Business and Industrial Studies,** 461 SSB Bldg., 553-5857
- Center for Economic Education,** 308 Tower, 553-5248
- Center for International Studies,** 366 SSB Bldg., 553-5763
- Center for Metropolitan Studies,** 362 SSB, 553-5273
- Center for Molecular Electronics,** 3115-1 Benton Hall, 553-5201
- Center for Science and Technology,** 227 Benton Hall, 553-5349
- Chancellor's Office,** 401 Woods, 553-5252
- Chemistry Department,** 324 Benton, 553-5311
- Child Development Center,** 130 South Campus Classroom Bldg., 553-5658
- Communication Department,** 590 Lucas, 553-5485
- Computing and Telecommunications, Office of,** 103 SSB Bldg., 553-6000
- Continuing Education-Extension, Office of,** 201 J.C. Penney; **Credit Courses,** 553-5655; **Non-Credit Courses,** 553-5961
- Counseling,** 427 SSB Bldg., 553-5711
- Development Office,** 426 Woods, 553-5790
- Disabled, Minority and International Students,** 301 Woods, 553-5211
- Dispute Resolution Program,** 347 SSB, 553-6040
- Economics Department,** 408 SSB Bldg., 553-5351
- Education, School of,** 201 Education Administration Bldg., 553-5106; Undergraduate Studies in Education, 155 Marillac Hall, 553-5937; Graduate Studies in Education, 158a Marillac Hall, 553-5890
- Educational Studies Department,** 269 Marillac Hall, 553-5944
- Eldercare Center,** 8351 S. Florissant, 524-0155
- Elementary and Early Childhood Education Department,** 369 Marillac Hall, 553-5791
- Engineering Center,** 34 Blue Metal Office Bldg., 553-5431
- English Department,** 494 Lucas, 553-5541
- Evening College,** 324 Lucas, 553-5161
- Facilities Management,** 234 General Services Bldg., 553-6300
- Financial Aid,** 209 Woods, 553-5526
- Gallery 210,** 218 Lucas, 553-5976
- Gerontology,** 362 SSB, 553-6186
- Graduate School,** 341 Woods, 553-5900
- Graphic Services,** 252 General Services Bldg., 553-5167
- Health Center,** 127 Woods, 553-5671
- History Department,** 484 Lucas, 553-5681
- Horizons (Peer Counseling),** 413C SSB, 553-5730



Parking Facilities

- A** Fac/Staff; Visitors; Handicapped; Official Vehicles; Service Vehicles
- B** Fac/Staff Intralot; Visitors
- C** Level 1-Fac/Staff; Visitors; Cycles
Level 2-Students; Special Carpool
Level 3-Cont. Educ. Extension; Students; Handicapped (West Side)
- D** All Levels-Students
- E** Students
- F** Fac/Staff; Visitors; Handicapped; Students
- G** Students
- H** Level 3-Fac/Staff (North sec.); Students
Level 2, 4, & 5-Students
Level 1-Fac/Staff; Maintenance
- I** Students
- J** Students
- K** Daily Parking for Non-Permit Vehicles
- L** Visitors; Service Vehicles; Handicapped
- M** Fac/Staff; Visitors; Students; Handicapped; Service Vehicles
- N** Head-In Parking (West Campus Road); Fac/Staff; Students; Visitors; Service Vehicles
Garage: Level 1-Fac/Staff; Levels 2 & 3-Students
- P** Fac/Staff; Visitors; Service Vehicles; Cycles
- Q** Fac/Staff; Handicapped
- R** Visitors; Service Vehicles
- S** Fac/Staff; Students; Visitors; Handicapped
- T** Students
- U** Students; Cycles
- V** Fac/Staff; Optometry Clinic; Students; Handicapped
- W** Visitors; Fac/Staff
- X** Fac/Staff; Visitors; Handicapped
- XX** Fac/Staff
- Y** Students
- Z** Students

- Human Resources (formerly Personnel),** 211 General Services Bldg., 553-5804
- Information Desk,** University Center, 553-5148
- Instructional Technology Center,** 304 SSB, 553-6171
- International Studies. Center for,** 366 SSB Bldg., 553-5753
- KWMU 90.7 FM Radio,** 105 Lucas, 553-5968
- Libraries:** Thomas Jefferson, 553-5050; Ward E. Barnes Education Library, Marillac Hall, 553-5571; Health Sciences Library, Marillac Hall, 553-5110
- Mathematics and Computer Science Department,** 500 Clark, 553-5741
- Mathematics and Science Education Center,** 316 Clark Hall, 553-5650
- Midwest Community Education Development Center,** 313 Marillac Hall, 553-5746
- Minority Affairs,** 335 Woods, 553-5689
- Modern Foreign Languages and Literatures Department,** 554 Clark, 553-6240
- Music Department,** 211 Music Bldg., 553-5980
- Nursing, School of,** 119 South Campus Classroom Bldg., 553-6067
- Office of Computing and Telecommunications,** 103 SSB Bldg., 553-6000
- Optometry, School of,** 331 Marillac Hall, 553-5606; Academic Advising, 330 Marillac Hall, 553-6263

- Optometry, Clinic,** 152 Marillac, 553-5131
- Parents as Teachers National Center,** 312 Marillac, 553-5738
- Payroll,** 222 Woods, 553-5237
- Philosophy Department,** 599 Lucas, 553-5631
- Physical Education Department,** 225 Mark Twain, 553-5226
- Physics Department,** 517 Benton, 553-5931
- Pierre Laclade Honors Program,** 471 Lucas, 553-5699
- Police,** 222 General Services Bldg., 553-5155
- Political Science Department,** 807 Tower, 553-5521
- Pre-Employment Training Program,** 313 Marillac, 553-5746
- Printing Services,** 261 General Services Bldg., 553-5233
- Psychology Department,** 224 Stadler, 553-5391
- Public Policy Administration,** 406 Tower, 553-5145
- Purchasing,** 201 General Services Bldg., 553-5366
- Records and Transcripts,** 118 Woods, 553-5676
- Registrar's Office,** 101 Woods, 553-5454
- Registration,** 232 Woods, 553-5545
- Research, Office of,** 341 Woods Hall, 553-5897
- ROTC,** 44 Blue Metal Office Bldg., 553-5176

- Safety & Risk Management,** 265 General Services Bldg., 553-6363
- Social Work Department,** 589 Lucas, 553-6385
- Sociology Department,** 707 Tower, 553-6364
- Spirit,** 421 Woods Hall, 553-5666
- Sports Information,** 225 Mark Twain, 553-5121
- Student Affairs, Vice Chancellor for,** 301 Woods, 553-5211
- Student Retention Program,** 7940 Natural Bridge, 553-5330
- Student Work Assignment Program (SWAP),** 346 Woods, 553-5317
- Tutorial Services,** 507 Tower, 553-5194
- UMR Engineering Center,** 35 Metal Ofc. Bldg., 553-5431
- University Center,** 267 U.Center, 553-5291
- University Communications,** 421 Woods, 553-5663
- University Relations,** 426 Woods, 553-5786
- University Relations, Vice Chancellor for,** 426 Woods, 553-5817
- Urban Information Center,** 131 SSB Bldg., 553-6000
- Veterans' Affairs, Office of,** 346 Woods, 553-5315
- Video Instructional Program,** 315 Marillac Hall, 553-5370
- Women's Center,** 211 Clark, 553-5380
- Women's Studies,** 548 Lucas, 553-5581

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University of Missouri

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 Robert G. Schmalfeld, M.A., Director, University Center/Student Activities

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 Rita B. Brumm, B.A., Manager of the Annual Fund
 Betty Lee, M.A., Director of University Communications
 Kathleen T. Osborn, M.Ed., Director, Alumni and Constituent Relations

Emeriti

Arnold B. Grobman, Chancellor Emeritus
 William L. Franzen, Dean Emeritus
 Virgil N. Sapp, Dean Emeritus
 Joy Whitener, Dean Emeritus

Academic Calendar

1989 Winter Semester

January

- 11, 12 Wednesday, Thursday, Day, Evening College and Graduate School Registration
- 16 Monday, Classwork Begins: 8 am

March

- 17 Friday, Spring Recess Begins: Close of Day
- 27 Monday, Classwork Resumes: 8 am

May

- 2 Tuesday, Classes End: 11 pm
- 3, 4 Wednesday, Thursday, Intensive Study Days (No Classes Held; No Exams Scheduled)
- 5 Friday, Final Examinations Begin
- 12 Friday, Second Semester Ends: Close of Day
- 14 Sunday, Annual Commencement

1989 Four-Week Intersession

May

- 15 Monday, Registration
- 16 Tuesday, Classwork Begins: 8 am
- 29 Monday, Memorial Day Holiday

June

- 9 Friday, Intersession Ends: Close of Day

1989 Eight-Week Summer Session

June

- 7, 8 Wednesday, Thursday, Day, Evening College and Graduate School Registration
- 12 Monday, Classwork Begins: 8 am

July

- 4 Tuesday, Independence Day Holiday

August

- 2, 3 Wednesday, Thursday, Final Examinations
- 3 Thursday, Session Ends: Close of Day
- 6 Sunday, Summer Commencement

1989 Fall Semester

August

- 23, 24 Wednesday, Thursday, Day, Evening College and Graduate School Registration
- 28 Monday, Classwork Begins: 8 am

September

- 4 Monday, Labor Day Holiday

November

- 22 Wednesday, Thanksgiving Holiday Begins: 11 pm
- 27 Monday, Classwork Resumes: 8 am

December

- 8 Friday, Classes End: 5:00 pm
- 11, 12 Monday, Tuesday, Intensive Study Days (No Classes Held; No Exams Scheduled)
- 13 Wednesday, Final Examinations Begin
- 21 Thursday, First Semester Ends: Close of Day

1990

January

- 7 Sunday, Mid-Year Commencement

1990 Winter Semester

January

- 8, 9 Monday, Tuesday, Day, Evening College and Graduate School Registration
- 10 Wednesday, Classwork Begins: 8 am
- 15 Monday, Classes Not in Session (Dr. Martin Luther King's Birthday)

March

- 2 Friday, Spring Recess Begins: Close of Day
- 12 Monday, Classwork Resumes: 8 am

May

- 1 Tuesday, Classes End: 11 pm
- 2, 3 Wednesday, Thursday, Intensive Study Days (No Classes Held; No Exams Scheduled)
- 4 Friday, Final Examinations Begin
- 11 Friday, Second Semester Ends: Close of Day
- 13 Sunday, Annual Commencement

Academic Calendar

1990 Four-Week Intersession

May

- 14 Monday, Registration
- 15 Tuesday, Classwork Begins: 8 am
- 28 Monday, Memorial Day Holiday

June

- 8 Friday, Intersession Ends: Close of Day

1990 Eight-Week Summer Session

June

- 6, 7 Wednesday, Thursday, Day, Evening College and Graduate School Registration
- 11 Monday, Classwork Begins: 8 am

July

- 4 Wednesday, Independence Day Holiday

August

- 1, 2 Wednesday, Thursday, Final Examinations
- 2 Thursday, Session Ends: Close of Day
- 5 Sunday, Summer Commencement

Other Holidays

The attention of the faculty is called to the respective religious and other holidays that a substantial number of students may wish to observe. The faculty is encouraged to avoid scheduling examinations on days such as:

1989

- September 30 Rosh Hashanah
- October 1 Rosh Hashanah
- October 9 Yom Kippur
- December 23 Hanukkah

1990

- February 28 Ash Wednesday
- April 10 Passover
- April 13 Good Friday

Introduction to UM-St. Louis

The University of Missouri-St. Louis is one of four campuses that constitute the University of Missouri, the ninth largest university in the United States. Founded in 1839 upon the ideals of Thomas Jefferson, the University of Missouri-Columbia became a land-grant institution following passage of the Morrill Act by Congress in 1862.

The University remained a single-campus institution until 1870 when the Rolla campus was opened. Two campuses were added in 1963. The private University of Kansas City became UM's Kansas City campus, and an entirely new campus was started in St. Louis.

In the 1960s, a movement began across the country toward the 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.

UM is governed by a nine-member Board of Curators appointed by the governor and confirmed by the state Senate. The Curators name the president of the University. Each campus is supervised by a chancellor.

UM-St. Louis, the fourth campus of the University of Missouri, was established in 1963. The notion of a major public institution serving the St. Louis area evolved from a dream to a solid reality and today exceeds the expectations of those who created it.

Since the doors of the old Administration Building opened more than 25 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 600 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. In general, our faculty members are younger than their counterparts at older, established institutions. More than 80 percent of the full-time 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 hundreds of thousands of dollars each year in research funding.

Student enrollment has grown from 600 in 1963 to more than 13,000 in the 1988-89 school year. 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 a country club, with a single building converted to classrooms and offices, the University of Missouri-St. Louis has grown to a large modern campus of some 22 buildings on 177 acres, offering a full university experience.

The curriculum has grown to include 38 undergraduate programs, 22 master's programs, six preprofessional programs, six doctoral programs, and one professional degree program. There are programs which answer the particular needs of older students returning to school; of students pursuing prelaw, premedicine, prepharmacy, pre-engineering, or prejournalism courses; of students interested in urban careers; and of those who need special help in tackling university-level work. There are also opportunities for students to combine their academic course work with internships that often lead to job offers.

Mission Statement

As one of the four campuses comprising the University of Missouri, the University of Missouri-St. Louis has served the citizens of the St. Louis metropolitan area since 1963. It shares the University's land-grant tradition and is committed to research and public service. The productive scholars on the campus' faculty contribute significantly to the theoretical and applied research in their fields. The campus' business, chemistry, political science, and metropolitan studies programs are already internationally recognized. As it develops, the campus will support other centers of excellence in departments or clusters of departments as the quality of scholarship achieves consistent international recognition.

In addition to its role to advance knowledge as part of a comprehensive research university, the University of Missouri-St. Louis has a special mission determined by its urban location and its shared land-grant tradition. It works in partnership with other key community institutions to help the St. Louis region progress and prosper.

Through its seven schools and colleges, the campus provides opportunities for all the people of the metropolitan area, including the economically disadvantaged, to receive high quality and accessible liberal arts, career, professional, and graduate education.

Through a careful melding of strengths in scholarly research, teaching, and community service, the University of Missouri-St. Louis plays a leadership role in advancing scholarship; providing quality undergraduate, graduate and professional instruction to the large and diverse numbers of students in the St. Louis area; and contributing to economic development throughout the state and region.

Introduction to UM-St. Louis

In shaping and evaluating its undergraduate curriculum, the University of Missouri-St. Louis fosters intellectual independence, sound judgment, clarity of expression in writing, aesthetic refinement, and sharpened analytical skills. The campus provides high quality undergraduate, graduate, and professional instruction to an ethnically, racially, and economically diverse student body. Special efforts are made to fulfill the University's land-grant mandate to serve the working people of the state and, because most of the campus' graduates remain in the metropolitan area, to enhance the economic development and quality of life of the metropolitan area and the state.

These research, instructional, economic development and community service missions are accomplished by on-campus and extension programs in the schools and colleges of Arts and Sciences, Business, Education, Nursing, and Optometry, as well as the Evening College and the Division of Continuing Education-Extension. In addition, the campus' humanities, fine arts, and performing arts programs enrich the cultural life of the metropolitan area.

The University of Missouri-St. Louis will work vigorously to achieve equal opportunity for all within the campus community through a strong affirmative action program.

The University: Academic Structure

The academic structure of the University consists of the College of Arts and Sciences, School of Business Administration, School of Education, Evening College, Graduate School, School of Nursing, School of Optometry, and Continuing Education-Extension.

The **College of Arts and Sciences**, the largest of the divisions, includes 18 academic departments that combine the best features of two different educational worlds. One world consists of general educational offerings and provides students with opportunities to acquire a breadth of knowledge and a grounding in the basic skills of intellectual inquiry. The other world supplies the basic preparation for the student's professional life by providing learning experiences leading to a career in a specific field.

The **School of Business Administration** maintains a balance between the specialization of professional courses and the diversity of liberal arts. Besides training students as qualified professionals for the business world, the School of Business Administration through its bachelor's degree and master's degree programs expands student capability in communication, analysis, and judgment, thus enabling our graduates to deal more effectively with today's complex economic environment.

The **School of Education** acts on the premise that developing and maintaining a quality educational setting in an urban area requires both advancing the field of education and meeting changing societal needs. The faculty is committed to producing quality research, teaching excellence, and extending these research and teaching capabilities to the

community. The School does these things through its undergraduate and graduate teacher-education offerings, its Midwest Community Education Development Center, and through the School's activities both on campus and in the field.

The **Evening College** was established to provide a university education for those who cannot attend classes during the day. For those interested in traditional university study, the Evening College offers almost all of the degree programs available to day students and ensures that these programs conform to the same standards and requirements as their daytime counterparts. For students seeking innovative approaches to education, the Evening College has the Bachelor of General Studies (BGS) Program, a unique concept designed for mature individuals who want more flexibility in reaching their educational goals. BGS students choose courses from the UM-St. Louis curriculum that they view as important to their education, and their degree program's structure will thus vary according to their needs. All campus services available to day students are also available to Evening College students.

Programs offered in the UM-St. Louis **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 carefully structured to meet the needs of the metropolitan area and to give students the skills and professional competence to succeed in today's world.

The **School of Optometry**, opened in the fall of 1980, provides its students with a combined professional optometric education and clinical experience. It is furnished with the newest equipment for teaching and research and operates two clinics that offer a full range of diagnostic services to St. Louisans. At the same time, the School of Optometry provides professional clinical experience for optometry students.

The **School of Nursing** is the newest addition to the University. Housed on the South Campus, the School provides an innovative upper-division, baccalaureate nursing program, specifically designed for the registered nurse (R.N.), with either a hospital school of nursing diploma or associate degree in nursing. The Bachelor of Science in Nursing degree program is designed for either full-time or part-time students.

The Continuing Education-Extension Division extends the University's expertise to the community by offering a variety of credit and noncredit courses, both on and off campus. It also sponsors programs in the community, such as the annual St. Louis Storytelling Festival. In 1988-89 the UM-St. Louis Continuing Education program is the largest in the Midwest and its noncredit course enrollment is the fourth largest in the country.

Introduction to UM-St. Louis

The University: Student Life

UM-St. Louis is an educational institution that both provides and demands excellence in its enterprise. But 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. And, if that's not enough, the St. Louis area offers still more recreational, sports, and cultural events.

The University offers a wide range of varsity and intramural sports of interest to UM-St. Louis students, whether as players or spectators. On the varsity level, the UM-St. Louis 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 and baseball teams also frequently play in national tournaments. The expanding women's program includes varsity competition in basketball, soccer, softball, volleyball, swimming, and tennis. The UM-St. Louis women's soccer team is annually ranked in the top 20 teams nationwide.

The Mark Twain athletic facility offers weight and exercise rooms, a swimming pool, and basketball, volleyball, handball, and racquetball courts. Outdoor facilities include tennis, basketball, handball courts, a fitness trail, and baseball 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.

The University: Its Graduates

More than 30,000 St. Louisans hold degrees from UM-St. Louis. Our graduates have a fine reputation in St. Louis. Many are still young, with challenging careers ahead of them, working in widely diversified fields for large and small corporations or in government and education. They are represented in almost every profession throughout the metropolitan area. Each year, St. Louis employers hire more graduates from the University of Missouri-St. Louis than from any other college or university. With more than 80 percent of the graduates remaining in this metropolitan area, the impact and influence of UM-St. Louis alumni will continue to grow. These graduates represent a new kind of university—a public urban university with standards of excellence, opportunities in education, and service to the community. That's an important and valuable asset to the metropolitan St. Louis area and to the state of Missouri.

Undergraduate Study

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

Admission and Application Procedure

Admission for First-Time Freshmen

The University of Missouri has a uniform policy for the admission of freshman students to its four campuses. The four campuses are of equal stature in the University system, and a common standard is applied at each campus. The procedure for regular admission from high school is described in this publication.

Selection of students for regular admission is based on high school class rank, performance on a standardized college aptitude test, and required high school units. Students must also submit their high school transcripts and, where appropriate, recommendations by persons knowledgeable of their potential for success in university-level education.

Admission Procedure

Students applying as first-time freshmen (i.e., students without previous college work) need to submit to the University of Missouri-St. Louis Director of Admissions three documents:

1) Undergraduate Application for Admission form: You may request one by calling the Office of Admissions at (314) 553-5451.

2) High School Transcript and Class Rank: The transcript **must be sent directly** from the high school to the UM-St. Louis Admissions Office. The transcript should indicate the class rank at the time of application and all courses satisfactorily completed. For those students applying during their senior year in high school, which will include most applicants, **class rank** as of the end of six semesters (end of junior year) will be used. If a later class rank is available at the time application is made, it should be used.

3) College Aptitude Test: The University's freshman admissions procedure requires that a test score be submitted for each applicant. This requirement may be met by a score from **any one** of the following College Aptitude Examinations:

American College Testing Program (ACT) These tests are administered at many locations across the country under the auspices of the ACT program. Students who participate in this program should request that score reports be sent to the university campuses to which they apply.

Cooperative School and College Ability Test (SCAT) This test is administered to Missouri high school students through the statewide Missouri College Testing Program. The student should request that a record of his or her score be sent to the university campus to which he or she applies for admission.

Scholastic Aptitude Test (SAT) This test is administered at many locations across the country under the auspices of the College Entrance Examination Board. Students who take the SAT should request that score reports be sent to the campuses to which they apply.

Admission Requirements

Any high school graduate is admissible without further data upon submission of a transcript or other evidence indicating he or she meets both the following requirements:

1) At least 14 units of credit (1 unit = 1 year in class) as follows:

English: Two units emphasizing composition or writing skills are required. One of the remaining two units may be in speech or debate. **4 units**

Mathematics: (Algebra 1 and higher). **3 units**

Science: Not including general science, one of which must be a laboratory course. **2 units**

Social Studies: **2 units**

Additional units: **3 units**

Selected from foreign language, English, mathematics (Algebra 1 and higher), science, or social studies. Among these options, two units of foreign language are strongly recommended.

2) The sum of the student's high school class rank percentile and aptitude examination percentile must be 75 or greater.

Applicants who do not meet the above requirements will be considered for admission and are encouraged to contact the Director of Admissions, who may later request additional data.

A campus faculty admissions committee will oversee and establish necessary policies for the administration of these regulations. The committee, or the Director of Admissions, acting under the committee's direction, will determine which applicants will be admitted. The committee has the authority to establish standard application forms, to request interviews from any applicant, and to establish procedures for admission during the applicant's senior year in high school while required courses are being completed. The committee also has the authority to establish procedures for early admission from high school, dual high school/University enrollment, trial admission, and GED high school equivalency.

Out-of-State Freshmen The same admissions requirements apply to all out-of-state freshmen who have graduated from an accredited high school. Students should be aware that the University of Missouri-St. Louis provides no dormitory facilities. **Nonresident students must pay nonresident educational fees in addition to regular incidental fees.**

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

Undergraduate Study

next Fall Semester on the basis of six or more high school semesters. Completed applications, including high school transcripts and test scores, should be on file by July 1 to guarantee that they will receive full consideration. Datelines are July 1 for the Fall Semester; December 1 for the Winter Semester; and May 1 for the Summer Session.

Acceptance

Upon acceptance to the Fall or Winter Semester, students must submit a final high school transcript indicating their class rank and graduation date. First-time freshmen must take placement examinations in English and mathematics. Arrangements for these exams are made with students through the Office of Admissions after notification of admission.

Advanced Standing for Entering Freshmen

The University of Missouri-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 accounting, 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 and must be on file before the first day of classes. A brochure with detailed information is available in the Office of Admissions.

Dual High School/University Enrollment

Superior high school students may be admitted in a special student category for the purpose of taking one or more university courses concurrently with their final year or two of high school or during the summer session prior to these years. Students must submit a regular application for admission as well as a special request which includes a high school recommendation. Students are admitted on an individual basis on the basis of academic standards that exceed those required for regular admission from high school. Admission is limited and governed by available space, and students must meet the prerequisites for the desired course or courses.

College Level Examination Program

Individuals over age 18 who have had no previous college work may earn advanced credit through the College Level Examination Program (CLEP) General Examination, provided they score at or above the 50th percentile. A maximum of 28 semester hours of credit may be earned. In addition, CLEP offers subject examinations for credit in one specific area. These examinations can be taken any time, provided the student has not taken a course in the test area. A score at or above the 50th percentile must be earned to receive credit. Consultation with an adviser is recommended. CLEP tests are given the third week of every month. Contact the Office of Admissions at 553-5451 for complete information. A brochure with detailed information is available.

Credit for Military Service

Credit may be allowed for service training programs conducted by the various Armed Forces branches. The American Council of Education 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

High school graduates who do not meet the regular admission standards may be admitted on a trial basis in the summer session. Usually enrollment is for six hours and if grades of C or better are earned, the student may submit an application at the end of the summer session. If space is available, the application is reviewed and the student is permitted to enroll in the fall semester.

High School Equivalency Applicants

Individuals may seek admission on the basis of high school equivalency earned from performance on the United States Armed Forces Institute General Educational Development (GED) tests. Admission is based on an evaluation of the educational merits of military and other experiences since leaving school, GED test scores, and performance on other aptitude tests.

Veterans and Mature Adults

Applicants may be admitted as special or irregular students, not degree candidates, 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. Admission is based on special preparation, attainment, or exceptional aptitude as judged by an evaluation of military and other experiences, test scores, and other indicators of potential success at the University. Students can become degree candidates on the basis of their performance in university course work.

Transfer Students

Missouri state institutions of higher education welcome transfer students; however, students should be aware that actual requirements for degrees vary from institution to institution. This factor makes it particularly important that students who plan to transfer make contact, very early in their academic career, with the campus from which they eventually wish to graduate. By arranging in advance for appropriate courses to be taken prior to transfer, they can likely minimize their problems. Your own campus dean's office or Office of Admissions can help you contact the institution to which you might transfer if you need assistance.

Students transferring from other colleges and universities must submit the following information to the UM-St. Louis Director of Admissions:

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- 1) Undergraduate Application for Admission;
- 2) High School Transcript;
- 3) Official Transcripts from all Colleges/Universities attended.

Official transcripts must be sent by each institution directly to the Admissions Office. Hand-carried credentials are not accepted. All credentials submitted for admission become the property of the University. The above material should be submitted by July 1 for the Fall Semester; December 1 for the Winter Semester; and May 1 for the Summer Session.

A transferring student who has completed less than 24 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.

Transfer applicants applying to the University of Missouri-St. Louis from regionally accredited colleges or universities with grade point averages of 3.0 or higher, based on a 4-point system, may be admitted at any time. Students with grade point averages of 2.5 or higher may be accepted **any time during the semester before desired admission**, while students with grade point averages of 2.0 or higher may be accepted **any time during the last half of the semester before desired admission**. UM-St. Louis may not admit any student who is under suspension or dismissal or whose previous record shows work of an inferior or unsatisfactory quality.

CBHE Statement

Students transferring to the University of Missouri-St. Louis and students transferring out of UM-St. Louis may utilize the Coordinating Board of Higher Education 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.

These requirements are detailed on page 207 of this catalogue.

Advanced Standing

According to a recent Articulation Agreement among public institutions within the state of Missouri, the following guidelines will govern transfer of credit to the University of Missouri-St. Louis from colleges and universities within the state of Missouri. These guidelines also apply to students transferring to the University of Missouri-St. Louis from schools located outside the state of 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 the University of Missouri-St. Louis. The University, however, will treat all grades on courses attempted on the same basis as that of the 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 for work of the senior year is not granted. To receive recognition, claims for advanced standing must be made by students within one semester after entrance.

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 the applicability of any courses, the student should contact the Office of Admissions by writing or calling the Director of Admissions at (314) 553-5451.

The *University of Missouri-St. Louis Bulletin: Undergraduate Catalogue* in effect at the time of the transfer student's initial enrollment in a college will govern the degree requirements, provided the student has had continuous, full-time enrollment and remains in the same degree program after transferring to UM-St. Louis. If full-time continuous enrollment has not been maintained, or if students change their program objective, the *Catalogue* in effect at the time of a student's latest enrollment, or at the time the student elects the new program, may be followed.

Degree checks, that is, 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. Should any questions arise, a student may contact the Director of Admissions, who will inform the student of the appropriate procedure to be followed in pursuing the question. Unresolved problems related to the transferability of credit may be appealed to the Senate Committee on Admissions and Student Financial Aid.

Associate Degree Transfers from Junior Colleges

Students admitted to the University of Missouri-St. Louis from an accredited associate-degree granting institution with associate degrees oriented toward the baccalaureate degree and with a grade point average of C or above are accepted in junior standing. The student, however, must still meet the specialized lower-division degree requirements and the specialized requirements of University departments or divisions. 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 located in Missouri, other University of Missouri campuses, and other divisions on this University campus.

Credit earned in or transferred from a community college shall normally be limited to approximately half the baccalaureate degree program requirement, and to the first two years of the undergraduate educational experience.

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Transfer Within the University of Missouri System

A student not in good standing at another campus of the University of Missouri (suspended or dismissed) is not eligible to enroll at the University of Missouri-St. Louis campus.

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 of the transferring student.

Questions concerning acceptability of credit should be referred to the Director of Admissions. Unresolved problems related to transferability of credit may be appealed to the Senate Committee on Admissions and Student Financial Aid.

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.

Students from Other Countries

Prospective students living outside the United States and its possessions should write the Director of Admissions at least one year before the date of desired admission for information about and admission to the University of Missouri-St. Louis and the approximate expenses, and for the required application forms. Upon approval of application papers and official records, students are notified by official letter. Students should not make plans to leave their countries without first obtaining permission to enter the University.

All students must take the Test of English as a Foreign Language (TOEFL). Write to Test of English as a Foreign Language, Educational Testing Service, Princeton, New Jersey 08540.

Foreign students now studying in the United States may be admitted only after completion of at least 24 semester hours of work, with a grade of C or better, in an accredited school offering a college-level program, provided that school's letter of admission was the basis for the student's receiving a visa. To complete their credential file, students must furnish original and official transcripts from each school attended, both in this country and abroad. Students should not consider admittance final until they receive an official acceptance letter.

Former Students

Former students not currently enrolled should file a request for a Permit to Re-Enroll with the Director of Admissions at least 30 days before the registration period. If Fall Semester applicants receive an Early Admission decision, they may

preregister in July and August; preregistration for the Winter Semester and the Summer Session is limited to students enrolled during the preceding term.

Visiting Students

Students who do not wish to earn a degree from the University of Missouri-St. Louis may be admitted to the Summer Session as visiting college students. Admission requires certification by the student's college or university that the student is in good standing and has permission to enroll in approved course work for transfer credit back to that institution. Application forms for certification can be obtained from the Office of Admissions. At the end of the session, students must request that their grades be reported by transcript to their respective schools.

Auditor

A student may enroll as an auditor in any course with the prior consent of the instructor and dean of the School or College in which the auditor is 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.

Evening College Applicants

The admission procedure for the Evening College is the same as for the day division. For further information, see the next section, "Enrollment and Academic Advising: Evening College," and the Evening College special section of this *Bulletin*.

Registration

New Students

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

Former Students

Former students not currently enrolled must submit requests for permits to re-enroll.

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 at the Office of Admissions.

After the close of the preregistration-by-appointment period, all students are eligible to register upon obtaining the written approval of their adviser. Students wishing to register for more than a normal course load must obtain approval from their dean.

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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. If cancellation is made before the first day of classwork begins, a full refund of fees (less \$20 for the cost of handling registration) will be made by mail. For the refund schedule for cancellation of registration *after* classwork begins, see the "Fees: Refund of Fees" section of this *Bulletin*.

Enrollment and Academic Advising

In most cases, incoming undergraduate students are enrolled in the College of Arts and Sciences or the Evening College. Exceptions are transfer students who meet the specific admission requirements of the School of Business Administration, the School of Education, or the School of Nursing.

Students in the College of Arts and Sciences planning to pursue degrees in the School of Education or the School of Business Administration remain in the College until they obtain 60 credit hours with a cumulative grade point average of 2.0. Refer to the School of Business Administration or the School of Education sections in this *Bulletin* for additional admission requirements.

Students in the Evening College who have completed 40 semester hours must declare their majors. They are assigned according to their choice of major to departmental advisers in the College of Arts and Sciences or advisers in the appropriate School.

Registered nurses pursuing a B.S.N. degree are admitted to and advised by the School of Nursing if they have a cumulative grade point average of 2.5, a total of 30 hours of college credit, and meet all admission requirements of the University and the School of Nursing.

Those registered nurses who do not meet these requirements are enrolled in the College of Arts and Sciences or the Evening College until the requirements are met. They are advised, however, in the School of Nursing even though enrolled in one of the other Schools.

The dean's office in each division will assist students in the assignment of academic advisers and with the following matters: making a change in course schedule, evaluating transfer credit, withdrawing from school, placing a course on a satisfactory/unsatisfactory basis, and filing for degree candidacy.

College of Arts and Sciences

All incoming students may receive professional academic advice in the dean's office, 303 Lucas Hall, (314) 553-5300. Students expecting to major in business administration or

education who have completed fewer than 30 credit hours and students who have not declared a major in the College of Arts and Sciences may also receive academic advising in the dean's office. Faculty advisers for those students considering a career in one of the health sciences or in law are also located in the dean's office.

Since it is important for students to determine what specific requirements must be satisfied to complete their chosen baccalaureate program, they are urged to declare a major as soon as possible. Once students have declared a major, they should inform the office so that the appropriate academic adviser can be assigned. The adviser, 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 transferring into the College from other institutions may seek assistance from the dean's office to effect as smooth a transition as possible. The College will evaluate all transfer credit to determine its applicability to the specialized degree requirements of the College.

School of Business Administration

The School of Business Administration's Office of Academic Advising has available a staff of professional academic advisers who provide assistance to students in planning their academic careers and in dealing with the following concerns:

- Appropriate Course Selection
- School of Business Administration Requirements
- General Education Requirements
- Evaluation of Transfer Credit
- Career Information
- Course Prerequisites
- School Policy and Regulations
- Graduation Requirements

Other matters related to a student's academic matriculation should also be directed to this office.

Prospective business students who are admitted to the College of Arts and Sciences or the Evening College should submit an official declaration of their major to the dean's office of the College to which they have been admitted. When they have completed 30 hours of credit, they will then be assigned to the School of Business Administration for advisement.

Transfer students at the junior or senior level who have been admitted to the School of Business Administration should contact the advising office and plan to meet with an adviser 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 information, call (314) 553-5888.

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School of Education

Students wishing to prepare for teaching careers may choose either of the following alternatives:

- 1) After completing 60 hours of course work at the University or another accredited institution, students who intend to teach in elementary, early childhood, special education, business education, or physical education settings must apply for admission to the School of Education.
- 2) Students who intend to teach in other secondary-school classrooms may elect to apply for admission to the School of Education to pursue the Bachelor of Science in Education degree (B.S.Ed.) or they may elect to earn a degree from another College or School at UM-St. Louis and take courses additionally to meet state teacher certification requirements.

With either option, students must meet University and departmental requirements as well as those for teacher education in Missouri. Teacher education curricula vary considerably. Careful planning of individual schedules is necessary to ensure selection of appropriate courses and to avoid extending programs beyond 120 hours. Students should, therefore, seek advisory help from the Office of Undergraduate Studies in Education (155 Marillac Hall) at the earliest opportunity. Regular consultation with advisers is essential. For information, call (314) 553-5937.

The Office of Undergraduate Studies in Education provides assistance to all students interested in professional education programs and certification requirements. Questions about admission to the Teacher Education Program, sequences of courses, prerequisites, graduation requirements, and related matters should be directed to that office.

Evening College

The Evening College academic advising staff helps students plan degree programs or select courses appropriate to their individual needs. Their services are available to all new and current undergraduate Evening College students. Advisers will review transfer credit courses, prerequisites, and degree requirements. Once Evening College students have declared a major, usually after completing approximately 40 semester hours of credit, they are assigned to a faculty adviser in the student's area of study. A Declaration-of-Major form must be completed in the Evening College office so that the faculty adviser may be assigned. For an appointment, call the Evening College Office, (314) 553-5162.

School of Nursing

The School of Nursing offers a Bachelor of Science in Nursing degree (B.S.N.) to registered nurses who are graduates of a hospital diploma program or an associate degree nursing program.

A junior-senior level program, this program at the University of Missouri-St. Louis is designed to build on the student's prior education and experience in nursing. The program includes 63 credit hours, with approximately half in general education, including humanities, natural and social sciences, communicative skills, and mathematics. The other half of the program is composed of nursing courses, including nursing theory and research, health assessment, nursing management, patient education, and nursing care with families, groups, and in the community.

All qualified applicants are admitted to the School of Nursing; however, enrollment in some clinical courses may be limited due to the availability of clinical facilities. Preregistration is advised.

Prospective students are advised to contact the Advising Office, 144 South Campus Classroom Building, in the semester prior to anticipated admission to determine prerequisite courses needed.

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.**

Credit Hours

All candidates for baccalaureate degrees must complete 120 semester hours. At least 45 of these hours must be courses numbered 100 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.

Basic Skills

All students must show from their high school or college transcript, by examination or by appropriate courses, competency in basic communicative and mathematical skills. Students should check with their divisional dean's office at the end of the first year to verify that their proficiency in these skills has been properly recorded.

An additional communicative skill requirement must also be completed before graduation. Students should check with their divisional dean's office at the beginning of their senior year to verify that fulfillment of this requirement has been recorded.

Communicative Skills (two requirements)

1) Either submit a **satisfactory score on the English Placement Test** (Contact the Office of Admissions for test date schedule.)

or achieve a **grade of C or better in a college-level English Composition course**—at the University of Missouri-St. Louis, English 10, Composition.

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2) Effective since the Fall Semester, 1985, students wishing to complete a degree at the University of Missouri-St. Louis must complete English 210, Advanced Expository Writing, or its equivalent with a grade of C or above.

Mathematical Skills

Any one of the following will serve to demonstrate proficiency in the basic mathematical skills area:

- 1) Satisfactory score on the mathematics placement test. (The Office of Admissions can tell a student when this test is given.)
- 2) A grade of C or better in a college-level mathematics course.
- 3) A grade of C or better in Mathematics 02C.

Breadth of Study

Students must complete at least 42 hours in the following three areas, with at least three courses in each area. (Courses meeting these requirements are listed at the beginning of each departmental section of the separate booklet, *University of Missouri-St. Louis Bulletin: Description of Courses*. This booklet is available for purchase in the campus bookstore. Copies are also in the University Libraries.)

- 1) **Humanities:** art history or art appreciation (applied art and music courses do not count); literature; music history, literature, theory, or appreciation; philosophy and logic; theatre appreciation, theory, and history. (Symbol [H])
- 2) **Natural sciences and mathematics:** applied mathematics; astronomy; atmospheric science; biology; chemistry; computer science; geology; mathematics; physics; statistics. (Symbol [SM])
- 3) **Social sciences:** administration of justice; anthropology; communication; economics; geography; history; political science; psychology; social work; sociology. (Symbol [SS])

Other Requirements

American History and Government

Students must satisfactorily complete a course or courses in American history or government taken at the University of Missouri 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:

- History 3**, American Civilization I
- History 4**, American Civilization II
- History 6**, Honors American Civilization
- History 107**, The History of Missouri
- History 311**, Topics in American Constitutional History
- Political Science 11**, Introduction to American Politics
- Political Science 121**, Civil Liberties
- Political Science 130**, State Politics
- Political Science 135**, Introduction to Urban Politics
- Political Science 140**, Public Administration
- Political Science 230**, The American Presidency
- Political Science 231**, Congressional Politics

- Political Science 233**, Introduction to Political Behavior
- Political Science 235**, Political Parties and Elections
- Political Science 240**, Bureaucratic Politics
- Political Science 242**, Introduction to Public Policy
- Political Science 245**, Urban Administration
- Political Science 320**, Introduction to American Constitutional Law
- Political Science 331**, Legislative Processes
- Political Science 346**, Urban Planning and Politics

Courses Not Approved for Degree Credit

- ELE ED 082**, Effective Reading and Study Skills
- English 09**, English Composition
- Mathematics 02**, Fundamentals of Algebra
- Mathematics 02a, Mathematics 02b, or Mathematics 02c**, Fundamentals of Algebra I, Algebra II, or Algebra III
- Mathematics 03**, Trigonometry
- Psychology 09**, Seminar in Career Choice and Life Planning

Business Education Courses

The following courses are approved for degree credit **only** in the Business Education degree program and in the Bachelor of General Studies degree program with the dean's approval:

- SEC ED 160**, Shorthand Theory I
- SEC ED 161**, Shorthand Theory II
- SEC ED 162**, Business and Professional Typewriting I

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.

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. All students are required to participate in such studies, should they be so requested.

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 must file a degree application form with their respective dean's office at least one year before the expected graduation date. 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.

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Academic Policy

Course Descriptions

Undergraduate and graduate courses offered at UM-St. Louis are published in a separate booklet, the *University of Missouri-St. Louis Bulletin: Description of Courses*. All course listings are grouped first by School and then by individual department. This booklet is available for purchase in the Bookstore. Copies also are available in the University Libraries.

Six times during the year, a *Schedule of Courses* is published listing the specific courses offered that semester and their meeting times and locations. This *Schedule* is available as follows:

Fall Semester Schedule: in the preceding April; revised edition in August.

Winter Semester Schedule: in the preceding November; revised edition in January.

Summer Session Schedule: in the preceding March; revised edition in May.

The University reserves the right to cancel without notice any course listed in the *Bulletin* or the course schedules for any semester or to withdraw any course which does not have adequate enrollment at the close of registration.

Credit Hours

The University credit unit is the semester hour, which represents a subject pursued one period weekly for one semester of approximately 16 weeks or for a total of approximately 16 periods for one term. Generally, a course valued at three semester hours meets for three periods weekly for one semester, a two-credit course two periods a week for a semester, and so on. Normally, the lecture or recitation period is fifty minutes long and the laboratory period one hour and fifty minutes.

In the *Description of Courses* booklet, the number of credit hours is in parentheses after each course title. If the credit is variable, to be fixed in consultation with the instructor, it is shown by (credit arranged) or by minimum and maximum credit, such as Research (2-8).

Grading System

The grading system for undergraduate courses consists of A, B, C, D, F, S (Satisfactory) or U (Unsatisfactory), EX (Excused), DL (Incomplete), and Y (No basis for a grade). The grade of A indicates superior work, the grade of B, above-average work, and the grade of C, average work. The grade of D indicates the work is below average, and the grade of F means that the student's work does not meet the minimum standards. The grade of S or U, indicating satisfactory or unsatisfactory, is used when a student has formally requested this option for a course. (See "Satisfactory/Unsatisfactory Option" below.)

A four-point grading system (A=4, B=3, C=2, D=1, F=0) is used for all undergraduate students. Grade point average is

computed by dividing the total quality points (number of credit hours for a course multiplied by the grade value received) by the number of hours taken.

At the end of each semester and summer session the Director of Admissions informs students of their grades. A copy will be mailed to parents at the student's request.

Delayed Grade A student whose work is incomplete at the end of any semester and who has, in the instructor's judgment, sufficient reasons for failing to complete the work, may, with the approval of the instructor and department chairperson, be assigned a delayed grade. Such work must be made up no later than one semester after the incomplete grade is given or the grade automatically becomes F. The dean may, in unusual circumstances, extend this time limitation. (Summer Session is not counted as a semester.) Notice of a change in a delayed grade shall be given to the Director of Admissions on a special form.

Y Grade When, in the instructor's judgment, there is no basis for evaluating the work of students who do not officially drop a course or officially withdraw from the University, a mark of Y (unauthorized withdrawal—no basis for evaluation) is given. After a two-semester waiting period has elapsed, the Y will be changed to an F, unless the student can demonstrate sufficient reason for not having completed the requirements of the course. The instructor (or the chairperson of the department, if the instructor is no longer on the faculty) may then change the Y to "Excused." Initiating the process is the student's responsibility.

Examinations

Examinations may be given only at regular class meeting times or as designated by the Senate Committee on Curriculum and Instruction.

Satisfactory/Unsatisfactory Option

Since the Fall Semester 1985, undergraduate students may elect to take up to 18 credit hours during their academic careers at UM-St. Louis on a satisfactory/unsatisfactory grading basis (S/U). This includes courses taken as electives or those which satisfy the general education requirements. Most courses required for a specific degree may not be taken on a satisfactory/unsatisfactory basis, and academic departments may designate other courses within their jurisdiction which may not be taken under the option.

Students register for courses in the normal manner and may exercise the satisfactory/unsatisfactory option before the end of the first four weeks of the semester or the first two weeks of the Summer Session. Requests for this option are made through the proper dean's office. Instructors are not informed of students taking courses on a satisfactory/unsatisfactory basis.

A satisfactory grade (S)—equivalent to "A"—"C"—has no numerical value in computing overall academic average but it does satisfy credit-hour graduation requirements. An unsatisfactory grade (U)—"D" or "F"—neither satisfies

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credit-hour graduation requirements nor is computed into the overall academic average. Grades will be recorded on transcripts as "S" or "U."

Major Differences Between Pass/Fail and S/U Option

- 1) The former Pass/Fail (P/F) option (prior to Fall 1985) has been replaced by the Satisfactory/Unsatisfactory (S/U option).
- 2) More than a change in names, the new S/U option makes "D" work "unsatisfactory," whereas it was "passing" under the former Pass/Fail system.
- 3) No satisfactory or unsatisfactory grade will be included in the G.P.A. Under the former Pass/Fail system, failing grades were averaged in the G.P.A., but passing grades were not. The new option will bring the University of Missouri-St. Louis into conformity with national collegiate standards. It is worth emphasizing that a student doing "D" work in a course under the new system will receive **no credit** for that course. Under the Pass/Fail rule, "D" work received credit.
- 4) The total number of hours a student may elect to take on a satisfactory/unsatisfactory basis has been reduced from 24 to 18 credit hours.

Repeating Courses

Students who pass a course they are repeating do not receive credit except in those courses which require a minimum C grade as a prerequisite for other courses in the same department. In such cases, students receiving D or F grades do not receive double credit hours toward graduation, but the points of the grades assigned them and the hours of the repeated courses are used in computing the grade point average.

Enrollment Policies

Prerequisites for a Course

A minimum grade of C is required to meet the prerequisite requirements of any course except with the permission of the department in which the second course is taught. An "academic-standing" prerequisite is stated by class: for example, "senior standing" means senior class standing. Requirements for class standing vary. Students should determine the requirements for their School or College. Individual course restrictions are specified in the individual course description. See the *University of Missouri-St. Louis Bulletin: Description of Courses*.

Course Load

A normal full-time semester work load is 15 hours. Six hours is normal for the Summer Session. Minimum full-time enrollment is 12 hours. Students who have demonstrated the ability to carry more than 17 hours successfully may enroll for additional hours with the approval of their dean.

Attendance

Students are expected to attend class regularly, and, in accordance with the UM-St. Louis Bylaws, faculty may establish penalties for excessive absences. Students absent for more than three successive classes may be reported to the dean.

Students should tell their divisional dean's office of an extended absence. An absence known in advance should be reported to the instructors of courses that will be missed. Make-up of examinations or work missed is allowed at the instructor's discretion. Students, excused from class for valid reasons by their deans, shall be permitted, if possible, to make up work missed; the dean must have notified the instructor in writing.

Dropping/Adding Courses

To add courses to their original enrollment, students must get approval from their advisers. Students may not enter courses after the first two weeks of the semester or the first week of the Summer Session. Courses may be dropped, without approval, through the fourth week of a regular semester and the second week of a Summer Session. Students may withdraw from courses without a grade up to the end of the fourth week of the semester and the second week of the Summer Session.

From the fifth through the twelfth weeks of the Fall or Winter Semesters (for Summer Session, the third through the sixth weeks) students may withdraw from a course with an "Excused" grade, providing they are passing the course and receive the approval of their instructor, adviser, and dean's office representative. Otherwise, a failing grade is given. Students not attending classes who fail to drop officially receive F or Y grades. The Y later changes to F or, with the instructor's permission, to "Excused." (See page 22 for a fuller explanation of the Y grade.)

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After the allowable period mentioned above, "Excused" grades are given **only in exceptional** instances where the instructor's approval and dean's approval is given. These grades are recorded on the students' official records at the end of the term. If an F grade is recorded it is counted in computing the grade point average. No partial credit is granted to students who withdraw from a course during any semester or otherwise fail to complete the work required for full course credit.

Section Changing

Section changing is normally done during the first two weeks of a regular semester and the first week of a summer session. No forms need be completed during this time. However, after the second week of a regular semester and the first week of a Summer Session, a section change form must be obtained from the departmental office for day courses and from the Evening College office for evening courses. The signatures of both instructors (of both sections) are required. The form is to be submitted to the Registration Office, 230 Woods Hall.

Change of Major

To change academic majors, students should consult their adviser and the dean's office. Students admitted to one College or School may pursue work in others under the conditions set forth by the other division's faculty. The chairperson of a student's major department shall determine which courses in other Colleges or Schools, or even other institutions, shall apply as credit toward the degree.

Withdrawal after Classes Begin

After classes begin, students may withdraw from the University by completing the withdrawal form, available in the dean's office. During the first four weeks of the semester and the first two weeks of a summer session, students may withdraw from the University without receiving grades. After this period, grades of F or "Excused" are issued, based on whether the student is passing or failing. After the semester's twelfth week (or the sixth week in the summer session), "Excused" grades are given only in exceptional instances with the instructor's and dean's approval.

These grades are recorded on the student's official record at the end of the term. An F grade is counted in computing the grade point average. No partial credit is granted to students who withdraw from school during any semester or otherwise fail to complete the work required for full course credit. Students who stop attending classes without withdrawing officially from the University are issued an F or the temporary Y grade. Any F grades are counted in computing grade point averages.

Academic Probation, Suspension, and Dismissal

A student may be placed on academic probation any time that his or her cumulative GPA falls below a 2.00. Students should consult College or School advisers in their respective dean's office for additional information.

Students may be suspended if they do not pass more than two-thirds of their work, their semester grade point average is below 1.5, or their cumulative grade point average falls below 1.75. Students may be suspended if they have been on scholastic probation for two or more semesters, not necessarily consecutive, and again become subject to probation. The dean may retain students on probation rather than suspend them if circumstances justify such action.

Students who have been suspended may be dismissed if they again become subject to suspension. Students placed on probation because of poor scholastic records at other institutions are regarded as having been once suspended under these rules.

Normally, students who have been dismissed are not considered for readmission. In certain unusual cases, students may be readmitted on probationary status after one year.

Students admitted on probation to the Summer Session shall enroll for at least six academic hours. If they receive any grades below C, their work will be reviewed by the College or School dean or appropriate committee to determine eligibility to re-enroll. Students enrolled in the Summer Session whose grade point averages are below 1.5 may have their work reviewed. Students suspended or dismissed from one School or College shall not be admitted to any other School or College until they are eligible for readmission to the original College or School, unless they obtain the consent of the School's dean or appropriate committee. In this event, the dean or committee shall file a written statement for the student's official records, stating the reasons for the decision.

Academic Dishonesty

Academic dishonesty is a serious offense which may lead to probation, suspension, or expulsion. One form of academic dishonesty is plagiarism—the use of an author's ideas, statements, or approaches without crediting the source. Academic dishonesty also includes such acts as cheating by copying information from another student's examination, take-home test, or laboratory manual. The code of student conduct is in the back of this *Bulletin* and is also available in the *UM-St. Louis Student Handbook and Activities Calendar*, available from the office of the vice chancellor of Student Affairs.

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Honors

Honor Societies

The following is a list of honorary societies at the University of Missouri-St. Louis:

- Alpha Phi Sigma* (Administration of Justice)
- Alpha Sigma Lambda* (Evening College)
- Beta Alpha Psi* (School of Business Administration, Accounting Majors)
- Beta Gamma Sigma* (School of Business Administration)
- Beta Sigma Kappa*, (School of Optometry)
- Kappa Delta Pi* (School of Education)
- Omicron Delta Epsilon* (Economics)
- Phi Alpha Theta* (History)
- Phi Kappa Phi* (Campus-wide)
- Pi Sigma Alpha* (Political Science)
- Psi Chi* (Psychology)
- Sigma Iota Rho* (International Studies)

Dean's List At the end of each semester the College of Arts and Sciences, School of Business Administration, School of Education, the Evening College, and the School of Nursing send letters of commendation to undergraduates completing at least nine hours of graded courses with grade point averages of 3.2 or above for the semester.

In addition, each College and School, on an annual basis, sends letters of commendation to part-time undergraduate students who have earned a 3.2 grade point average or above in at least nine but not more than seventeen graded hours during the Fall and Winter Semesters combined.

Who's Who Among Students in American Universities and Colleges Eligible students may be nominated to *Who's Who Among Students in American Universities and Colleges* by students (whether for themselves or others), faculty members, or administrators. Nominees are selected on the basis of scholastic ability (a cumulative grade point average of 2.5 or higher), participation and leadership in academic and extracurricular activities, service to the University, and a promise for future usefulness. Nomination forms and further information may be obtained in the offices of the academic deans, vice chancellor of Student Affairs, or the Office of Student Activities.

Latin Honors To graduate with Latin honors, students must have attended the University of Missouri-St. Louis for 60 graded hours and must meet the following qualifications: *cum laude*—3.2 to 3.49 grade point average; *magna cum laude*—3.5 to 3.79 grade point average; *summa cum laude*—3.8 to 4.0 grade point average. All honors must be recommended by the student's major department.

Transcripts and Commencement

The director of Admissions 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 Office of Admissions. There is no charge.

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 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 Office of Admissions, authorizing the release of such information.

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

Commencement

Degrees are conferred at commencement with candidates present for the awarding of diplomas. Only in unusual circumstances may degrees be conferred *in absentia*.

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Fees for Undergraduate Study

Detailed information regarding current fees and residency regulations is furnished in the *Schedule of Courses*, a newspaper schedule, distributed before each semester registration, and in the pamphlet, *Tuition and Residence Rules*, available at the cashier's office. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this *Bulletin* is still in use.

The University reserves the right to change fees and other charges at any time without advance notice.

Educational Fees (1989-90)

All students enrolled in the University must pay an Educational Fee based on either the schedule for Missouri residents or the schedule for nonresidents which follows.

Undergraduate Educational Fee

Regular Semester

Lower-Division Students (Freshman-Sophomore/0-59 credit hours)
Missouri Residents \$56.30 per credit hour
*Nonresidents \$168.70 per credit hour

Upper-Division Students (Junior-Senior/60 credit hours or more)
Missouri Residents \$62.30 per credit hour
*Nonresidents \$186.70 per credit hour

Intersession and Summer Sessions

The Educational Fee per credit hour for these sessions follows the same schedule as listed above.

Partial Enrollment

Since the Educational Fee owed by a student is on a per-credit-hour basis, the Educational Fee for partial enrollment is also according to the above schedule.

Fees for Auditing Courses

Courses taken as an auditor for reduced credit are counted at their normal credit value in computing the fees to be paid. Students enrolling in zero credit courses are also required to pay according to the equivalent course credit.

For **Graduate Student** Educational Fees, see section entitled "Graduate Study: Fees."

For **Optometry Student** Educational Fees, see the section of this catalogue for the School of Optometry.

*Nonresident Students

Students who do not meet the residency requirements must pay the Nonresident Educational Fee according to the schedule above. A definition of "residency" is outlined in *Tuition and Residence Rules*, available in the cashier's office. Students are responsible for registering under the proper residence and paying the proper Educational Fee. They are

also responsible for raising any questions if there is a possibility that they are subject to the Nonresident Educational Fee schedule.

Other Fees

Student Facility and Student Activity Fee

All students registered in the University are required to pay a Student Facility and Student Activity Fee. The fee shall be calculated at the rate of \$4.45 per credit hour up to a maximum of \$53.40 for 12 credit hours in regular sessions. In the Summer Session, the maximum fee is \$26.70 for 6 or more credit hours.

The Student Facility and Student Activity Fee is used for programs of broad interest within the University community. The fee for a full-time, regular semester is distributed as follows:

Bond Retirement on University Center	\$16.68
Athletic Program	\$23.28
Student Activities	\$11.64
Student Services	\$ 1.80

Total (for 12 credit hours) \$53.40

Late Registration Fee

Students registering after the close of the regular registration period must pay the late fee, equal to the Lower-Division Resident Educational fee for one credit-hour, \$56.30.

Parking Fees

Students wishing to operate motor vehicles on campus must register them and pay a fee at the time of registration. Failure to comply with traffic regulations may subject students to disciplinary action, payment of an additional fee, and the denial of the privilege to operate a motor vehicle on campus. Copies of *Traffic Regulations* for the University of Missouri-St. Louis are available at the UM-St. Louis Police Office.

The parking fee for 1989-90 is \$2.90 per credit hour, up to a maximum of \$46.40 for 16 credit hours in the regular semester, for each motor vehicle used by a student on campus. Parking fees in the Summer Session are at the same per credit hour rate up to a maximum of \$23.20 for 8 or more credit hours. Students who do not drive regularly may park in the daily parking lot for a fee of 75 cents a day. Special parking rates are available for car pools. Motorcycle and motor scooter fees are \$1.50 per credit hour up to a maximum of \$24 in the regular semester and \$12 in the Summer Session.

The revenue from parking fees is used to construct and maintain roads, parking garages, and surface parking; to rent parking space off campus when necessary; to pay for the printing of parking stickers and regulations; and to pay for all other related expenses. Detailed information on parking regulations and fee refunds is available from the cashier's office.

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Parking fees are refundable under the same schedule as other fees. Students must return the scraps of the parking sticker to obtain a refund if they decide to cancel parking privileges. See the "Refund of Fees" section below.

Payment of Fees

It is necessary for all students to have arranged with the University for the payment of Educational Fees as a condition of admission to classes. An installment plan, described below, is available **only** for eligible* students who preregister or register during regular registration periods.

*The following students are **not** eligible for selecting an installment plan of payment:

- Students with delinquent accounts;
- Students whose enrollments are processed on the basis of financial aid;
- Third-Party Billings—scholarships, Employee Educational Assistance;
- Students enrolled in five (5) credit hours or less;
- Students who register after classes begin.

At the time of either preregistration or regular registration, each eligible student will need to select one of two payment plans:

- 1) full payment on due date; or
- 2) an installment plan.

The Installment Plan Schedule

Preregistered Students

Payment 1—due August 12 (Fall Semester): administrative charge of \$20; Student Facility Fee; any optional charges (i.e. parking and/or insurance); and $\frac{1}{3}$ of Educational Fees

Payment 2—due September 12 (Fall Semester):
 $\frac{1}{3}$ of Educational Fees

Payment 3—due October 12 (Fall Semester):
 $\frac{1}{3}$ of Educational Fees

Students Registering at Regular Registration

Payment 1—due on Day of Registration: administrative charge of \$10; Student Facility Fee; any optional charges (i.e. parking and/or insurance); and $\frac{3}{4}$ of Educational Fees

Payment 2—due October 12 (Fall Semester):
 $\frac{1}{4}$ of Educational Fees

Important! A late payment charge of \$5 will be assessed for each installment not paid on time. Installment Plan due dates will be specified for other semesters in the *Schedule of Courses*.

Personal Checks

Personal checks in payment of fees or other obligations to the University will be accepted only when the amount of the check does not exceed the amount due from the student.

A student, presenting a check to the University in payment of student fees that is returned unpaid and remains unpaid after the close of regular registration period, shall be considered a **late registrant** and shall pay a late registration fee, equal to the Lower-Division Educational fee for one credit-hour, \$56.30.

Credit Cards

MasterCard or VISA credit cards are accepted in payment of fees.

Delinquent Indebtedness

All delinquent indebtedness to the University must be cleared before transcripts or diplomas will be released.

Student Insurance

An optional accident and sickness insurance plan is available at low cost to students and their dependents. Information concerning premiums and coverage is available upon request from the cashier's office.

Refund of Fees

Students who officially withdraw from the University or drop courses for which they have been assessed fees during the regular semester or summer session will receive a refund in accordance with the schedules below. Parking fees are also refunded in accordance with these schedules. These schedules are based on number of class days expired and exclude Saturdays, Sundays, and holidays. Students who cancel parking privileges must return the scraps of their parking sticker in order to receive a refund. A minimum \$20 enrollment cancellation fee will be charged for all withdrawals.

Regular Semester

100 percent refund (less \$20 for cost of handling registration) if a student withdraws before the day classwork begins.

90 percent if withdrawal is within the first through the fifth day, including the day classwork began.

70 percent if withdrawal is between the sixth through the tenth day from the day classwork began.

50 percent if withdrawal is between the eleventh through 25th day from the day classwork began.

No refund if withdrawal is after the 25th day from the day classwork began.

Summer Session

This schedule is based on class days expired and excludes Saturdays, Sundays, and holidays.

100 percent refund (less \$20 for the cost of handling registration) if a student withdraws before the day classwork begins.

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90 percent if withdrawal is within the first through third day, including the day classwork began.

70 percent if withdrawal is within the fourth through fifth day from the day classwork began.

50 percent if withdrawal is within the sixth through thirteenth day from the day classwork began.

No refund for withdrawal after the thirteenth day from the day classwork began.

Financial Assistance

Financial assistance is available to undergraduates in the form of grants, loans, scholarships and work-study. Most awards are based upon financial need, but specific funds may have additional eligibility requirements. Federal financial aid programs require that applicants be U.S. citizens or permanent residents. Financial aid is awarded on an academic year basis, therefore a student **must** reapply for aid each year.

In the Educational Amendments of 1976, the federal government specified that all students who receive federal student aid funds be making satisfactory academic progress and not be in default on either Perkins or Guaranteed Student Loans. Specific regulations for these areas, as well as for other financial aid consumer information, are available from the Office of Student Financial Aid.

Checklist for Financial Aid Application

- 1) Obtain a copy of the *Financial Aid Handbook*, published by the University of Missouri-St. Louis for students seeking financial aid.
- 2) Submit your Admissions Application with proper transcripts to the Office of Admissions.
- 3) File the Family Financial Statement with the American College Testing Service (ACT). The form is available through high school guidance counselors or the Office of Student Financial Aid. You should submit the ACT needs analysis as soon after January 1 of the year you plan to enroll and upon completion of federal income tax forms for the previous year.
- 4) Students who plan to transfer to the University of Missouri-St. Louis from another college or junior college must also submit the Financial Aid Transcript to any college or junior college previously attended, indicating all information related to previous financial aid received.
- 5) Students who meet the criteria for the Missouri State Grant and the Pell Grant **must** apply for both.
- 6) Financial aid preferred deadlines are March 1 for entering freshmen and April 1 for all other students for the Fall Semester; December 1 for the Winter Semester; and May 1 for the Summer Session.

Curators' Award Programs

The Curators of the University of Missouri first established the Curators' Scholars Award program in 1890. The intent of the program has always been to encourage superior high

school graduates from Missouri to attend the University. The University Scholars Award program, established later by the Curators, recognizes superior academic excellence of enrolled University students. Both the Curators' and University Scholars Programs are open to full-time and part-time University students. Detailed regulations are available from the Office of Student Financial Aid, 209 Woods Hall.

I Curators' Scholars Program

Initial Selection Criteria This undergraduate scholarship program recognizes graduating high school seniors from accredited Missouri schools. The scholarship is awarded jointly by the University and by the local high school. In order to be eligible for the scholarship a student must: be a resident of the state of Missouri; graduate from a regionally accredited high school within the state; rank in the upper 3 percent of all high school students in that graduating class as of the end of the sixth semester; score at or above the 90th percentile on a standardized college entrance or admissions test; be recommended by the local principal and counselor; and enroll the next academic semester following graduation on one of the campuses of the University of Missouri.

Initial Award Amount For those students selected to receive the Curators' scholarship, the amount of the Educational Fees for the first 24 credit hours of continuous enrollment in graded course work shall be waived. This excludes courses taken on a satisfactory/unsatisfactory (S/U) basis.

Renewability The Curators' Scholars Award is renewable after completion of the first 24 credit hours of attempted and graded course work if the student's cumulative GPA is 3.5 or above. The amount of the award is based on the cumulative GPA and the amount of the assessed Educational Fees. For information on the current standard criteria for renewal, students should consult the Office of Student Financial Aid.

II University Scholars Program

This undergraduate scholarship program is designed to recognize enrolled University students for superior academic excellence. In general, the determination of academic eligibility is made at the conclusion of the Winter Semester for the following academic year. The director of Student Financial Aid may, however, make a determination of eligibility outside of the normal sequence. These scholarships are open to sophomores, juniors, and seniors.

Students who have transferred from a Missouri college or university are also eligible if they meet the selection criteria. Nonresidents of Missouri may be designated a University Scholar but may not receive the monetary award.

Selection Criteria Selection as a University Scholar is based on the following:

- 1) Students must have completed at least 24 credit hours of graded work (not including courses taken on a satisfactory/unsatisfactory (S/U) basis) during the previous academic year.

Undergraduate Study

2) Students must have achieved a minimum cumulative grade point average of 3.5.

Award Amount The monetary amount of the award is based on the student's cumulative grade point average and the amount of the assessed Educational Fees. Renewal is available if the student remains continuously enrolled and has a minimum of a 3.5 cumulative GPA. For information on the current standard criteria for the monetary award, students should consult the Office of Student Financial Aid.

Scholarships

Chancellor's Scholarship

This competitive scholarship is designed to recognize graduating high school seniors with outstanding academic achievements. Scholarships will be awarded to students who:

- 1) have applied for admission at the University;
- 2) have been nominated by a high school counselor;
- 3) rank in the top quarter of high school class; and
- 4) have a high percentile score on a standardized college entrance test (ACT, SAT, or SCAT).

This non-renewable award provides the successful nominee with the amount of educational fees for one year (two semesters) full-time enrollment (12 credit hours or more).

Annual institutional fundings will determine the number of scholarships being presented.

Community College Transfer Scholarship

Scholarship for Missouri residents, designed to recognize students with high academic achievement who have attended a community college exclusively. Provides the amount of \$1,000 for one year (two semesters), to be applied directly to student's fees. A minimum enrollment of 12 credit hours per semester required. Awarded on a competitive basis. Nonrenewable. Awarded according to the following criteria:

- 1) admitted to UM-St. Louis with final transcripts from all community colleges attended by June 15; and
- 2) with 60 hours of college-level course work completed at a community college exclusively with a cumulative grade point average of 3.20.

Minority Scholarship

A competitive scholarship designed to recognize graduating high school seniors with outstanding academic achievements. Awarded according to the following criteria:

- 1) admitted to UM-St. Louis;
- 2) recommended by a high school counselor;
- 3) rank in the top 15 percent of student's high school class.

Students from the following ethnic backgrounds are eligible for the minority scholarship: Black non-Hispanic, Asian or Pacific Islander, Hispanic, American Indian, or Alaskan native.

This nonrenewable award provides \$800 for one year (two semesters), to be applied directly to student's fees. A minimum enrollment of 12 credit hours required per semester.

Annual institutional funding will determine the number of scholarships to be awarded. Deadline for recommendation is April 1.

Academic Scholarship Program

This award provides successful nominees with the amount of \$1,000 for one year (two semesters) to be applied directly to the educational fees of the student. A minimum of 12 credit hours is required per semester. A scholarship application is not required to receive the Academic Scholarship. To be considered, students must:

- 1) be admitted to UM-St. Louis by April 1; and
- 2) have a combined standardized college entrance test score and class-rank percentile of 150 or higher.

ROTC Financial Aid

Air Force ROTC College Scholarships

Scholarships covering all of the required Educational Fees, University Center fees, and laboratory expenses are awarded to qualified cadets in the Air Force Reserve Officer Training Corps Program. The scholarships cover only those expenses incurred during the regular academic session in which cadets are enrolled in the AFROTC program. Recipients also receive \$100 per month for the period and reimbursement for book costs.

Students interested in the four-year program must apply during their high school senior year to Headquarters AFROTC, Maxwell Air Force Base, Alabama, 36112-6663 before December 15. Cadets who do not receive four-year scholarships may continue to compete annually under the program administered locally by the Aerospace Studies Program, Parks College of St. Louis University, Cahokia, Illinois, 62206, telephone (618) 337-7500, extension 259.

Army ROTC Financial Assistance

The Army ROTC program provides a \$100 monthly subsistence allowance for up to ten months of the school year for students enrolled in the Advanced ROTC Course. Another program, the Simultaneous Membership Program (SMP), conducted by Army ROTC and the U.S. Army Reserves or National Guard, will provide approximately \$220 per month to qualified students. For more information contact the ROTC Department at 553-5176.

Army ROTC Scholarships

In addition to four-year ROTC scholarships awarded to graduating high school students, Army ROTC scholarships are available to qualified college students in two- and three-year increments. These scholarships pay all of the required Educational Fees, the University Center and Student Activities fees, a book cost-stipend, lab fees, and a \$100 monthly subsistence allowance for up to ten months of the school year. Selection for the scholarships is based upon academic achievement and leadership potential. Additional information is available from the ROTC Office, 44 Blue Metal Office Building, UM-St. Louis, telephone 553-5176.

Undergraduate Study

Center for Academic Development/Special Services Unit

A limited amount of financial aid is available through Special Services, an academic assistance program providing attention to the needs of UM-St. Louis students who have not yet reached full academic potential. Participants are chosen on the basis of need, prior academic preparation and achievement, and sustained interest and motivation. For more information contact the Center for Academic Development/Special Services office.

Accounting Scholarships

The following scholarships are awarded to an accounting student upon recommendation of the accounting faculty.

Arthur Anderson and Company Accounting Scholarship
Brandevain, Shapiro, Kossmeyer and Company Accounting Scholarship
Ernst and Whinney Accounting Scholarship
Kerbert, Eck, and Braeckel Accounting Scholarship
Peat, Marwick, Mitchell and Company Accounting Scholarship
Price Waterhouse Accounting Scholarship
Rubin, Brown, Gornstein and Company Accounting Scholarship
Norbert Terre Memorial Accounting Scholarship
Arthur Young Accounting Scholarship

Other Scholarships

Art Scholarship Fund

Scholarship awards to undergraduate art students.

Muriel E. Babcock Memorial Fund

Scholarships awarded by members of the UM-St. Louis biology department to UM-St. Louis students who will be going on for advanced study in biology.

Biology Scholarship

Undergraduate scholarship for studies in biology. Recipient chosen by recommendation of department.

Ruth Boulecaut Scholarship Fund

Scholarship awarded by the Creve Coeur Democratic Township organization to a full-time undergraduate student of junior standing, majoring in political science. Student must demonstrate financial need.

Lena Key Cassidy Scholarship

To provide financial assistance to students of the University of Missouri-St. Louis who are returning to formal higher education to assist them in successfully undergoing significant life-style or career change.

Lucia Kramer Collins Memorial Scholarship

The Lucia Kramer Collins Memorial Scholarship assists needy individuals who are returning to school and have financial responsibility for themselves and one or more dependents. Applicants must be full-time students who can expect to complete their degree in four additional semesters. Applications are available from the Office of Student Financial Aid. Deadline for submission of application and ACT Family Financial Statement is May 31.

Communication Scholarships

The Department of Communication offers partial stipends to students who have demonstrated potential for excellence in forensics and debate, theatre, or mass communication. The awards are primarily directed at prospective incoming freshmen and may be renewable. Debate scholarships assume participation in intercollegiate forensics while at UM-St. Louis.

Granger Biology Teacher Development Award

The scholarship is awarded by a committee of biology and education instructors. It is open to any high school senior in the St. Louis area planning to attend UM-St. Louis in the Fall Semester as a biology teaching major.

Evening College Scholarship Fund

The scholarship is awarded to an Evening College undergraduate who demonstrates need. The Evening College recommends the recipient.

Elizabeth Horkits Scholarship Fund

The scholarship is awarded to an undergraduate for tuition and fees. Women will be given primary consideration.

William T. Isbell II Scholarship Fund

Awarded to an undergraduate art student who is recommended by the art department and the donor.

Thomas J. Knapp Memorial Scholarship Fund

The scholarship is awarded to a history major interested in becoming a history teacher. This award is given on the recommendation of the history department.

Mathematical Sciences Alumni Scholarship

The Mathematical Sciences Alumni Scholarship is a monetary award for an outstanding junior or senior majoring in mathematical sciences as evidenced by a grade point average of 3.5 or higher in at least 24 graded hours of course work at UM-St. Louis, and superior achievement in courses in mathematical sciences. Application forms may be obtained from the Department of Mathematical Sciences. The deadline for applications is April 15.

Charles Matlock Memorial Scholarship

The scholarship is awarded to a graduate student who has achieved distinction in the area of pediatric optometry. It is a plaque only, and not a monetary award.

Undergraduate Study

Modern Languages Scholarship

The scholarship award is to be used only to provide partial scholarships for students who will attend summer language institutes in a German-speaking country.

Music Scholarship Fund

This scholarship award by a music department committee goes to a qualifying music major.

National Food Brokers Assoc. Scholarship

Awarded to a junior or senior or graduate student with demonstrated academic credentials, financial need, good character, and a willingness to commit to a career in the food industry.

Sean Phares Soccer Scholarship Account

An annual gift in memory of Sean Phares is awarded to a soccer player. The award is made by the Office of Student Financial Aid upon recommendation of the soccer coach.

Robert E. Rea Mathematics Education Scholarship Fund

This is a scholarship awarded to a graduate student to improve proficiency at teaching mathematics to children and youth, upon recommendation of a special committee of the School of Education.

St. Louis Mayors' Scholarship

The St. Louis Mayors' Scholarship provides educational opportunities for persons planning to enter public service. Recipients are chosen from applicants who are full- or part-time undergraduate students, residents of Missouri, have a minimum cumulative grade point average of 3.0 for 24 hours of graded course work, and who can give evidence of a commitment to public service in the city of St. Louis. In addition to the application, students must present a statement describing their community-service experiences and plans for applying their University education in the area of public service. Applicants also submit at least three letters of recommendation, one of which must be from a University faculty member who knows the student. The amount of the yearly award is variable and applicable toward fees. Applications are available from the Office of Student Financial Aid after January 1.

Lewis J. Sherman Memorial Scholarship Fund

The scholarship is awarded to graduate students in clinical psychology upon recommendation of the psychology department.

Robert E. Smith Memorial Scholarship Fund

The English department awards scholarships for superior students in the writing programs.

Eve and Stuart Symington Scholarship Fund

This scholarship is awarded to a student with good academic performance in political science upon recommendation of the political science department.

Emery Turner Business School Scholarship

The scholarship is awarded to a minority business student on the basis of need. The student is recommended by the School of Business Administration.

United Handicapped Worker Scholarship

Awarded to a student with demonstrated academic credentials, financial need, and certified physical handicap.

Consumer Information

Consumer information for students can be found in the *UM-St. Louis Financial Aid Bulletin*, available at the Office of Student Financial Aid, Room 209 Woods Hall.

Graduate Study

This section describing admission, general education, degree requirements, and academic policies for students seeking graduate degrees from the University of Missouri-St. Louis, is derived from the *Rules and Regulations of the Graduate Faculty* and is intended as an informal statement. The wording of the *Rules and Regulations* is the formal authoritative statement. Persons seeking more precise information may read the *Rules and Regulations* by consulting academic advisers or visiting the Graduate School office.

Admission and Application Procedure

Students with bachelor's degrees or the equivalent from accredited colleges and universities may apply for admission to the Graduate School. Applications are reviewed by the departments or schools in which students propose to do graduate study and by the Graduate School. Within limitations, students may be admitted by the Graduate School if their previous academic records and backgrounds suggest reasonable likelihood for success in their proposed programs. Students are admitted only upon recommendation of the department or school involved by the dean of the Graduate School.

Inquiries concerning admission and requests for application forms should be sent to the Director of Admissions. A list of admission requirements for the particular degree program is sent with each application form. Application forms for financial assistance are also sent on request.

To ensure consideration, completed admission applications for selected programs, with additional required materials, should be filed with the Director of Admissions by July 1 for the Fall Semester; December 1, for the Winter Semester; and May 1, for the Summer Session. Where applications are accompanied by financial aid requests, the last date for acceptance is usually March 15. Some departments with heavy enrollments have earlier final acceptance dates for admission and financial assistance. Inquiries concerning Graduate School admission should be made as early as possible.

To be admitted, applicants to selected programs must take the Graduate Record Examination (GRE) aptitude and advanced tests as required by the department. All doctoral programs require the GRE's. In the MBA program, the Graduate Management Aptitude Test is required. These examination scores must be presented in the admission application. Students who have not taken the examination should do so at the earliest possible test date. The TOEFL test is required of applicants whose first native language is not English, unless they have lived in the United States for the last two years.

Applications for the TOEFL and other examinations must be made several months before the test date. Information and application forms may be obtained from the Office of Admissions.

Credit Only graduate students earn graduate credit. Persons holding bachelor's degrees do not earn graduate credit unless they are enrolled in the Graduate School. Unclassified students receive undergraduate credit.

Matriculating Students

Matriculating students are defined as students applying for admission to pursue graduate degree or certificate programs. Classifications within this category include regular, restricted, and provisional students.

Regular Students

Students may be admitted to pursue degree or certification programs as regular graduate students if their undergraduate and major field grade point averages are 2.75 or above for their undergraduate years, and if their test scores meet departmental requirements.

Restricted Students

Students with 2.5 to 2.75 undergraduate grade point averages who do not present supporting evidence sufficiently strong to justify admission as regular students may be admitted as restricted students. Explicitly, this is not entry in the sense of full admission to the Graduate School. It is partial admission only and is not an authorization to continue beyond 12 hours. Students admitted in this category have a quasi-probationary status and are provided an opportunity to show their academic talents. Failure to complete courses, *e.g.* incomplete grades, dropping courses, etc., will be construed as evidence of inadequacy. When students have completed no more than 12 hours of graduate course work, their records are reviewed, and their status is either changed to regular or they are dismissed from the program.

A student with an undergraduate grade point average below 2.75 is normally not admitted as a regular student unless there is strong supporting evidence in other areas as described above. When students with grade point averages between 2.5 and 2.75 are admitted it is only on a restricted basis. This partial admission is possible only for 12 hours. It expires with the accumulation of 12 hours credit. Only a departmental recommendation, with Graduate School concurrence, advising regular admission can lead to taking more work. A student admitted as a restricted student who is later denied regular admission cannot register as a special, non-degree student.

Graduate Study

Students with acceptable records but some deficiencies may be admitted as restricted students under admission conditions set by the department or Graduate School. When deficiencies are removed, students are granted regular status. Recommendations to change students to regular status are made by petition to the Graduate School from the department or School.

Students seeking master's and doctoral degrees have six and eight years, respectively, to complete all requirements; the time span includes courses taken previously at other institutions.

Provisional Students

Students who seem qualified for admission but who have not submitted all required admission materials may be admitted provisionally, for one semester or the summer term only. Provisional admission requires students to agree to take the necessary admissions tests at the next time of administration, and to provide needed information. Admission to study in a second or subsequent semester as a provisional student will not normally be granted.

Courses in which provisional students enroll apply in the regular way to degree programs. When all admission materials are reviewed, the Office of Admissions sends a change of status form to the department or School for review before finally recommending regular or restricted admission or denial.

Nonmatriculating Students

Nonmatriculating students are defined as students who wish to take graduate courses, but who are not pursuing graduate degree programs at UM-St. Louis. Classifications within this category include special, non-degree students; intercampus exchange students; and Continuing Education-Extension, Institute, workshop and certificate students. Their status is not regular and their enrollment in courses carries no connotation of permission to enroll in a curriculum leading to a graduate degree.

Special, Non-degree Students

Space permitting, students may be admitted as special, non-degree students if they are visiting students, are not intending to pursue degree or certificate programs, or are planning to enter programs close to establishment, through a cooperating department approved by the Graduate School.

Students must be accepted by the appropriate department or school and must generally meet requirements for admission as restricted students, except they are not required to submit test scores. Special, non-degree student status is only a category of admission. It may not be acquired by students whose restricted status, for example, has not led to regular admission.

Course work completed by special, non-degree students is not regarded as completed within a degree program. However, such course work may be incorporated into a degree program by action of the department and the Graduate School at a later date. Courses taken as a special non-degree student may not be counted as part of the degree residence requirement. Acceptance of such course work, based on the student's status, by other universities may not be automatic. Credit earned may be applied to certificate or degree programs, but such work may not exceed more than one-third of the required program hours nor may it be used to satisfy degree residence requirements. The one-third limitation includes any transfer credit as well.

Intercampus Exchange Students

Graduate students regularly enrolled at another University of Missouri campus who are in good standing may enroll in graduate courses at UM-St. Louis as intercampus exchange students. Intercampus exchange students are not included in the quota of graduate students set by departments or schools. Registration regulations are the same as for special, non-degree students. Intercampus exchange students must have prior approval of their home campus advisers to enroll in graduate courses at another University of Missouri campus.

Continuing Education-Extension, Institute, and Workshop Students

Students holding bachelor's degrees (or such qualifications as may be determined by workshop or institute directors) may participate in extension courses, institutes, and workshops. Credit granted for this participation is subject to the limitations set forth under graduate institutes and graduate workshops in *Regulations, Policies, and Procedures of the Graduate School*.

Participation in such programs is not to be construed in any way as admission to a graduate degree curriculum or a guarantee of graduate credit at another university.

Unclassified Students

The University may not be able to help applicants by admitting them to the Graduate School. It can help by providing enrollment as an Unclassified (undergraduate) student. Students denied admission to the Graduate School may request admission to the University of Missouri-St. Louis as Unclassified Students (not a Graduate School classification). These students do not meet the standards of regular, restricted, or special, non-degree students and do not earn graduate credit. Courses taken in this category do not apply to graduate degree programs at a later date. Unclassified students may not enroll in graduate courses, nor may their course credit become graduate credit, retroactively, at a later date. People holding bachelor's degrees do not automatically receive graduate credit. When enrolled as Unclassified students, people holding bachelor's degrees receive undergraduate credit.

Graduate Study

A department or School may define remedial undergraduate programs to give students the opportunity to demonstrate their ability to enter graduate programs, despite unsatisfactory records. Such remedial programs require some discriminating measures of performance and ability. Completion of such a program provides the University with additional information for the decision process. It is not a substitute for regular standards of admission, and admission to the Graduate School is not guaranteed.

Foreign Students

Students must be competent in both written and spoken English; facility in the language cannot be gained at the same time that serious study is begun. Submission of TOEFL scores is required for students whose first language is not English. When it is not possible for a student to take the TOEFL examination for reasons more fundamental than personal convenience, the department to which the student has applied may develop alternate ways for the particular student to demonstrate English language competency prior to admission, with the prior approval of the dean of the Graduate School. (See "Undergraduate Study Academic Policy: Foreign Students" for further information.)

Students from abroad who wish to study at the University of Missouri-St. Louis are welcome. Students are advised, however, that UM-St. Louis is a nonresident campus, designed to serve a population of local students. Accordingly, the University has no campus housing, but a good deal of housing is available in the community. Students make their own living arrangements, although some assistance in locating housing is available through the Office of Student Activities. For information, telephone (314) 553-5536. Public transportation is also available to some extent including buses, van pools, and car pool/ride sharing. For information, write the Office of Student Activities or telephone (314) 553-5536.

Married foreign students with families should be aware that the cost of living is high and part-time work may be hard to find. Medical expenses also may appear high. While some scholarships are available, most are intended for United States students.

Foreign students are urged to take all these considerations into account when applying for admission. Once accepted, they are welcome members of the campus community.

Enrollment

Undergraduate Students

Undergraduate students with exceptional records at UM-St. Louis may be enrolled in graduate-level classes in the last year of their undergraduate programs. Graduate credit for such course work is given only if each course is approved in advance by the Graduate School on the recommendation of the department or School involved. To receive credit, students must be registered in the Graduate School and must meet the requirements of their undergraduate College or School.

Credits earned as a special student do not apply toward graduate degrees.

Students graduating with an excess of undergraduate credits without having registered in the Graduate School do not subsequently receive graduate credit for that work. The same credits may not, in any case, be applied to both undergraduate and graduate programs.

Intercampus Exchange Program

Graduate students in good standing at any University of Missouri campus are normally permitted to enroll in graduate courses at UM-St. Louis as nonmatriculating graduate students. Separate applications must be filed every semester and approved by the student's adviser, the Graduate School, and the Office of Admissions. Application forms are available from graduate school offices on students' home campuses. A similar arrangement permits enrollment on MASUA (Big Eight) campuses.

Inter-University Agreement Program

Regularly admitted graduate students are permitted to take a course not offered by the University of Missouri-St. Louis at Washington University or St. Louis University under an agreement among the three institutions. Students pay UM-St. Louis fees and enroll through the UM-St. Louis Registrar. For details consult departmental Graduate Advisers. Students are cautioned to take courses before the last semester of study. This program envisages students taking one course only, and a second course only under special circumstances.

Postdoctoral Study

Individuals with doctoral degrees and similarly qualified persons wishing to pursue special studies at the University of Missouri-St. Louis may be appointed postdoctoral research fellows or visiting fellows by the dean of the Graduate School on the recommendation of the appropriate University division. Such appointments normally include the right to use University facilities. Inquiries should be addressed to the Graduate School, or appropriate department chairperson or faculty member.

Registration

To remain in good standing, a student must enroll for at least one term during each calendar year. Students failing to do so are removed from the Graduate School enrollment list unless they have been granted leaves of absence. In some programs, students may be required to enroll each term. Students discharged from the Graduate School or a graduate program who subsequently wish to continue must submit new admission applications.

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 previously. Students may not register and pay fees after the prescribed dates.

Graduate Study

Preregistration

Enrolled students may preregister for the next term during regular preregistration periods. Registration is not complete until all University fees are paid. Students who preregister must pay their fees by announced deadlines or their registration is canceled. Special, non-degree students and individuals who have graduated are not allowed to preregister.

Maximum Course Load

The normal full-time course load for a regular semester is between nine and fifteen hours, with the maximum to be determined by the individual department or school. For an eight-week summer session, the maximum load is two courses, totaling no more than eight semester hours. Three hours is the maximum load during intersessions.

Graduate students who are employed full-time may not register for more than six hours. Students employed part-time must adjust their course loads according to the number of hours employed. Students may either work full-time or carry a full load of courses, but not both. Assistants may not work full time.

Petitioning Into or Out of a Course

Students must receive the approval of their advisers and the dean of the Graduate School 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, their adviser, and the dean of the Graduate School. Only under exceptional circumstances may students enter courses after the first week of the semester.

Dropping a Course

With the approval of their advisers and the dean of the Graduate School, students may drop courses before the end of the fourth week without receiving grades.

At the end of this period and until the end of 12 weeks (or from the third through the sixth weeks 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, their adviser, and the dean of the Graduate School. Otherwise, a grade of F is given. Students who stop attending classes without officially dropping courses also receive grades of F.

Academic Policy

Course Level

In most degree programs, the bulk of required course work must be taken at the 400 level. In all programs, at least one-half of the minimum number of credits in the degree program must be at the 400 level, while other courses may be taken at the 300 level.

In exceptional cases, with the adviser's permission, students may receive graduate credit for 200-level courses, taken in a department or school other than the one offering their degree program.

Institute and Workshop Courses

Institute courses carry graduate credit at the level they are designated (200, 300, or 400). Institute courses may be included as part of the degree program with the prior approval of the adviser, department chairperson, and dean of the Graduate School. They do not, however, count toward the residency requirement. Institute credit, together with all other nonresident credit, may not exceed one-third of the required program hours.

Foreign Language Requirement

The Graduate School does not have any general foreign language requirements for advanced degrees. Where departments or schools establish required levels of competence in one or more foreign languages, that competence shall be shown in **one** of the following ways, as determined by the department or school:

- 1) An examination given by the department or school.
- 2) Graduate School Foreign Language Test.
- 3) Satisfactory completion of a language course at a specified level.

Evidence that the foreign language requirement has been satisfied shall be presented to the Graduate School in each case.

Grading Standards

Grades in all courses carrying graduate credit are reported as A, B, C, or F on the transcript. Graduate credit is not given for work completed on a satisfactory/unsatisfactory (S/U) basis at UM-St. Louis or any other institution.

The grade of A is awarded for work of outstanding merit, B for work that is entirely satisfactory, and C for work that is acceptable only to the limited extent of fulfilling advanced degree requirements. The grade of D is considered failing at the graduate level and is therefore not used for graduate students. A grade of A is assigned 4 points; B, 3 points; C, 2 points; and F, no points. The satisfactory/unsatisfactory (S/U) option is not available to students taking 400-level courses or 300-level courses for graduate credit. Students may enter courses as Auditors but may not change from Audit to credit after registration closes. Auditors are charged full fees and receive no academic credit.

Delayed grades may be given when a student's work is incomplete but otherwise worthy of credit. 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 when all work has been completed. Delayed grades recorded for courses in thesis or dissertation research are left as delayed grades until the final, regular grades are reported by the instructor.

Graduate Study

Probation and Dismissal

Graduate students enrolled in degree or certificate programs must maintain at least a 3.0 grade point average overall in courses for which graduate credit is given. Students cannot graduate with less than a 3.0 grade point average in courses listed on the degree program. Students whose grade point averages fall below 3.0 are placed on probation; students with averages below 2.0 are dismissed from the Graduate School. Upon the recommendation of the School or department, students may also be dismissed on the following conditions:

- 1) If their grade point average falls below 3.0 when two-thirds of the required hours are completed.
- 2) If they have been on probation two or more semesters and the department or School concludes that they are not making acceptable progress toward a degree.

Special non-degree students must maintain the same standards required of students enrolled in degree or certificate programs. Upon recommendation of the School or department, special, non-degree students may be dismissed if their grade point averages fall below 3.0. They are dismissed if their grade point averages are below 3.0 at the end of 12 completed hours of study.

Grade Point Average Calculation

Only work taken while students are enrolled in the Graduate School is included in the grade point average. Neither extension work, institutes, or workshops, nor courses transferred from other universities or University of Missouri campuses are included, even though the course may be included as part of the degree program. Graduate work taken for graduate credit by undergraduate students who have been dually enrolled is included.

All graduate-level courses are included in the grade point average, including courses which may not be part of the degree program. This includes all 300- and 400-level courses unless they are designated, in advance, "not for graduate credit." Courses at the 200-level are not included unless they are designated, in advance "for graduate credit." Courses numbered 0 to 199 are not included. The grade point average calculated to qualify for graduation is based on the courses proposed in the degree program.

Withdrawal from the University

Withdrawal from the University is arranged through the Office of Admissions. Students leaving the campus before the completion of the semester or session, **without formally withdrawing**, are given grades of F in all courses.

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

department and adviser, students should define the program modifications the leave of absence requires. Requests should indicate the reason for leaving and the expected date of return to the University. Approval of the Graduate School is required. A leave of absence does not affect the maximum time limitation set for a degree program, unless a specific exception is approved. The primary effect of a leave of absence is to suspend the requirement for continuous enrollment.

Master's Degree Requirements

The following requirements and regulations apply to all students admitted to master's degree programs. Each School, department, and area of concentration establishes its own requirements in addition to these. See the specific program description for additional requirements. Students are responsible for verifying that all requirements are met.

Advisers

The chairperson or director of graduate studies in a student's major department or School assigns a graduate student to an appropriate adviser. Before each semester's registration, students must consult their advisers regarding their programs and courses.

Transfer of Credit

A minimum of 30 semester hours carrying graduate credit is required for every master's degree program. No degree credit is allowed for correspondence courses. Transfer credit will be granted only for regular courses for which a grade of A or B, or equivalent, was achieved. Credit may be granted for thesis work taken at another university to be incorporated into a doctoral degree program. Once admitted to the Graduate School, students must obtain departmental approval before enrolling in courses for transfer credit from other institutions.

Students who have completed course credits in certificate programs may transfer such credits into a master's degree program with the consent of the department or School, as long as the credits fall within the time limitations set for master's degrees. No credits transfer into certificate programs.

Residence Requirement

Students must complete at least two-thirds of the required graduate credit for a master's degree program in residence following admission to the program. Except with special permission, residence must be completed in the last two-thirds of the student's degree program.

No period of full-time graduate study is required by the Graduate School for master's degrees, although particular degree programs may establish full-time study requirements.

Graduate Study

Time Limitation

All work included in a master's degree program at UM-St. Louis or at any other institution must be completed within six years after initial enrollment in the program. Graduate work completed outside the six-year period between admission and graduation may not be included in the degree program. In connection with an authorized leave of absence, an exception to the time limitation may be approved in advance.

Filing for Degree Program

Before completing one-half of the required hours in a degree program, graduate students, in consultation with their advisers, should file a program of studies with the graduate dean. This program must be approved by the department or School involved and the dean of the Graduate School. Graduate students whose degree programs require more than 40 credit hours must file a program before completing two-thirds of the work required.

Thesis and Comprehensive Examinations

Although not a general Graduate School requirement, a thesis may be required by departments in particular degree programs. Where required, the thesis is directed by a three-member committee of graduate faculty appointed by the graduate dean on the recommendation of the department or School.

Comprehensive examinations, oral, written, or both, are required in most master's degree programs. Examinations are administered by a committee of not less than three graduate faculty members appointed by the dean of the Graduate School on the recommendation of the department or School.

Dual Master's Degrees

With approval of the department or School and the dean of 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 departments or Schools involved and the dean of the Graduate School, students may simultaneously pursue two master's degrees under the following conditions:

- 1) No more than ten credit hours may be overlapping or common to both programs.
- 2) Students must obtain approval of the departments, Schools, and program advisers from both areas before they have completed 12 hours in either program. Under normal circumstances, two degrees will be pursued consecutively rather than concurrently.

Doctoral Degree Requirements

The doctoral degree is based on evidence that candidates have achieved a high level of scholarship and proficiency in research. The proficiency of students and their ability to work independently are established by a series of qualifying and comprehensive examinations and by the quality of their dissertations.

Cooperative Programs

In addition to the doctoral degree programs offered at the University of Missouri-St. Louis, limited opportunities exist for work in programs at other University of Missouri campuses. Specific inquiries should be directed to the chairperson of the department on the appropriate campus.

Advisers

Following admission to the Graduate School, students intending to qualify for the doctorate should so inform the department chairperson or division dean in the student's area of specialization. Upon acceptance by the appropriate area as an applicant for the doctorate, students, in consultation with the appropriate chairperson or dean and with the concurrence of the dean of the Graduate School, select advisers to assist in planning the program. The graduate dean appoints the adviser.

Residence Requirement

Minimum residence requirements for the doctoral degree are the equivalent of at least three academic years of full-time advanced study beyond the bachelor's degree. Additional requirements may be set at the department's discretion. Residence requirements may be fulfilled with part-time enrollment. At least two consecutive semesters of full-time residence work (nine hours or more each semester) on the UM-St. Louis campus must be included in the last two-thirds of the program. Summer-Session work does not meet this requirement.

On recommendation of a department, the course credits of a master's degree may be counted as the first year of graduate study leading to doctoral degrees, but they will not meet the residence requirement at that level. When students present two master's degrees, relevant course work may be selected for credit, bearing in mind the eight-year regulation on recency of transferred courses. In the case of transferable credit associated with both degrees, the relevant consideration is the quality and level of work—that is, doctoral-oriented courses, qualitatively distinguishable from introductory graduate courses, may be recommended. The majority of credits used to satisfy requirements for a doctoral degree must be completed at the University of Missouri-St. Louis. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, at least 46 hours must be taken on this campus, including dissertation credit.

Doctoral degree work must be completed within eight years of admission to pre-candidacy (*i.e.* initial admission to a doctoral program) on the campus.

Graduate Study

Qualifying Examination

Upon the student's completion of approximately one year of residence requirements, the appropriate chairperson or dean and advisers may recommend to the dean of the Graduate School that the student be allowed to pursue work toward the doctorate as a precandidate doctoral student. Such recommendations may be based upon a qualifying examination as well as the student's academic record and personal program. At this time the student, with approval of the chairperson or dean and adviser, files a detailed program (excluding the dissertation topic) with the dean of the Graduate School. After approval, copies are filed with the student, his or her adviser, departmental chairperson, and divisional dean.

Advancement to Candidacy

When students have completed the major portion of the doctoral program and fulfilled language or research skill requirements established by the department, they may be eligible for advancement to candidacy for the doctoral degree. Advancement is based upon an examination or series of examinations administered by the department under the Graduate School dean's supervision. Examinations may be written, oral, or both. Upon successful completion, applicants are advanced to candidacy by the Graduate School dean on the department's recommendation.

Dissertation Proposal

At a time appropriate to the pattern of study, and before beginning the research project, students are to file dissertation proposals with the dean of the Graduate School, using the appropriate forms. After acceptance of the proposal, students may begin formal research and earn doctoral dissertation credit.

When students are advanced to candidacy, they remain in continuous enrollment until the degree is awarded or until the eight-year limitation has been reached. If students are actively engaged in degree work on campus, they shall enroll for credit commensurate with this activity. If away from campus, students shall enroll for at least one credit hour each semester and summer term.

Dissertation Committee

After acceptance as candidates, students, in consultation with their advisers and appropriate department members, ask the Graduate School dean to appoint the dissertation committee. The committee consists of four Graduate faculty members, including one member outside the discipline or School involved. Dissertation committee members are selected by students and their advisers in consultation with the department and with the concurrence of the Graduate School dean. The dissertation director must be a member of the doctoral faculty, with a personal history of relevant research.

Dissertation and Final Examination

One copy of the dissertation, certified as complete and provisionally acceptable by all dissertation committee members, must be submitted to the Graduate School at least six weeks before commencement. The dean of the Graduate School may assign the dissertation to other readers, on or off campus, or seek such other advice as the dean feels pertinent.

Upon preliminary acceptance of the dissertation, the Graduate School dean appoints the Defense of Dissertation Committee to conduct the final examination. The dean appoints members of the dissertation committee and such other members of the Graduate faculty as seem appropriate to the Oral Examination Committee.

Candidates must submit an abstract of their dissertation to the Graduate School **three weeks before the oral examination**.

At least six weeks **prior to graduation**, candidates for doctoral degrees are required to submit to the Graduate School one copy of the dissertation and abstract. The abstract should not exceed 350 words in length.

The Defense of Dissertation Committee certifies the final acceptability of the dissertation to the Graduate School dean on the basis of a final examination open to all Graduate faculty members. Students are eligible for graduation upon receipt of Form I-17 in the Graduate School office.

Probation and Dismissal

Students are subject to dismissal if any of the following conditions exist:

- 1) Failure to pass appropriate departmental cumulative examinations.
- 2) Failure to complete the required doctoral program work within eight years of the date of admission to precandidacy.
- 3) Failure to remove deficiencies indicated by placement examinations by the end of the second year.

A grade point average of 3.0 is required to graduate, but the essence of advanced graduate work is quality. Accumulation of graduate hours should not be confused with the demonstration of quality scholarship expected by the Graduate and doctoral faculties and by the Graduate School.

Graduation

Candidates for the doctoral degree ordinarily attend Commencement.

Graduate Study

Fees for Graduate Study

Detailed information regarding current fees and residency regulations is furnished in the *Schedule of Courses*, a newspaper schedule, distributed before each semester registration, and the pamphlet, *Tuition and Residency Rules*, available at the cashier's office. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this *Bulletin* is still in use.

The University reserves the right to change fees and other charges at any time without advance notice.

Educational Fees (1989-90)

All students enrolled in the University must pay an Educational Fee based on either the schedule for Missouri residents or the schedule for nonresidents which follows.

Graduate Educational Fee

Regular Semester

Missouri Residents.....\$75.40 per credit hour
*Nonresidents.....\$204.60 per credit hour

Intersession and Summer Sessions

The Educational Fee per credit hour for these sessions follows the same schedule as listed above.

Partial Enrollment

Since the Educational Fee owed by a student is on a per-credit-hour basis, the Educational Fee for partial enrollment is also according to the above schedule.

Fees for Auditing Courses

Courses taken as an auditor for reduced credit are counted at their normal credit value in computing the fees to be paid. Students enrolling in zero credit courses are also required to pay according to the equivalent course credit.

For **Optometry Student** Educational Fees, see the section of this catalogue for the School of Optometry.

*Nonresident Graduate Students

Students who do not meet the residency requirements must pay the Nonresident Educational Fee according to the schedule above. A definition of "residency" is outlined in *Tuition and Residency Rules*, available in the cashier's office. Students are responsible for registering under the proper residence and paying the proper Educational Fee. They are also responsible for raising any questions if there is a possibility that they are subject to the Nonresident Educational Fee schedule.

Other Fees

Student Facility and Student Activity Fee

All students registered in the University are required to pay a Student Facility and Student Activity Fee. The fee shall be calculated at the rate of \$4.45 per credit hour up to a maximum of \$53.40 for 12 credit hours in regular sessions. In the Summer Session, the maximum fee is \$26.70 for 6 or more credit hours.

The Student Facility and Student Activity Fee is used for programs of broad interest within the University community. The fee for a full-time, regular semester is distributed as follows:

Bond Retirement on University Center	\$16.68
Athletic Program	\$23.28
Student Activities	\$11.64
Student Services	\$ 1.80
<hr/>	
Total (for 12 credit hours)	\$53.40

Late Registration Fee

Students registering after the close of the regular registration period must pay the late fee, equal to the Undergraduate Lower-Division Resident Educational fee for one credit hour, \$56.30.

Parking Fees

Students wishing to operate motor vehicles on campus must register them and pay a fee at the time of registration. Failure to comply with traffic regulations may subject students to disciplinary action, payment of an additional fee, and the denial of the privilege to operate a motor vehicle on campus. Copies of *Traffic Regulations* for the University of Missouri-St. Louis are available at the UM-St. Louis Police Office.

The parking fee for 1989-90 is \$2.90 per credit hour, up to a maximum of \$46.40 for 16 credit hours in the regular semester, for each motor vehicle used by a student on campus. Parking fees in the Summer Session are at the same per credit hour rate up to a maximum of \$23.20 for 8 or more credit hours. Students who do not drive regularly may park in the daily parking lot for a fee of 75 cents a day. Special parking rates are available for car pools. Motorcycle and motor scooter fees are \$1.50 per credit hour up to a maximum of \$24 in the regular semester and \$12 in the Summer Session.

The revenue from parking fees is used to construct and maintain roads, parking garages, and surface parking; to rent parking space off campus when necessary; to pay for the printing of parking stickers and regulations; and to pay for all other related expenses. Detailed information on parking regulations and fee refunds is available from the cashier's office.

Graduate Study

Parking fees are refundable under the same schedule as other fees. Students must return the scraps of the parking sticker to obtain a refund if they decide to cancel parking privileges. See the "Refund of Fees" section below.

Final Semester Educational Fee

Candidates for graduate degrees who have completed degree requirements except for filing a thesis or dissertation and/or taking the final examination must register for at least one credit in the term in which they expect to receive the degree. Only students so registered may file applications for graduate degree.

Thesis and Dissertation Fee

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

Payment of Fees

It is necessary for all students to have arranged with the University for the payment of Educational Fees as a condition of admission to classes. An installment plan, described below, is available **only** for eligible* students who preregister or register during regular registration periods.

*The following students are **not** eligible for selecting an installment plan of payment:

- Students with delinquent accounts;
- Students whose enrollments are processed on the basis of financial aid;
- Third-Party Billings—scholarships, Employee Educational Assistance;
- Students enrolled in five (5) credit hours or less;
- Students who register after classes begin.

At the time of either preregistration or regular registration, each eligible student will need to select one of two payment plans:

- 1) full payment on due date; or
- 2) an installment plan.

The Installment Plan Schedule

Preregistered Students

Payment 1—due August 12 (Fall Semester): administrative charge of \$20; Student Facility Fee; any optional charges (i.e. parking and/or insurance); and $\frac{1}{3}$ of Educational Fees

Payment 2—due September 12 (Fall Semester): $\frac{1}{3}$ of Educational Fees

Payment 3—due October 12 (Fall Semester): $\frac{1}{3}$ of Educational Fees

Students Registering at Regular Registration

Payment 1—due on Day of Registration: administrative charge of \$10; Student Facility Fee; any optional charges (i.e.

parking and/or insurance); and $\frac{2}{3}$ of Educational Fees

Payment 2—due October 12 (Fall Semester): $\frac{1}{3}$ of Educational Fees

Important! A late payment charge of \$5 will be assessed for each installment not paid on time. Installment Plan due dates will be specified for other semesters in the *Schedule of Courses*.

Personal Checks

Personal checks in payment of fees or other obligations to the University will be accepted only when the amount of the check does not exceed the amount due from the student.

A student, presenting a check to the University in payment of student fees that is returned unpaid and remains unpaid after the close of regular registration period, shall be considered a **late registrant** and shall pay a late registration fee, equal to the Lower-Division Educational fee for one credit hour, \$56.30.

Credit Cards

MasterCard or VISA credit cards are accepted in payment of fees.

Delinquent Indebtedness

All delinquent indebtedness to the University must be cleared before transcripts or diplomas will be released.

Refund of Fees

Students who officially withdraw from the University or drop courses for which they have been assessed fees, during either the regular semester or other sessions, will receive a refund in accordance with the schedule explained in the section "Undergraduate Study: Fees" under the heading Refund of Fees. Graduate students should refer to this section for such information.

Financial Assistance

Teaching Assistantships

Most departments with established graduate programs offer teaching assistantships to qualified graduate students. Appointments are usually half-time appointments and carry stipends. Students receiving assistantships are expected to pay all Educational fees but are exempt from the difference between the Missouri resident and the Nonresident Educational Fee. Normally students with these stipends register for nine hours each semester.

Teaching assistant appointments are made directly by the departments, and inquiries and applications should be addressed to the Graduate Studies Coordinator 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 Winter Semester. Interested students should contact the appropriate department.

Graduate Study

Since some departments observe different deadlines, applications should be submitted as early as possible. Appointments are normally announced by April 1 for the Fall Semester and by November 1 for the Winter Semester.

Research Assistantships

A small number of research assistantships are available in some departments and Schools. Appointments are made by the Graduate School on the recommendation of the appropriate division. Conditions of appointments are generally similar to those of teaching assistantships. Inquiries should be addressed to the department or School.

Fellowships and Scholarships

A small number of doctoral fellowships may be available for graduate students. In addition, certain departments or divisions have available a limited number of traineeships, fellowships, or scholarships.

For example, the School of Business Administration offers the following graduate scholarships.

Graduate Business Scholarship

Scholarship awarded to a graduate business student selected by the School of Business Administration faculty.

Noel K. Mahr Graduate Accounting Scholarship

Scholarship awarded to a minority graduate accounting major upon recommendation of the School of Business Administration faculty.

Motorola International Business Scholarship

An award for a graduate student interested in international business. The recipient is selected by the School of Business Administration faculty.

For more information consult individual departments.

Other Graduate Financial Aid

Graduate students may apply for both the Perkins Loan (formerly NDSL) and the College Work-Study Program, as well as the Guaranteed Student Loan Program. Students who have earned their first baccalaureate degree are no longer eligible for federal and state grant programs. For information on the Loan or Work-Study Programs or for additional financial aid information or consumer information, contact the Office of Student Financial Aid.

Confidentiality Policy

The Family Educational Rights and Privacy Act of 1974

These statements are set forth as guidelines and procedures to implement the University of Missouri policy on Student records developed from The Family Educational Rights and Privacy Act of 1974.

The University of Missouri-St. Louis as charged in the Act will annually inform its eligible students by including in the *Student Handbook*, the *Schedule of Courses*, and the *UM-St. Louis Bulletin* and the *Current* (student newspaper) the following information:

1) "Education Records" are those records, files, documents, and other materials which contain information directly related to a student and are maintained by the University. Those records, made available under The Family Educational Rights and Privacy Act of 1974, are student financial aid, the student's cumulative advisement file, student health records, disciplinary records, the admissions file, and the academic record.

Confidential letters and statements of recommendation which were placed in student credential folders at the Office of Career Planning and Placement after January 1, 1975, are also made available, if the student has not waived the right to view these recommendations.

The University of Missouri-St. Louis "Education Records" do not include:

- (a) Records of instructional, supervisor, and administrative personnel and educational personnel ancillary thereto which are in the sole possession of the maker thereof and which are not accessible or revealed to any other person except a substitute
- (b) The records and documents of the University of Missouri Police Department that are maintained solely for law enforcement purposes and are not available to persons other than law enforcement officials of the same jurisdiction.
- (c) In the case of persons who are employed by the University but who are not in attendance at the University, records made and maintained in the normal course of business which related exclusively to such persons and that person's capacity as an employee where the records are not available for any other purpose.
- (d) All records on any University student which are created and maintained by a physician, psychiatrist, psychologist, or other recognized professional or para-professional acting in his professional or para-professional capacity, or assisting in that capacity, and which are created, maintained, or used only in connection with the provision of treatment to the student, and are not available to anyone other than persons providing such treatment, provided, however, that such records can be personally reviewed by a physician or other appropriate professional of the student's choice.

2) The University of Missouri-St. Louis recognizes "Directory Information/Public Information" to mean a student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. All students must inform the Office of Admissions and Records before the end of the two-week period following the first day of classes that any or all of the information designated as directory information should not be released without the student's prior consent. The information listed above will become directory information or public information as of the first day of classes following the end of the two-week period in a regular semester and the first day of classes following the end of the one-week period during the Summer Session.

3) University of Missouri-St. Louis students have access to the educational records identified in Paragraph 1 above. In accordance with Pub. Law 93-380 as amended, the University of Missouri-St. Louis will not make available to students the following materials:

- (a) Financial records of the parents of students or any information contained therein.
- (b) Confidential letters and statements of recommendation which were placed in the education records prior to January 1, 1975, if such letters or statements are not used for the purpose other than those for which they were specifically intended.
- (c) Confidential recommendations respecting admission to the University, application for employment and receipt of honor, or honorary recognition, where the student has signed a waiver of the student's rights of access as provided in 6.0404, the *University Policy on Student Records*.

4) The director of Financial Aid, the appropriate academic dean, the coordinator of the Student Health Service, the dean of Student Affairs, the director of Career Planning and Placement, the director of Admissions, and the registrar are the officials responsible for the maintenance of each type of record listed in paragraph 1.

5) Any student may, upon request, review his or her records and, if inaccurate information is included, may request the expunging of such information from his file. Such inaccurate information will then be expunged upon authorization of the official responsible for the file.

6) Students desiring to challenge the content of their record may request an opportunity for a hearing to challenge the content of his or her educational record in order to insure that the record is not inaccurate, misleading, or otherwise in violation of the privacy or other rights of the student, to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein, and to insert into such records a written explanation respecting the content of such records.

7) The University official charged with custody of the records will attempt to settle informally any disputes with any student regarding the content of the University's educational records through informal meetings and discussions with the student.

8) Upon request of the student or the University official charged with custody of the records of the student, a formal hearing shall be conducted as follows:

- (a) The request for a hearing shall be submitted in writing to the campus chancellor who will appoint a hearing officer or a hearing committee to conduct the hearing.
- (b) The hearing shall be conducted and decided within a reasonable period of time following the request for a hearing. The parties will be entitled to written notice 10 days prior to the time and place of the hearing.
- (c) The hearing shall be conducted and the decision rendered by an appointed hearing official or officials who shall not have a direct interest in the outcome of the hearing.
- (d) The student shall be afforded a full and fair opportunity to present evidence relevant to the hearing.
- (e) The decision shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.
- (f) Either party may appeal the decision of the hearing official or officials to the campus chancellor. Appeal from the chancellor's decision is to the president. Appeal from the president is to the Board of Curators.

Confidentiality Policy

9) The University of Missouri-St. Louis will mail grade reports only to a student's permanent mailing address. Grades will not be mailed to parents unless the students in question have completed the necessary authorization in the registrar's office.

10) The University of Missouri-St. Louis may permit access to or release the educational records without the written consent of the student to the parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1954.

11) If any material or document in the educational record of a student includes information on more than one student, the student may inspect and review only such part of such material or document as relates to him or her or to be informed of the specific information contained in such part of such material.

Provisions for Auxiliary Aids and Services to Disabled Students

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 disabled student 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 disabled student 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, shall provide the necessary appropriate auxiliary aid.

Requests for the assessments must be made to the administrator for Special Student Programs 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.

UM-St. Louis Libraries

UM-St. Louis Libraries

Joan Rapp, Director of Libraries
M.L.S., Rutgers; M.A., University of Washington

Librarians

Thomas Jefferson Library

Ellen Cummins, Reference Librarian
M.A.L.S., University of Michigan

Linda d'Avignon, Reference Librarian
M.L.S., University of Illinois

Mary Doran, Reference Librarian/Inter-Library Loans
M.L.S., University of California-Los Angeles

Mushira Haddad, Head, General Services
B.A., American College

Mary Hutchinson, Reference Librarian/Government Documents
M.A.L.S., University of Missouri-Columbia

Genevieve Owens, Reference Librarian
M.S., University of Illinois-Urbana-Champaign

Frank Pershe, Cataloging Librarian
M.S., M.L.S., Case Western Reserve; Ph.D., University of Munich

John Mark Scheu, Reference Librarian
M.A., M.S.L.S., University of Illinois-Champaign; A.B.D., University of Kansas

Sandra Snell, Head, Reference
M.S., M.S.L.S., University of Illinois-Champaign

Education Library

Virginia Workman, Head, Education Library
M.A.L.S., University of Missouri-Columbia

Peter Monat, Reference Librarian
M.A., St. Louis University; M.L.S., University of Illinois

Health Sciences Library

Cheryle Cann, Head, Health Sciences Library
M.A.L.S., 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. Housed in three locations – the Thomas Jefferson Library (North Campus), the Education Library and the Health Sciences Library (both on South Campus) – the Libraries' collections consist of over 500,000 volumes, including 3,000 periodical subscriptions, 980,000 U.S. Government documents, and some 1,500,000 items in microform.

Materials from other University of Missouri libraries can be identified through the use of the University's online catalog (LUMIN) and are available through the Interlibrary Loan Service. Faculty and students engaged in research can also request materials from other libraries across the country through this service. An automated database retrieval service providing access to approximately 250 databases is also available to UM-St. Louis students and faculty.

The libraries are open more than 80 hours per week during regular sessions. Specific hours for various library services are posted in all libraries.

Archives and Western Historical Manuscript Collection

Archivists

Kenneth F. Thomas, Acting Associate Director, Joint Collection
Western Historical Manuscript Collection and State Historical Society of Missouri Manuscripts, Associate Archivist
M.A., University of Missouri-St. Louis

Margarite Beeby, Graduate Assistant
B.A., University of Missouri-St. Louis

The Archives contains official records, campus publications, student newspapers, photographs, and other material on the history of the University of Missouri-St. Louis. The Western Historical Manuscript Collection (WHMC) contains primary source materials for research in many fields, including local history, the environment, 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. Located on Level II in the Thomas Jefferson Library, the office is open for reference service Monday through Friday, 8 am to 5 pm and until 9 pm on Tuesday.

The manuscripts division also acts as a resource center, duplicating for use, in either graphic or tape-recorded form, many of its holdings. Archival and manuscript material does not circulate.

A complete catalogue to the holdings of the other branches of the Joint Collection is available. Manuscripts from other campuses may be borrowed through intercampus loan.

University Center

The University Center houses University food services, the Bookstore, Normandy Bank, University Center and Student Activities administrative offices and meeting rooms. A computer lab, student government offices, and the Black Culture Room are also located in the University Center. Lounge space provides a comfortable environment for relaxation or study and a TV room and amusements area provide places for recreation.

University Center Funding

At the University of Missouri-St. Louis, as is the case with the majority of universities and colleges, students themselves made the financial commitment necessary to construct the University Center and administer its functions. Every semester a Facilities Fee is collected from each student. This money is used to retire the bonds which were originally sold to raise the \$2,000,000 spent in construction. In addition, some money is spent on administering the facility and some is set aside for major repairs and replacements. (All student money collected for the building is used to support it.)

Food Services

The University Center's dining area features a "food market" or "scramble-type" food service in the lower level *Underground*, offering customers a complete menu selection ranging from popular fast-food items to hot meal service, between the hours of 7:30 am and 7:00 pm, Monday through Thursday, and 7:30 am to 2 pm on Friday. The upper level is designed as a comfortable lounge-dining area, with vending service available for those seeking snacks or beverages, including late-night customers.

A cafeteria in Marillac Hall provides snacks and meals for students and staff at the South Campus Complex from 7:30 am to 7:00 pm, Monday through Thursday, and 7:30 am to 2 pm on Friday.

Complete catering services are also available and may be arranged through the food service office in the University Center.

Hotline

"Hotline" is a 24-hour system of recorded phone messages describing campus activities. Students can use red Hotline phones in buildings on campus to dial the Hotline numbers or to call campus offices. Hotline phone numbers are: 5865, UPB Activities; 5867, a daily menu of special items served in University Center Food Services; and 5148. To reach any of these numbers off-campus, dial the University exchange (553) before each extension.

Each of these Hotline phone numbers is also used to inform the University community concerning suspension of campus operations and/or cancellation of classes during periods of severe winter weather. Call for this information after 6 am.

Audiovisual Services

The University Center can provide audiovisual equipment for student organizations and campus departments scheduling events in the University Center and J.C. Penney Building. Equipment includes 16mm, slide, and overhead projectors; record and tape players; a ½" and a ¾" VHS player/recorder with a 25" color monitor; lecterns and portable sound systems. Experienced operators are also available for an additional charge.

Bookstore

In addition to the programs and services listed above, the Bookstore is located in the University Center and is headquarters for ordering and selling textbooks and supplementary reading materials, including paperback books. The Bookstore also sells class and study supplies, college jewelry, and insignia items. Commencement announcements, caps, and gowns are ordered through the Bookstore.

Computer Lab

A 10-station computer lab is available for student use in 255 University Center. Word processing, spreadsheet and desktop publishing software will be accessible. Hours for the Computer Lab are 7 am to 10 pm, Monday through Thursday, and 7 am to 5 pm on Friday.

Student Activities Office

Organizations

Organizations for UM-St. Louis students range in size from three to over 30 with a scope of activities as diverse as the interests of those who organized them.

Social fraternities and sororities, performing and fine arts, curriculum-related, and special interest clubs address the co-curricular needs of students.

Student organizations may be contacted through the Office of Student Activities, Room 250 University Center.

Program Offerings

Recent programs have featured noted authors and lecturers from a variety of fields. Dr. Ruth Westheimer's presentation entitled "Sexually Speaking" drew a capacity audience.

Vinie Burrows delivered a moving performance in "Walk Together Children," a one-woman show drawn from the writings of African-American poets, authors, and composers.

A weekly noon-time series features the best of local and regional bands, comedians, and variety performers.

The University Program Board hosts games, tournaments and exhibitions, and regularly offers discounted tickets for local sports, entertainment, and recreational activities.

Transportation Services

The Office of Student Activities coordinates a car pool service, and works with the Bi-State Transit Development Agency to make the campus more accessible to those who use public transportation. Students interested in ride-sharing or requiring transportation are invited to drop by 250 University Center or call 553-5536 for information.

Housing Referral

The Office of Student Activities maintains a list of available apartments, rooms, and flats in the North County area. Lists of persons requesting roommates are also available.

Design and Printing Services

Computerized graphics and printing services are provided at reasonable rates for students and student groups. Single or multiple copies, design of brochures and flyers, and transparency production are a few of the services available. This operation is located in the University Center; call 553-5555 for information.

Black Culture Room

The Black Culture Room, located in room 254 University Center, houses a tutorial service and is equipped with a study area and lounge. Sponsored by the Associated Black Collegians, the room is called "Umajaa," an African word meaning brothers and sisters working together. For more information call the Black Culture Room at 553-5731.

Student Affairs Office

Office of the Vice Chancellor for Student Affairs

The Office of the Vice Chancellor for Student Affairs, located in 301 Woods Hall, 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 Discrimination Grievance Procedure for Students.

In addition, the Administrator for Special Student Programs is located in this office. This staff member provides information, guidance, referral services, and assistance for disabled and international students. Special arrangements and assistance in providing for the accessibility needs of permanently or temporarily disabled students are available through this office also. For the hearing impaired, a TDD (telecommunication device) is located in this office and can be reached through telephone number 553-5212. For more information or questions, call the Office of the Vice Chancellor for Student Affairs at 553-5211.

Counseling

Counseling Service

The Counseling Service offers free professional assistance to students, faculty, and staff with personal, social, educational, or career concerns.

Services include individual and group counseling, a range of workshops with specific aims as well as interest testing and career development counseling. A well-stocked library of career-related materials and college catalogues is available. People may use the Career Resource Center without appointment.

SIGI PLUS, a computer-based interactive guidance system for career exploration and decision-making, is also housed in the Counseling Service. SIGI PLUS may be used by appointment, without charge, by members of the University community.

The Counseling Service receptionist will arrange a meeting with a staff member any week day from 8 am to 5 pm. In an emergency, however, students can be seen almost immediately. For more information, call 553-5711 or visit the Counseling Service Office at 427 SSB.

Horizons

Horizons is a student organization providing a rather unique service to the student body. The staff is composed of undergraduates who have completed certain required course work in listening and helping skills—skills which are valuable in relating to others who are facing the pressures and stresses that are part of student life.

The Horizons staff is available to talk with a student, to listen or to provide information about such typical student concerns as career exploration, time management, and even resume writing—to name a few. Most important, Horizons offers caring support and a friendly atmosphere.

Student Affairs Office

Services are immediate, confidential, and free of charge to anyone enrolled at UM-St. Louis. There are also group workshops on a variety of topics and information and referral services for a wide range of concerns.

Women's Center

The Women's Center serves as an educational resource center offering an information and referral service, advocacy, programs on women's issues and career choices, cultural events and exhibits, a library of literature by and about women, topical resource files, and information on women's activities, networks, organizations, and services in St. Louis.

Located in 211 Clark Hall, the Women's Center is a good place to get support and assistance in coping with sexual harassment, help in doing research on women, and answers to questions about almost anything. The Center is also a good place to relax, drink coffee, and share ideas and experiences with other UM-St. Louis students in a comfortable atmosphere.

There are opportunities for students to get involved at all levels in the activities and work of the Women's Center which is open full time, Monday through Friday; evening hours vary by semester. The coordinator of the Women's Center directs the campus-wide orientation program so students can become acquainted with University rules, procedures, and services. For more information call 553-5380.

The *Student Emergency Contact Form* has been developed by the Center for students who may need to be contacted in emergency situations. This service is especially useful for students who are parents. Call the Center or stop by and complete an Emergency Contact Form.

Career Planning and Placement

Students may call for a career planning appointment (553-5111) or stop by the office in 308 Woods Hall and browse through the Career Information Library where job-related pamphlets, brochures, videos, and a variety of career information is available.

Service to graduating students and alumni registered with the office includes listings of immediate full-time positions, as well as on-campus recruiting by representatives of business, government, and school districts.

Workshops on resume writing and interviewing skills, as well as an orientation to services offered, are scheduled at the beginning of each semester.

For students interested in employment while attending college, the Student Work Assignment Program, 346 Woods Hall (553-5317) has part-time, summer, and full-time non-degree job listings available. For students seeking degree-

related positions, the CO-OP and Internship program (553-5100) offers excellent opportunities with major area employers.

Hours are Monday through Friday, 8 am-5 pm, Tuesday and Wednesday, 8 am-8 pm.

Veterans' Affairs

The Veterans' Affairs Office in 346 Woods offers assistance in making the transition from military life to student life as easy as possible. The office is available to help veterans and to explain the special benefits available to veterans. Office hours are 8 am-5 pm Monday through Friday. A certifying official is available to assist and direct veterans with school, drug, housing, veterans' benefits, employment, or other problems they may encounter. The office also provides tutorial assistance and referrals for V.A. work/study employment. For more information, contact the Veterans' Affairs Office at 553-5315.

Student Health Service

The Student Health Center, located in 127 Woods Hall, offers basic health services, screening and education. It is staffed with nurses, and there is no charge for services rendered. Referrals are made for treatment by a physician or for specialized or long-term care. The Health Center is open from 8 am to 9 pm, Mondays through Thursdays, and from 8 am to 5 pm on Fridays. Evening hours are in effect only when evening classes are in session.

For a medical emergency on campus, dial 5155 to summon assistance.

The University requires of students born after 1956 documented proof of immunity to Measles and Rubella. Immunization records are to be sent to the Student Health Center. Exemption forms for medical or religious/philosophical reasons may also be obtained from the Student Health Center.

Handicapped Parking Permits are issued by the Health Center upon presentation of a medical certificate verifying a mobility disability. Auto license and parking sticker numbers are necessary in order to process an application for Handicapped Parking.

Information, application and claim forms for the Student Accident and Sickness Insurance Plan are available at the Health Center. Claims, however, must be filed directly with the off-campus Insurance Company.

For further information phone 553-5671.

Sports

Intramural Sports

The University's intramural 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 intramural programs.

Activities currently offered include touch football, basketball, volleyball, swimming ("Swim the Mississippi River Club"), racquetball, golf, tennis, bowling, softball, hoc soc, fun run, soccer, weight lifting, and white-water kayaking. For more information call 553-5124.

Intercollegiate Sports

A variety of intercollegiate sports is available for both men and women at UM-St. Louis.

Both the 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 trips to the NCAA Tournament in at least one sport in 15 of the last 16 years.

The women's intercollegiate athletic program includes basketball, soccer, tennis, volleyball, softball, and swimming. The men's intercollegiate athletic program includes basketball, soccer, golf, baseball, tennis, and swimming. Scholarships are available for both men and women in all sports.

The UM-St. Louis athletic department also sponsors a coed cheerleading squad.

Intramurals and intercollegiate athletics are supported in part by the University Center and Student Activities fees. UM-St. Louis students with validated IDs are admitted free to all home athletic contests. Harris-Stowe students are also admitted free to these events.

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, wrestling and dance room, and an NCAA regulation swimming pool. A conditioning room for men and women includes individual weights as well as a universal weight machine. Outdoor facilities include baseball, softball, soccer, and intramural fields, and handball, racquetball, and tennis courts. For further information call 553-5641.

Student Government

The Student Association of the University of Missouri-St. Louis is a student governance body composed of both elected student representatives from each School and College, and of organizational representatives from every recognized student organization on campus which petitions for representation on the Assembly.

The purpose of the Student Association is to represent University of Missouri-St. Louis student concerns at every level of governance within the University, and at the state and local level. 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. In addition, the Student Assembly, the policy-making arm of the Student Association, has its own standing committees to address student concerns.

On the local and state levels, Student Association leaders visit various officials to address student concerns and priorities at various times throughout the year.

An educated, qualified, well-rounded individual is the desired result of a college education. The University of Missouri-St. Louis Student Association, in its capacity as representative and spokesperson of the students, plays an important role in that process.

For more information call 553-5105 or drop by 262 University Center.

The Student Court is nominated by the Student Assembly and appointed by the Vice Chancellor for Student Affairs. The five-member Court rules on student appeals concerning matters such as parking violations and disputes between individuals and organizations; organizations and organizations.

The Evening College Council serves the evening student body as a liaison between students, faculty, and administrators. It functions as a sounding board for Evening College students' ideas and interest, and it coordinates social activities of special interest to evening students. Membership is open to all Evening College students who are in good standing. Contact the Evening College, 324 Lucas Hall, or any council member for more information or call 553-5162.

Other Services

University Senate

The Senate is the governing body for the campus, exercising many of the functions of the faculty and the student body subject to the University of Missouri-St. Louis Bylaws. Twenty-five students and 75 faculty members are elected to the Senate by their constituent groups. The Senate includes a number of administrators who serve as voting or non-voting *ex officio* members. Much of the Senate business is carried out by its elected committees. The standing committees on which students may serve include: Admissions and Student Aid, Budget and Planning, Bylaws and Rules, Committee on Committees, Community Affairs, Curriculum and Instruction, International Relations, Physical Facilities and General Services, Student Affairs, Student Publications, and University Library. In addition, *ad hoc* committees are established as needed. For more information, call 553-5258, Office of the Chancellor.

Alumni Office

As today's students form the present University community, our alumni help shape the future of the University of Missouri-St. Louis by supporting necessary improvements. The Alumni Association and the Alumni Activities office in 428 Woods work together to promote the St. Louis campus and to establish mutually beneficial relations between the University and its alumni. Membership in the Alumni Association is open to all graduates and former students with payment of modest dues.

The Alumni Association sponsors a scholarship fund for UM-St. Louis undergraduates, provides special funding of certain campus projects, and works as an organization to obtain increased public support for the University. For more information, call 553-5776.

A refurbished Alumni Center across the street from the main campus entrance offers students, faculty, staff, and alumni a pleasant gathering place for community receptions and other social events. Contact the Alumni Center at 553-5722 for further information.

Gallery 210

Gallery 210 sponsors five major art exhibitions yearly. These include professional work in all media with a primary emphasis on contemporary art. In conjunction with these exhibits, the Gallery frequently sponsors symposia, lectures, artistic demonstrations and other events which enhance the impact of the works of art that are displayed.

Under the auspices of the art department, the exhibits offered by the Gallery meet the best of both educational and aesthetic standards and serve the visual interests of both the metropolitan community and the University's students and staff.

Police Department

The UM-St. Louis Department of Police is located in the General Services Building and serves the students, faculty, and staff by providing year-round campus security. The UM-St. Louis police are trained to give emergency aid in the event of accident or illness, and all incidents should be reported immediately to the police department, telephone 553-5155. This number is monitored 24 hours a day. Call for help or to report fire or any existing hazardous conditions. Emergency telephones on campus include the red "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.

Traffic regulation is also a responsibility of the campus police, including issuance of annual parking permits and 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 department has an on-going bicycle registration program, offering registration tags to students, faculty, and staff. A registration file with bicycle serial numbers and description is maintained for each registrant. Also available through the UM-St. Louis police is a service which offers a deterrent to automobile theft. Campus police officers engrave the vehicle identification number (VIN) on the automobile's window. This service is free of charge to UM-St. Louis faculty, staff, and students.

The UM-St. Louis police report and investigate all crimes that occur on campus. A crime prevention officer conducts self-help programs throughout the year and makes security surveys to identify potential problems before a crime occurs.

For information on any of these services, contact the University of Missouri-St. Louis Police by calling 553-5158, Monday through Friday, 8 am to 5 pm. For emergencies, remember to call 553-5155.

Specialized Centers and Facilities for Research, Teaching, and Public Service

Bridge Program

The Bridge Program sponsors math-science clubs, provides tutors and role models, advanced credit courses, shared resource activities, and in-service teacher education for selected area high schools. In addition, special Saturday and summer programs, particularly in math and science, are available for selected high school students.

Bush Center for Law, Social Change, and Conflict Resolution

The Bush Center was created to enhance the ability of St. Louis and the state of Missouri to promote and constructively manage social change. To understand and to influence change requires education, study, and practice, and the University of Missouri-St. Louis has long assisted this community to prepare itself for change. Key to the more proactive role of the Bush Center are its Community Fellows—each a distinguished practitioner of the arts of public leadership—who serve to focus the faculty talents of this campus on helping the community develop and implement an active, constructive agenda for social change:

- Service and consultation are provided to the community and beyond in helping to understand and to develop constructive methods of policy making that affect a wide range of social issues—from housing and homelessness to the changing nature of work, and from private/public collaboration to interpersonal violence.
- Through skill-building workshops and seminars, the Center provides public officials, governmental agencies, civic organizations, corporations, and citizen groups with effective training in the wide range of practical skills useful to promoting and managing constructive social change—from the skills of drafting and advocating legislation, to public-interest legal strategies, to conflict analysis and conciliation skills employed in peace making.
- Research activities of the Center focus on the roles of law and conflict resolution, for these are the social devices which have proved both central and essential to the constructive management of change.

Addressing these needs for study and action, the Bush Center for Law, Social Change, and Conflict Resolution stands unique among major U.S. academic centers in its focus on constructive management of social change through creative innovations in the living law and in methods of conflict resolution. Symbolically, the Center commemorates the social change ideals and leadership of James T. Bush, Sr., who, as president of the St. Louis Real Estate Brokers Association in 1948, played a key role in the case of *Shelley v. Kraemer*, the landmark decision of the United States Supreme Court striking down state enforcement of private racial discrimination.

Center for Academic Development

The Center for Academic Development is an academic support program which focuses attention on the needs of

UM-St. Louis students who may require some assistance in pursuing higher education. The Center is comprehensive in nature and consists of the following programs:

General Services:

Summer Enrichment. Entering students may qualify for a summer program including an orientation class, study skills, and personal advising, as well as non-credit math and English courses.

Supplemental Instruction. Student leaders, attached to specific academic classes, conduct group review sessions at no cost. Course content and study skills are reviewed several times a week at scheduled sessions.

Tutorial Services. Student tutors, certified by the appropriate academic departments, are available to give assistance in many disciplines; times and costs are arranged by student and tutor.

Communications Unit:

Reading Lab. Free services to all students, freshmen through graduates, are offered in the areas of developmental reading and study skills.

Writing Lab. This lab gives tutorial assistance in writing English prose. Students' writing needs are appraised, and individual and small group instruction in sentence clarity, organization, development, and conventions of usage provided. Available materials include computer-assisted instruction, slide-tape programs, spelling and vocabulary tapes, and programmed texts. Instructors may arrange for lecture demonstrations in their classrooms. Graduate writing support groups are formed each semester.

Mathematics Unit:

Math Lab. This is a lab which offers individual assistance on a walk-in basis to students enrolled in any mathematics course or course involving mathematical skills. The lab offers computer-aided instruction, videotaped lessons, and help in preparing for the UM-St. Louis Mathematics Placement Test, including periodic workshops and reviews.

Special Services Unit:

Program for Disadvantaged Students. This unit provides supportive services which focus on the first two years of college. Participants are chosen on basis of need, former academic preparation, achievement, and motivation. Services include counseling and financial aid. This unit also offers academic advisement for students in choosing courses and outlining schedules. Other areas of advisement include finance and social welfare.

For more information, contact the CAD office at 553-5194.

Specialized Centers and Facilities for Research, Teaching, and Public Service

Center for Business and Industrial Studies

The Center for Business and Industrial Studies is organized within the School of Business Administration for studying managerial problems and performing applied research. The Center operates on a not-for-profit basis to help organizations in our diversified business community understand factors affecting their business environments and enhance their productivity. University faculty, supported by a powerful computer system, statistical databases, and sophisticated software, provide consultation in a wide variety of business applications. Studies are undertaken in marketing, computer systems, operations management, human resources management, planning and business development, facilities location, distribution, and financial analysis. The Center provides nationwide demographic, economic, and financial data through the University business database and information service. Organizations can contract with the Center for studies tailored to their specific needs. A brochure outlining the Center's services can be obtained by writing the Center for Business and Industrial Studies, School of Business Administration, University of Missouri-St. Louis, 8001 Natural Bridge Rd., St. Louis, MO 63121-4499, or by calling (314) 553-5857.

Center for Economic Education

The Center for Economic Education is sponsored by the College of Arts and Sciences and the Continuing Education-Extension Division to support and enhance economic education. The Center provides in-service programs in economic education. Working closely with local school districts, the Center serves to improve and evaluate present economics curriculum. The Center also promotes the goals of economic education among business, professional, educational, labor, and other organizations and individuals in the St. Louis community.

Center for International Studies

The Center for International Studies supports academic programs, research activities, seminars, and conferences designed to promote and improve research methods in international studies, improve the methods of teaching international studies in schools and colleges, and encourage an interest in international affairs in the University and area communities. The Center promotes interdisciplinary and multidisciplinary courses and assists in staffing courses within individual departments. It arranges seminars to meet specific faculty and student needs and interests, sponsors conferences and seminars, issues occasional papers, administers undergraduate certificate programs in East Asian studies, European studies, international studies, and Latin American studies for the College of Arts and Sciences, and administers the Graduate Certificate in International Studies. The Center serves as the campus depository for information on Exchange and Study Abroad programs and provides assistance to students seeking information on such programs. In addition, the Center's Community Education Office maintains an international resource library and operates a comprehensive global education program.

Center for Metropolitan Studies

The Center for Metropolitan Studies conducts research and provides community service to residents of the St. Louis area and the state of Missouri on issues of urban policy. The Center's faculty Fellows and professional staff represent a broad spectrum of academic disciplines. The Center's principal research objective is to produce research that will assist in devising equitable and effective public policies. Audiences for the Center's work include private and public sector agencies and organizations, as well as national urban policy researchers and the academic community. Dissemination strategies include speeches, workshops, consulting, and service on policy-making bodies, and appearances and publications in electronic and print media, as well as professional outlets. Center activities are focused around five themes:

- Urban Economic Development
- Government Organization and Financing
- Ethnicity and Neighborhoods
- Urban Policy Formulation
- Aesthetics and Public Policy

Center for Molecular Electronics

The Center for Molecular Electronics has been established by the University of Missouri-St. Louis to bring together senior academic and industrial research personnel to conduct multidisciplinary research in one of the fastest developing and commercially significant areas of science, the fields of molecular electronics and synthetic metals. This is a field of science that has most commonly come to the attention of laymen through press accounts concerning the development of high temperature superconductors.

The next major development in chip technology will be the replacement of the silicon chip with one developed from a synthetic metal, enabling computers to operate three to 30 times faster than presently possible. A synthetic metal is a solid state material containing few or no metal atoms, but displaying the physical properties of metal, such as electrical conductivity, light reflection, or magnetism.

Beyond serving as the building blocks for molecular-based electronics, synthetic metals display a wide variety of commercial possibilities. For example, the Japanese have developed technologies where a molecular thin diamond coat may be placed on audio speaker diaphragms, enhancing frequency response, and on machine tools to enhance their resistance to wear.

Center for Science and Technology

The University of Missouri-St. Louis Center for Science and Technology was established in 1987 to serve as a resource broker between the University of Missouri-St. Louis and the St. Louis scientific community.

Specialized Centers and Facilities for Research, Teaching, and Public Service

The Center fosters research collaboration and provides customized post-baccalaureate programs on technological advances for the almost forty thousand scientists and engineers in the St. Louis area, and for science educators, corporate managers, and for top-level executives.

The Center also promotes citizen awareness on technological trends and issues, linking University projects with organizations such as the St. Louis Science Center, the St. Louis Center for Math and Science, and the St. Louis Technology Center.

Child Development Center

The Child Development 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.

Eldercare Center

The Eldercare Center, located at Mount Providence School, 8351 S. Florissant Road, is an adult day health care facility for frail elderly. Students and faculty from many disciplines come to study and interact with the clients who attend the Center. Hours are 7:30 a.m. to 5:30 p.m., Monday through Friday. The Mid-East Area Agency on Aging is a major cooperating agency. Call 524-0155 for further information.

Engineering Center

The Engineering Center at the University of Missouri-St. Louis is part of the School of Engineering of the University of Missouri-Rolla Extension Division. The Center offers St. Louis area residents an opportunity to pursue continuing-education course work in engineering during the evening. Graduate work is available in engineering and computer science, including both master of science and professional development degrees in aerospace; civil, electrical, environmental, and mechanical engineering; engineering management; engineering mechanics; and computer science.

The Center also provides information to St. Louis area residents about UMR programs in Rolla. Advisers can assist area pre-engineering students with transfer to the Rolla campus and with entry into the Cooperative Training Program that exists between UMR and numerous U.S. industries. This co-op program allows engineering students to gain valuable industrial experience during their school years and to be partially or totally self-supporting.

The Center also assists St. Louis area companies by offering in-house training courses in the technical areas of competence of UMR.

Inter-University Consortium for Political and Social Research

The consortium, an academic partnership between the University of Michigan Center for Political Studies and more than 140 colleges and universities in the United States and abroad, is an interdisciplinary, inter-university research and training facility for both students and faculty in the social sciences. Through various consortium archives, students and faculty have direct access to a variety of multipurpose data of a socio-political nature that may serve a variety of research and training needs. The Office of Computing and Telecommunications provides data-processing services for consortium resources. Students and faculty are also eligible to participate in the consortium's summer training program, a series of intensive eight-week courses of interdisciplinary work for historians, political scientists, sociologists, and other social scientists.

KWMU

KWMU, 90.7 FM, is the 100,000-watt public radio station of the University of Missouri-St. Louis. The station broadcasts classical music, news, jazz, and other programs 24 hours a day. The overall policy of the station is to serve as an integral part of the total mission of the University. KWMU provides programming that is responsive to the educational, cultural, informational, and entertainment needs of the community. In training students who plan to pursue broadcast careers, KWMU augments the educational and training function of the University. In addition, the station showcases the accomplishments of UM-St. Louis, as these reflect the interests of the listening audience.

MASUA Traveling Scholars

The University of Missouri-St. Louis is a member of the MidAmerica State Universities Association (MASUA), which coordinates a traveling scholar program for its member institutions. The program provides doctoral students with the opportunity to pursue advanced studies for short periods of time at universities other than their own.

Mathematics and Science Education Center

The Mathematics and Science Education Center (MSEC) assists mathematics and science educators at the elementary and secondary levels. The MSEC is a division of the Network for Educational Development, the staff development arm of the Cooperating School Districts. The MSEC links public and private school educators with resource organizations and the corporate and university communities. This liaison fulfills primary goals established by the MSEC at its inception in 1986.

- to promote public and professional understanding and concern for mathematics and science education.
- to encourage collaborative activities that spur staff development and in turn excite children to learn science and mathematics.

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Midwest Community Education Development Center

The Midwest Community Education Development Center, an office within the UM-St. Louis School of Education and the Division of Continuing Education-Extension, serves Missouri in the development of community education. The Center is located in the South Campus Complex and provides consultation, training programs, and materials to educational and human service agencies and to other groups and individual citizens concerned about their communities. The Center also cooperates with the School of Education in Master of Education and Doctor of Education programs with an emphasis in community education. Graduate courses in community and adult education are taught on a regular basis. For further information about graduate study, refer to the section in this Bulletin under Graduate Programs in Educational Administration, or call the Center at 553-5746.

Office of Computing and Telecommunications

Computing facilities at the University of Missouri provide powerful computing resources, which are available to faculty, staff, and students for educational, research, and administrative needs.

Hardware on the UM-St. Louis campus, used primarily for academic computing, includes: an IBM 4381, a DEC VAX 8600, three DEC MicroVAX II minicomputers, thirty Apple IIe microcomputers, ten Apple Macintoshes, 46 IBM PC's and 79 terminals for mainframe access. These microcomputers and terminals are housed in 11 public computing areas located throughout the campus. All microcomputer labs are equipped with printers. Dial-up access is provided for the DEC and IBM systems. The UM-St. Louis campus is part of the University of Missouri Computer Network. The Central Computing Facility consists of an IBM 3090, an IBM 3081D, and an IBM 4381.

Staff provides consultation, programming, error analysis, data entry, and operations services. Noncredit short courses are taught at the beginning of the Fall and Winter Semesters on a wide variety of mainframe and microcomputer topics. The office telephone number is 553-6000.

Office of Research

The Office of Research provides services to faculty and others who are seeking external support for their university activities of research, instruction or public service. The Research Office maintains a small library of information about funding agencies, a specialist in searching for funding, and an assistant who can help build a grant budget.

Research regulations, such as those affecting human subjects or the laboratory uses of radioactive substances, are administered through this office, as is the administration of grants received.

Parents as Teachers Program

Early in 1987, the Missouri Department of Elementary and Secondary Education established "Parents as Teachers National Center" to provide information about PAT, plus training and technical assistance for those interested in adopting the program. The Center is affiliated with the University of Missouri-St. Louis.

The National Center offers the following services for school personnel in Missouri and for professionals across the nation: (1) PAT Institutes on program implementation. The week-long institutes cover program organization and management, marketing and recruitment, home visits and group meetings, monitoring children's progress, and program evaluation. PAT Institutes are led by the Center's professional staff who have trained personnel to successfully implement PAT programs in Missouri's 543 public school districts. Educators and other professionals from more than 30 other states, Great Britain, and Canada, also have attended the institutes. The institutes are scheduled throughout the year and offer two hours of graduate and undergraduate credit. (2) Advanced PAT training during the summer. (3) Scheduled trips to see PAT in action, including a home visit, observation of a local school's PAT center, and consultation with local school personnel and Center staff. (4) Customized training programs, follow-up consultation by Center and/or program staff, and internships in local PAT programs. (These services are available by special arrangement.)

The Center is initiating a series of research and evaluation activities to further study program effectiveness and to document program adaptations for diverse populations, e.g., low income, urban and rural, and teen families.

A National Advisory Board, appointed by the Department of Elementary and Secondary Education, lends direction and support to the Center. The board includes leading educators and child development specialists from across the nation. For more information, contact: Parents as Teachers National Center, University of Missouri-St. Louis, Marillac Hall, Room 312, 8001 Natural Bridge Road, St. Louis, MO 63121-4499.

Public Policy Administration

The Public Policy Administration program at the University of Missouri-St. Louis combines responsibilities for the Master of Public Policy Administration (MPPA) degree program, as well as public service activities through its Public Policy-Extension function. By combining teaching, research, and public service activities, Public Policy Administration integrates theory and practice for the benefit of students and the general public. Public Policy Administration also supervises internships in the public sector, including the State Legislative Internship Program.

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Public Policy-Extension provides service to public sector and non-profit organizations in Missouri and throughout the Midwest. MPPA students can participate in these activities through an assistantship program. Public Policy-Extension services include survey research, management consulting, and short courses. The unit includes a Survey Research Center, which conducts the only ongoing statewide public opinion poll in Missouri, the MissouriNet Poll. Surveys are conducted to assist local governments and other public sector groups in determining citizen satisfaction with services and client needs. Most data is available for teaching and research purposes as well. Public Policy Administration also houses the University Extension Economic Development Specialist for the St. Louis metropolitan area.

Student Retention Program

The Student Retention Program is a joint effort in the Division of Academic Affairs and Student Affairs. The freshman year program provides ongoing advising and assistance to new students in structuring their academic schedules and development of a two-year plan to study. Students are involved in a semester-long Freshman Seminar focusing on orientation to college, utilization of university resources, campus involvement, major selection, and career planning. Assistance is provided in time management, study skills, and other areas essential to student success. Other components of the program include a summer program and Path to Success.

The office is located at 7940 Natural Bridge, directly across from Woods Hall on the south side of the street. For more information, contact the Student Retention Office at (314) 553-5330.

Systematic and Evolutionary Botany

A consortium of four area universities: the University of Missouri-St. Louis, Washington University, St. Louis University, and Southern Illinois University-Edwardsville, in conjunction with the Institute for Systematic and Evolutionary Botany of the Missouri Botanical Garden. The consortium shares the faculties, facilities, and collections on the four campuses and at the Garden, including its large herbarium and library, greenhouse facilities, scanning and transmission electron microscopes, and a tropical field research station in the Canal Zone.

Urban Information Center

The Urban Information Center (UIC) is a specialized area within the Office of Computing and Telecommunications. The UIC has been providing demographic information and data processing for researchers, business, and government since 1970. It is a Coordinating Agency of the Missouri State Census Data Center, a program which provides the citizens of Missouri with easy access to information released by the U.S. Bureau of the Census. The UIC maintains an extensive

database of primarily, but not exclusively, Census-based data which is available in a variety of machine-readable or printed formats. UIC-developed software allows for easy manipulation and individualized reports. While specializing in data for the St. Louis area and the state, their holdings cover the entire United States.

To learn more about the information available, contact Linda McDaniel, John Blodgett, or Jim Struthers in Room 131 SSB or call 553-6035.

Video Instructional Program

The Video Instructional Program offers flexible, self-paced learning for students who are far from campus or whose schedules make it difficult to attend regular classes. Students may register for three sections each semester and take up to 20 weeks to complete a course.

Video lessons accompany each course. They are designed to visually clarify difficult concepts, as well as make the courses more interesting. Video lessons for various courses are available for viewing on cable.

Course Listing. A catalogue listing all Video Instructional Program courses and offering complete information on the program is available by calling 553-5370. New courses are currently being developed. The following courses from the UM-St. Louis curriculum are offered:

History 100. Science and Culture in the Western Tradition
Business Administration 392. Entrepreneurship/Small Business Management
Education 308. Graduate Institute, Microcomputers: Classroom Applications for Teachers
Education 308. Graduate Institute, Basic Education: Teaching the Adult
Education 341. Teaching Science in the Elementary School
Nursing 220. Health Assessment
Philosophy 210. Significant Figures in Philosophy
Educational Technology 340. Selection and Utilization of Educational Media

St. Louis Area Cable Stations. Cencom I, II, and III, Continental Cable, American, and United Video in St. Louis County; STL Cable and City Cable in the city will cablecast courses over the Higher Education Channel (HEC). Courses are also cablecast in St. Charles, St. Peters, and O'Fallon. For complete information, call 553-5370.

Textbooks and Study Materials. Textbooks and study materials accompany the video lessons for each course and are available through the bookstore.

Research

Cooperative Facilities Located at UM-Columbia

Environmental Health Center. The center concentrates on two broad research activities: the Environmental Surveillance Center, and the Environmental Trace Substances Research Center.

Industrial Development Studies. A cooperative effort of the University of Missouri and the Division of Commerce and Industrial Development, the facility supports both public and private industrial development studies.

Sinclair Comparative Medicine Research Farm. The facility offers large and small animals as models for human health-related conditions in the study of chronic diseases and aging.

Research Reactor. A Universitywide facility that includes a fluxtrap reactor currently operating at a power of five megawatts and offering the highest neutron flux of any university reactor in the country.

Water Resources Research Center. The center coordinates Universitywide research into problems relating to preservation and development of adequate pure water supplies and prepares specialists in the water resources field.

Continuing Education-Extension

An important mission of the University of Missouri is to extend its expertise to the community, thereby enhancing lives and making a contribution to community and state development. At UM-St. Louis, Continuing Education-Extension serves to carry out that mission.

Through Continuing Education-Extension, the University's Schools and Colleges administer a wide variety of credit courses, noncredit programs and problem-oriented research for the benefit of the people 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-Extension in the College of Arts and Sciences includes credit courses and noncredit programs in all of the college's departmental disciplines including courses and workshops in the arts, microcomputers, music appreciation, photography, writing and video production. Interdisciplinary teaching and research programs deal with such fields as gerontology, public policy, the humanities, and economic education. Faculty members and students are engaged in studies of community organization, neighborhood revitalization, labor organizations, taxation, and municipal and governmental services.

Continuing Education-Extension in the College of Arts and Sciences also sponsors the Center for Economic Education which provides research and programs in economic education to local teachers and organizations, the Public Policy-Extension which provides research and analysis for local government and non-profit organizations, and the Archaeological Survey which carries out archaeological research and on-site studies of regional construction projects. In addition, the Communications Program offers short courses and workshops in writing and oral communications, and the Microcomputer Program develops and teaches applied computer courses and awards the Chancellor's Certificate in Microcomputing.

The Advanced Credit Program is administered by Arts and Sciences. This program provides an enrichment experience for secondary students who are university bound by providing freshman-level courses for credit in selected high schools.

A bachelor of science degree majoring in sociology is offered by Arts and Sciences at the Missouri East Correctional Center.

A wide variety of credit courses is offered at several locations throughout the St. Louis metropolitan area to enable students to obtain academic credit at locations convenient to where they live and work.

The Annual St. Louis Storytelling Festival is also sponsored by Continuing Education-Extension in the College of Arts and Sciences.

Continuing Education-Extension

Eldercare Center is an adult day health-care center serving frail elderly who are 60 years of age or older and in need of health care supervision, socialization, and/or rehabilitation during the daytime. The center is sponsored by the University of Missouri-St. Louis in cooperation with Cardinal Ritter Institute, Mid-East Area Agency on Aging, and the Sisters of Divine Providence.

Center for Science and Technology

The UM-St. Louis Center for Science and Technology has been established to provide an important technological link between UM-St. Louis and the community it serves. Its purpose is to provide targeted, concentrated information to area employers and to the general public regarding technological advancements.

Training and research opportunities will be provided by the Center to area industries, while informational lectures and workshops on current issues will be offered to the interested public.

Business Administration

Continuing Education programs in business are offered in several areas, including organizational and management development, and individual and professional growth. Programs range from a 54-hour certificate program for first-line supervisors to an intensive review course for the CPA examination. Also included is a 44-hour certificate program for personnel administrators and a new certificate program in managerial communications. Special seminars and conferences are offered regularly on specific topics of current interest. In addition, the School co-sponsors programs in the area of microcomputing.

The Business Development Center, which administers an EDA Grant for small business development, provides financial and consultation services to owners and managers of small businesses in the St. Louis metropolitan area.

Education

The overall aim of the School of Education's extension activities is to provide services which 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. The school extends instructional research and service to educational personnel in other parts of Missouri and the Midwest in addition to the St. Louis metropolitan area.

The Midwest Community Education Development Center is sponsored by Continuing Education-Extension and the School of Education and serves in the educational development of communities throughout Missouri. The Center assists various groups, agencies, and individuals concerned about their communities, providing training programs and materials. (See Specialized Centers and Facilities for Research, Teaching, and Public Service in this *Bulletin*.)

Nursing

The School of Nursing at UM-St. Louis offers a variety of Continuing Education programs for nurses. Also, a series of noncredit nursing management workshops are available to area nurses. Credit courses which apply to the B.S.N. degree are being offered at eight hospitals and schools around the St. Louis metropolitan area.

Optometry

The University of Missouri-St. Louis offers Continuing Education-Extension programs for optometrists through the UM-St. Louis School of Optometry. Diagnostic and therapeutic classes are held on a frequent basis with doctors coming from a variety of states. Each spring, the Optometric Institute draws several hundred optometrists, optometric assistants, and technicians for a two-day conference covering the latest optometric techniques.

UM-St. Louis Lindbergh

Continuing Education-Extension 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. In addition to UM-St. Louis Lindbergh, Continuing Education-Extension offered credit courses at 44 other metropolitan sites last year.

In-house Training

Specialized research and technical assistance as well as in-house training programs are available to local businesses and organizations. With the help of expert faculty and staff consultants, the University of Missouri-St. Louis is equipped to deliver specialized training on an in-house basis.

Video Instructional Program

A variety of credit courses are offered by UM-St. Louis on several cable stations in cooperation with the new Higher Education Channel and KETC-TV. For more information, call 553-5370.

J.C. Penney Building

This large conference facility at UM-St. Louis houses a 440-seat auditorium as well as eight 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 hundreds of hosted programs each year.

For more information on programs and services offered by Continuing Education-Extension, call 553-5961.

Degree Programs

Undergraduate
Graduate
Professional

College of Arts and Sciences

School of Business Administration

School of Education

Evening College

School of Optometry

School of Nursing

Degree Programs

Undergraduate Studies

Undergraduate degree programs are offered by the College of Arts and Sciences, School of Business Administration, School of Education, Evening College, and School of Nursing. Information on these programs can be found on the pages indicated:

Bachelor of Arts (B.A.)

anthropology, p. 67	history, p. 94
art history, p. 69	mathematics, p. 98
biology, p. 72	music, p. 105
chemistry, p. 79	philosophy, p. 109
communication, p. 83	physics, p. 111
economics, p. 88	political science, p. 115
English, p. 90	psychology, p. 120
French, p. 103	sociology, p. 125
German, p. 103	Spanish, p. 103

Bachelor of General Studies (B.G.S.), p. 177

Bachelor of Music (B.M.)

music, p. 105
music education, p. 105

Bachelor of Science (B.S.)

applied mathematics, p. 98	economics, p. 88
biology, p. 72	physics, p. 111
chemistry, p. 79	sociology, p. 126
computer science, p. 99	

Bachelor of Science in Administration of Justice (B.S.A.J.), p. 64

Bachelor of Science in Business Administration (B.S.B.A.), p. 145

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

early childhood education, p. 168
elementary education, p. 169
physical education, p. 172
secondary education, p. 162
special education, p. 158

Bachelor of Science in Nursing (B.S.N.), p. 189

Bachelor of Science in Public Administration (B.S.P.A.), p. 115

Bachelor of Social Work (B.S.W.), p. 123

Graduate Studies

Administered by the Graduate School, graduate study at the University of Missouri-St. Louis embraces study for degrees and certificates beyond the bachelor's degree in all divisions except the School of Optometry which administers the professional program leading to the Doctor of Optometry degree.

From its beginnings, graduate education at UM-St. Louis has been guided by four broad purposes: development of excellence in scholarship; encouragement of creative productivity in research; fostering of the highest standards in professional competence and commitment; and development of skill in the communication of knowledge. Responsive to the unique and comprehensive demands of the St. Louis area, the University has moved rapidly in the development of specialized facilities, a distinguished and creative faculty, and appropriate graduate programs to achieve these objectives.

In most cases, master's degree programs can be completed through part-time study.

Information on graduate degrees offered at UM-St. Louis can be found on the following pages:

Master of Accounting (MAcc) p. 148

Master of Arts (M.A.)

administration of justice, p. 65
economics, p. 89
English, p. 93
history, p. 95
mathematics, p. 101
political science, p. 117
psychology, p. 121
sociology, p. 127

Master of Business Administration (MBA), p. 146

Master of Education (M.Ed.), p. 156

counseling, p. 159
educational administration, p. 166
elementary education, p. 170
secondary education, p. 164
special education, p. 160

Master of Public Policy Administration (MPPA), p. 183

Master of Science (M.S.)

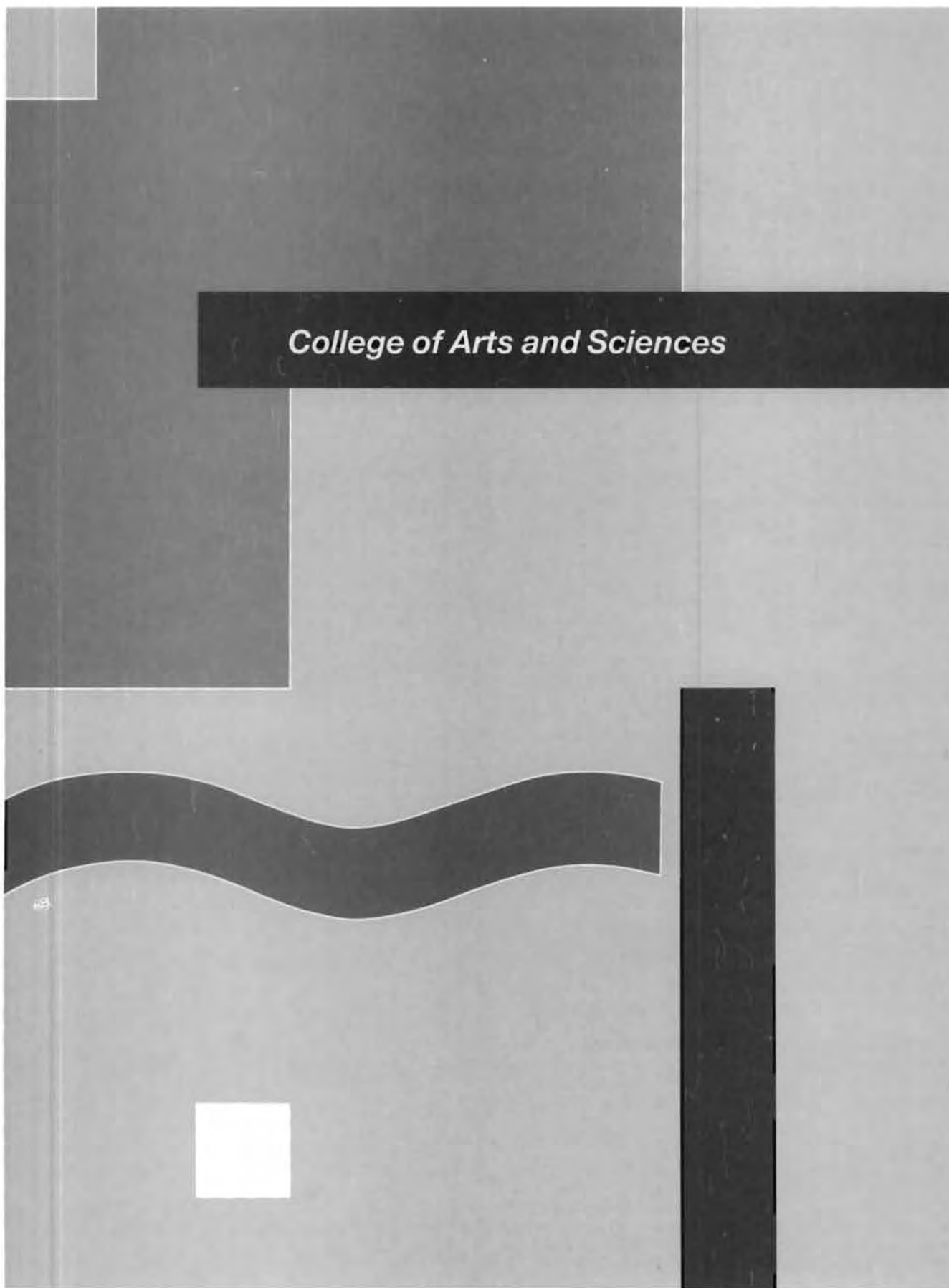
biology, p. 75
chemistry, p. 81
gerontology, p. 185
management information systems, p. 147
nursing (cooperative with UM-Kansas City), p. 191
physics, p. 113

Doctor of Education (Ed.D.), p. 156

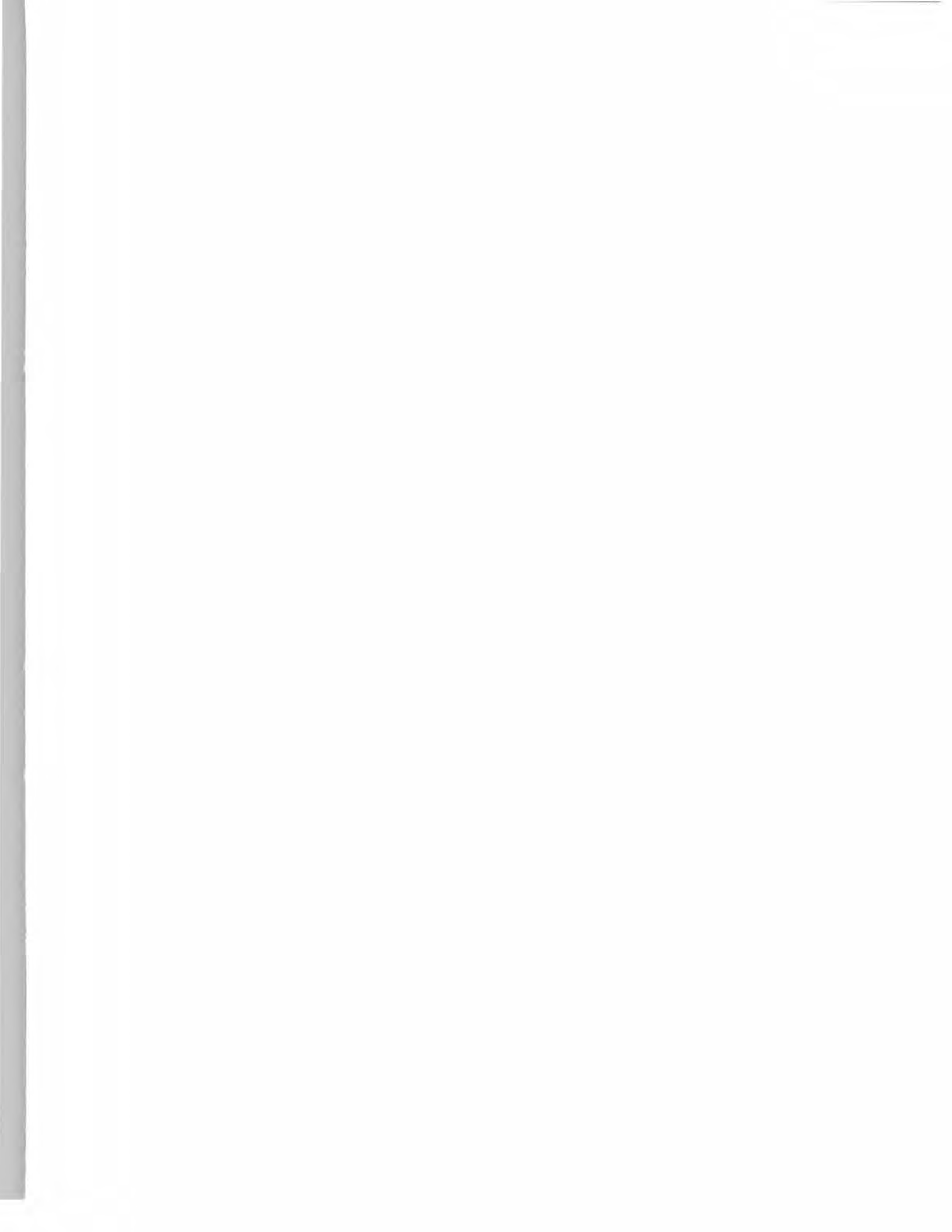
Doctor of Optometry (O.D.), p. 196

Doctor of Philosophy (Ph.D.)

biology, p. 76
chemistry, p. 81
physics, (cooperative with UM-Rolla) p. 113
political science, p. 117
psychology, p. 121

The image features a complex abstract composition of geometric shapes. A large, dark grey rectangle occupies the top-left portion. A horizontal black bar is positioned across the upper-middle section, containing the text 'College of Arts and Sciences'. Below this, a light grey area is partially covered by a dark grey L-shaped block on the left. A prominent, thick, black wavy line curves across the lower-middle section. To the right of this wavy line is a vertical black bar. In the bottom-left area, there is a small white square. The overall design is minimalist and modern, using a monochromatic palette of greys, blacks, and whites.

College of Arts and Sciences



General Information

The College of Arts and Sciences consists of some 275 full-time faculty members in the following departments, each offering work in specific undergraduate degree programs; administration of justice; anthropology; art; biology; chemistry; communication; economics; English; history; mathematics and computer science; modern foreign languages and literatures; music; philosophy; physics; political science; psychology; social work; and sociology.

Graduate study degree programs, administered through the Graduate School, are also offered in the following departments of the College of Arts and Sciences: administration of justice, biology, chemistry, economics, English, history, mathematics and computer science, physics, political science, psychology, and sociology. An interdisciplinary master's degree in public policy administration is offered in cooperation with the School 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.

Requirements of the College of Arts and Sciences for Undergraduate Study

In addition to the University General Education requirements, all majors in the College of Arts and Sciences must meet the following requirements:

I Non-Euro-American Study To expose students to a culture radically different from their own, the College requires that students complete a three-hour course which focuses primarily upon aspects of a culture and not upon the interactions of that culture with Euro-American cultures. This requirement may be met by **one** of the following courses:

Anthropology 71, Native American Literature
Anthropology 121, Modern Aztec and Maya
Anthropology 122, Indians of North America
Anthropology 123, Cultures of Asia
Anthropology 124, Cultures of Africa
Anthropology 125, World Cultures
Anthropology 131, Archaeology of Missouri
Anthropology 132, Archaeology of North America
Anthropology 133, World Prehistory
Anthropology 134, The Inca, Aztec, and Maya
Anthropology 141, Sexual Behavior
Art 15, Art of Africa, Oceania and the Americas
Art 16, North American Indian Art
Art 17, African Art
Art 18, Survey of Asian Art
Art 19, Pre-Columbian Art of Mexico and Central America
English 71, Native American Literature
History 61, East Asian Civilization
History 62, East Asian Civilization
History 71, Latin American Civilization
History 72, Mexican Civilization
History 81, African Civilization To 1800
History 82, African Civilization Since 1800
History 101, History of Women in Comparative Cultures
History 162, The Chinese Revolution: Readings in Chinese Literature
History 361, Modern Japan: 1850 to the Present

History 362, Modern China: 1800 to the Present
History 371, History of Latin America: To 1808
History 372, History of Latin America: Since 1808
History 381, West Africa Since 1800
History 382, Crisis in Southern Africa
Music 9, Non-Western Music
Music 10, Non-Western Music
Philosophy 120, Asian Philosophy
Political Science 155, Asian Comparative Politics
Political Science 252, The Politics of Modernization
Political Science 253, Political Systems of South America
Political Science 254, Political Systems of Mexico, Central America and the Caribbean
Political Science 289, Middle Eastern Politics

II To graduate, **all** majors in the College also **must complete** the following:

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

College of Arts and Sciences Academic Policies

Grade Requirements

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

- 1)** Earn **120** graded hours with a **C grade or better** which constitutes a complete degree program and does **not** include a satisfactory/unsatisfactory basis.
- 2)** Earn a **cumulative** grade point average of **2.0 or better** for all hours attempted with a minimum of **120** hours.

This College of Arts and Sciences policy supersedes the statement under General Education Requirements.

Specific Baccalaureate Degree Requirements

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.

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. Guidelines for students according to prior foreign language training are as follows:

- 1)** Students entering with **no high school language units** must enroll in Language 1 or may enroll in the 115 series (see section 5).
- 2)** Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption and/or credit 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 Modern Foreign Languages.

General Information

- 3) Native speakers** may meet the foreign language requirement by presenting proof of competence. 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)** Students in German and Russian may substitute Scientific Language 100 for Language 101. Students in French and Spanish may substitute Language 105 (Commercial) for Language 101.
- 5)** Language 115 a, b, c (Intensive) will satisfy the foreign language requirement.
- 6)** 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.

Applied Music and Studio Art All students in the College may count any number of hours of applied music (private lessons) or studio art courses toward any degree in the College. This also includes transferred credit. However, students **not** majoring in music may count **no more than eight hours** in music-performing organizations (Music 40, 41, 50, 52, etc.) toward graduation, including credit transferred. Moreover, courses in studio art and applied music (private lessons or performing organizations) do **not** fulfill general education requirements in the humanities.

Bachelor of Science (B.S.) The College offers the B.S. degree in applied mathematics, biology, chemistry, computer science, economics, physics (with emphasis in either applied physics or astrophysics), 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 a foreign language proficiency. See departmental degree requirements for information.

Bachelor of Science in Administration of Justice (B.S.A.J.) The College also offers a Bachelor of Science in Administration of Justice degree program with four emphasis areas: American Policing System; Planning and the Administration of Justice; Etiology and Prevention; and Treatment of Offenders. No foreign language proficiency is required.

Bachelor of Science in Public Administration (B.S.P.A.) The B.S.P.A. degree program is administered through the political science department and offers an interdisciplinary approach requiring 12 hours in a particular specialization along with a core curriculum in political science.

Bachelor of Science in Social Work (B.S.W.) The Department of Social Work offers the B.S.W. degree, stressing the scientific and applied aspects of social work. No foreign language proficiency is required.

Bachelor of Music (B.M.) The requirements are the same as for the B.A. degree with the addition of music education courses for those music majors seeking state teacher certification. Although a foreign language proficiency is not required, foreign-language study is required for applied voice students.

Minors

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

Special Programs in the College of Arts and Sciences

Certificate Programs

Certificate programs are offered in Biochemistry, Biotechnology, Gerontology, Photographic Studies, Studies in Religions, Writing, Women's Studies, and East Asian, European, Latin American, and International Studies. For details, see Certificate Programs.

Pierre Lacléde Honors Program

This program is a unique four-year honors curriculum for highly-motivated students. Open to entering students, transfer students, and freshmen, it offers challenging work—a series of ten special honors courses—and fulfills the University's General Education requirements.

Advantages include small classes, personal attention, a flexible curriculum, recognition upon completion of one's degree, and financial aid.

Admission is based on grades, SAT or ACT scores, and adviser recommendations. Current freshmen at UM-St. Louis may be admitted if they apply before their second semester. Admission normally requires a 3.1 GPA and instructor recommendation.

For information and application call the Lacléde Honors Program director at (314) 553-5699.

Departmental Honors

Majors in the following departments may pursue Departmental Honors: art, chemistry, economics, English, history, modern foreign languages, music, and political science.

College Honors

Students who have received Sophomore Honors and completed the requirements for Departmental Honors are eligible for College Honors. In addition, on an annual basis, the College sends letters of commendation to part-time undergraduate students who have earned a 3.2 grade point average or above in at least nine but not more than 17 graded hours taken during the fall and winter semesters combined.

General Information

Cooperative Education and Internship Programs

Cooperative Education and Internship Programs offer students an opportunity to gain career-related experience and earn substantial incomes while enrolled in school. These programs are available to students in several disciplines within the College of Arts and Sciences. The programs are administered through the Career Planning and Placement Office.

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.

Administration of Justice

Faculty

Scott H. Decker, Chairperson; Professor*
Ph.D., Florida State University
Robert Bing, III, Assistant Professor
Ph.D., Florida State University
John Cosgrove, Adjunct Lecturer
M.A., University of Missouri-St. Louis
Kimberly Kempf, Assistant Professor*
Ph.D., The Wharton School, University of Pennsylvania
Patrick G. Jackson, Assistant Professor*
Ph.D., University of California-Davis
Honorable Theodore McMillian, Adjunct Professor
J.D., St. Louis University
Ronald Sherod, Adjunct Associate Professor
J.D., Washington University
Allen E. Wagner, Associate Professor*
Ph.D., Washington University
Richard Wright, Associate Professor*
Ph.D., Cambridge University
Edward Tripp, Adjunct Lecturer
M.S.W., St. Louis University
James Smith, Adjunct Lecturer
M.A., Washington University

*members of Graduate Faculty

Administration of justice faculty represent several academic disciplines. Theory and practice are both considered in conceptualizing justice, a factor that is unique to faculty publications and research. All components of justice are represented; crime prevention, arrest, prosecution, defense, court, probation, prison, and parole. A strong element is a cadre of local professionals who supplement the regular faculty. A federal appeals-court judge, a local prosecutor, and a defense attorney are among this group. Merging theory with practice is a daily routine for these supplemental faculty members, while full-time faculty continue to provide the basis of a sound liberal arts education.

General Information

Degrees and Areas of Concentration

The department offers courses leading to the bachelor of science degree in administration of justice. The degree program consists of a core curriculum and four areas of concentration: 1) American Policing System, 2) Treatment of Offenders, 3) Etiology and Prevention, and 4) Planning and the Administration of Justice.

Cooperative Programs Members of the administration of justice faculty hold appointments as Fellows in the Center for Metropolitan Studies. Workshops, projects, credit courses, and other special services are brought to the criminal justice community.

Internships Administration of justice majors are strongly encouraged to participate in Administration of Justice 395, Field Placement, during their senior year. The internship affords students the opportunity to gain experience in a criminal justice agency under the joint supervision of agency personnel and administration of justice faculty.

Minor in Administration of Justice The minor in the administration of justice is designed to offer flexibility; students are given a choice of four individualized sequences in the discipline. The minor also gives formal recognition to those students from other major areas who find that administration of justice courses fit their academic or professional needs and/or interests.

Undergraduate Studies

General Education Requirements

Majors in administration of justice must satisfy the University and College general education requirements. Foreign language proficiency is not required. Majors may **not** take the following courses on a satisfactory/unsatisfactory basis: administration of justice courses; Sociology 220, Quantitative Techniques in Sociology; or Sociology 230, Research Methods, courses required for the major. Additionally, substitutions which have been approved by departmental advisers for these courses may not be taken on a satisfactory/unsatisfactory basis.

Degree Requirements

Bachelor of Science in Administration of Justice

Candidates must complete the core curriculum listed below and one of the following areas of concentration: 1) American Policing System; 2) Treatment of Offenders; 3) Etiology and Prevention; or 4) Planning and the Administration of Justice.

The core curriculum and the chosen option must include a minimum of 35 credit hours in administration of justice courses.

Core Curriculum The following courses in administration of justice are required:

AOJ 70, Criminal Law and Procedure
AOJ 101, Criminal Justice Processes and Institutions
AOJ 201, The Criminal Justice System: Conflicting Perspectives I
AOJ 215, Criminal Justice Data
AOJ 380, Seminar in Administration of Justice
AOJ 399, Independent Study and Research

Also required are:

Interdisciplinary 99, The City
Sociology 10, Introduction to Sociology
Sociology 230, Research Methods
Sociology 326, Criminology

Administration of Justice

American Policing System The required courses are the following:

AOJ 71, Evidence
AOJ 250, Police Administration
AOJ 260, Police-Community Relations
AOJ 310, Community Approaches to Prevention and Control of Crime and Delinquency
AOJ 325, Criminal Law in Action
Economics 40, Introduction to the American Economy
Political Science 140, Public Administration
Psychology 235, Community Psychology
Sociology 202, Urban Sociology or **Political Science 320**, Introduction to American Constitutional Law

Treatment of Offenders The required courses are the following:

AOJ 330, Correctional Institutions
AOJ 340, Probation and Parole
Psychology 3, General Psychology
Psychology 235, Community Psychology
Psychology 245, Abnormal Psychology

Also required are **two** courses from the following:

Psychology 225, Behavior Modification
Psychology 271, Adolescent Psychology
Psychology 346, Introduction to Clinical Psychology
Psychology 365, Psychological Tests and Measurements

In addition, the candidate must complete **two** courses from the following:

AOJ 205, The Juvenile Justice System
AOJ 225, The Juvenile and the Law
AOJ 227, Urban Law: Poverty and the Justice System
AOJ 310, Community Approaches to Prevention and Control of Crime and Delinquency
AOJ 325, Criminal Law in Action

Etiology and Prevention The required courses are the following:

AOJ 205, The Juvenile Justice System
AOJ 225, The Juvenile and the Law or **AOJ 227**, Urban Law: Poverty and the Justice System
AOJ 310, Community Approaches to Prevention and Control of Crime and Delinquency
AOJ 330, Correctional Institutions
AOJ 340, Probation and Parole
Psychology 3, General Psychology

and **one** course from the following three:

Psychology 245, Abnormal Psychology
Psychology 270, Child Psychology
Psychology 271, Adolescent Psychology

Planning and the Administration of Justice The required courses are the following:

AOJ 205, The Juvenile Justice System
AOJ 250, Police Administration
AOJ 330, Correctional Institutions
Economics 301, Urban Environment and Planning or
Economics 302, Planning Processes in the Urban Economy

Political Science 140, Public Administration
Political Science 242, Introduction to Public Policy
Political Science 244, Public Budgeting
Political Science 342, Public Personnel Management
Sociology 336, Bureaucracy and Social Order

Requirements for the Minor

All minor candidates must take:

AOJ 70, Criminal Law and Procedure
AOJ 101, Criminal Justice Processes and Institutions

The candidate must then select from one of the following areas of concentration:

Policing (6 hours)

AOJ 250, Police Administration
AOJ 260, Police-Community Relations

Corrections (6 hours)

AOJ 330, Correctional Institutions
AOJ 340, Probation and Parole

Juvenile (6 hours)

AOJ 205, The Juvenile Justice System
AOJ 225, The Juvenile and the Law

Law and Judicial Process (6 hours)

AOJ 225, The Juvenile and the Law
AOJ 325, Criminal Law in Action

Candidates must 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 basis.

Graduate Studies

Master of Arts in Administration of Justice

The department offers a Master of Arts degree in Administration of Justice which provides students with advanced theoretical and methodological training for research and management careers in criminal justice.

Admission Requirements The minimum G.P.A. for regular admission to graduate study is 2.75 on a 4-point scale. However, students may be admitted under restricted status with a G.P.A. of 2.5. Completion of the Graduate Record Exam is required for admission, but students may be admitted conditionally (typically for not more than one semester) prior to taking the exam.

Degree Requirements

The M.A. in Administration of Justice requires the completion of 33 credit hours, at least 18 of which are in Administration of Justice. A 15-hour core course requirement must be satisfied by all students. Additionally, M.A. candidates must take at least two of four graduate "option" courses offered by the department. Students may choose between a thesis and non-thesis course of study.

Administration of Justice

Core Curriculum

AOJ 400, Proseminar: The Administration of Justice
AOJ 410, Criminal Justice Organization
AOJ 464, Seminar in Criminological Theories
AOJ 475, Introduction to Evaluation Research Methods
Political Science 401, Introduction to Policy Research
or **Sociology 404**, Advanced Methodology

"Option" Courses

AOJ 402, Correctional Theory and Practice
AOJ 403, Urban Police Function
AOJ 404, The Adjudication Process
AOJ 405, Juvenile Justice

Transfer Courses

Transfer courses are evaluated for acceptance on a case-by-case basis subject to the rules and regulations of the Graduate School.

Career Outlook

The orientation of the administration of 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 administration of 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 Administration of Justice as preparation for law school.

The interdisciplinary curricula unify a body of knowledge from criminology, social science, law, public administration and corrections, giving a unique preparation and providing the student with an understanding of the assumptions, values, and processes of the system of justice. Many prelaw students choose administration of 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 which form an integral part of this program help the student arrive at a career decision.

Anthropology

Faculty

Van A. Reidhead, Chairperson, Associate Professor*
Ph.D., Indiana University

Mridula Durbin, Visiting Assistant Professor
Ph.D., SUNY-Buffalo

Vicki Holtzapple, Visiting Assistant Professor
Ph.D., Washington University

Helan E. Page, Assistant Professor*
Ph.D., Northwestern University

Joseph M. Nixon, Director Archaeology Survey, Associate
Research Professor
Ph.D., University of Illinois-Carbondale

Hernan Torres, Research Associate
Ph.D., Washington University
L.L.D., University of the Cauca

Jeffrey P. Bonner, Adjunct Assistant Professor; Director of
Research, St. Louis Science Center
Ph.D., Columbia University

*members of Graduate Faculty

General Information

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 environment and to improve our lot in the face of perpetual change. The Department of Anthropology strives to teach and encourage the following:

- 1) the concepts and skills required for responsible individual participation in the evolution of culture in the family, the work place, the local community, the nation, and the globe;
 - 2) mastery of the academic skills of theoretical conceptualization, and critical evaluation, applied to cultural contexts;
 - 3) individual and community skills for material and emotional survival in the high technology age;
 - 4) development of ability to conduct independent investigations of social and cultural conditions, to draw conclusions, and to present findings and recommendations in a professional manner;
 - 5) the use of academic and personal skills to make oneself valuable in diverse employment settings;
 - 6) growth, in the individual, of a routed sense of place and meaning in relation to self, society and the cosmos.
- The study of anthropology, in fact, provides a liberal education that is applicable to any work or life context.

Degrees and Areas of Concentration A bachelor of arts in anthropology is offered with a focus on applied and theoretical skills. The anthropology faculty is actively involved in social, cultural, and archaeological research in the St. Louis area and elsewhere. These activities allow students to practice newly acquired skills and do independent research at the undergraduate level. The projects UM-St. Louis students have worked on include studies of Souldard Farmers Market, a local day-care center, the cultural survival and economic self-development of the native American Indian people of metropolitan St. Louis and the Navajo Reservation, the adjustment of foreign students to campus life at UM-St. Louis, and the role of advertising in creating culture.

They have worked on numerous archaeological digs of prehistoric and historic Indian and pioneer cultures, and have played an active role in research aimed at preserving archaeological sites in the face of industrial development. Papers written by students from these studies have been presented at professional meetings, published in national and local journals, and presented to government agencies for use in development and planning.

The Anthropology Department supports the Archaeological Survey, a contract research office serving regional construction projects. Students can be trained in this research through internships with the Archaeology Survey and through the Summer Archaeological Field School. The site for the summer field school in recent years is a prehistoric Indian village in Bridgeton, Missouri.

Minor in Anthropology The minor in anthropology is designed to offer students a flexible introduction to the fundamentals of the discipline to complement their major field of study.

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. Six hours of credit will be accepted for courses taken on a satisfactory/unsatisfactory (S/U) basis from any departmental elective or major requirement. (Seven hours will be accepted if Anthropology 5, a four-hour course, is taken on this basis.)

Degree Requirements

Bachelor of Arts in Anthropology Candidates must complete the following **core requirements**:

Anthropology 5, Human Origins

Anthropology 11, Man, Culture, and Society

Anthropology 205, Introduction to Models in the Social Sciences (same as Political Science 205, Sociology 205, and Interdisciplinary 205) or **Anthropology 202**, Politics, Symbolism and Culture

Anthropology 301, Ideas and Explanations in Anthropology, intensive

Anthropology 302, Strategies in Social Organization, Intensive

Anthropology 308, Practicum in Research Methods, Intensive

Sociology 220, Quantitative Techniques in Sociology or

Psychology 101, Psychological Statistics, or **Business**

Administration 131, Elementary Statistics, or **Mathematics 31**,

Elementary Statistical Methods

In addition, students must take at least 12, but no more than 25, hours of electives in anthropology. No more than three credit hours may be from courses below the 100 level.

Anthropology

Minor in Anthropology A minor in anthropology consists of **six** courses or 19 hours. All minor degree candidates must take:

Anthropology 5, Human Origins

Anthropology 11, Man, Culture, and Society

Candidates for the minor must also select at least **one** course from the following three **anthropology** courses:

101/301, Ideas and Explanations in Anthropology

102/302, Strategies in Social Organization

108/308, Practicum in Research Methods

Candidates must also select **nine hours** or **three courses** in anthropology to complete the course/credit hour requirement.

Grades of C or better should be attained in all courses used to satisfy these requirements. One course taken on satisfactory/unsatisfactory (S/U) basis may be applied toward the minor.

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 is important. Graduates of UM-St. Louis' program have found employment 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 an excellent preparation for graduate training in administration, the helping professions, development work, law school, environmental studies, business, and advanced education in many other areas depending upon individual interests. Many UM-St. Louis Anthropology graduates have gone on to advanced training in master's and doctoral programs in respected universities around the country. The employment forecast for people with M.A. and Ph.D. degrees in Anthropology is excellent.

Art

Faculty

Thomas Pickrel, Chairperson; Associate Professor*
Ph.D., University of Kansas

Kenneth Anderson, Associate Professor*

M.F.A., Southern Illinois University, Edwardsville

Janet C. Berlo, Associate Professor*

Ph.D., Yale University

Paul Corby Finney, Associate Professor*

Ph.D., Harvard University

Ruth L. Bohan, Associate Professor*

Ph.D., University of Maryland

Yael Even, Assistant Professor*

Ph.D., Columbia University

Tom Patton, Associate Professor*

M.F.A., University of New Mexico, Albuquerque

Jean Tucker, Lecturer

M.A., Washington University

Thomas Kochheiser, Lecturer

M.A., Oberlin College

*members of Graduate Faculty

The art department faculty has distinguished itself through its research and publications, its exhibitions and awards, and its acquisitions of honors and grants. Faculty members in art history have received grants from NEH, the American Philosophical Society, NEA, the Missouri Arts Council, the Getty Foundation, and the Mellon Foundation. Department research in art history has been published in distinguished journals and presented to academic meetings and organizations. All studio faculty exhibit nationally in group- and solo-juried and invited exhibitions. Their work has been supported by show awards, Ford Foundation, and University Research and Curriculum Development grants.

General Information

Degrees and Areas of Concentration The department offers course work leading toward the bachelor of arts in art history. Some courses survey traditional areas of study in the history of art; others concentrate on important artists, artistic theories, or movements. Several special-interest courses are available in non-Euro-American areas and on other topics. The diverse academic interests of the art history faculty ensure a varied selection of courses within a traditional art historical framework. The department has a slide collection of over 70,000 works and maintains facilities for student study of slides. A slide curator is available for special assistance to staff and students.

Studio offerings are also available in the department. Currently, course work is offered as enrichment to students majoring in art history and other fields. Students who wish to enroll in a substantial number of studio courses should consult with a faculty adviser. The faculty wishes to increase the visual skills and the insights of students who have varied experiences and backgrounds. Drawing, painting, print-making, graphic design, and photography labs may be available. Individual study is offered under special circumstances.

Gallery 210 In addition to academic and studio courses, the department maintains an exhibition space, Gallery 210. The gallery produces a variety of public exhibits during the academic year under faculty supervision or with the assistance of distinguished guest directors. Through the gallery, the department offers aesthetic displays not otherwise available in the area and makes them available to the campus and metropolitan communities.

Internships A limited number of internships and work opportunities are also sponsored by the department.

Undergraduate Studies

General Education Requirements

Majors in art history must meet the College and University general education requirements. A foreign language is required. Art history courses required for the degree may not be taken on a satisfactory/unsatisfactory (S/U) basis.

Departmental courses in art history fulfill the humanities general education requirement; courses meeting the non-Euro-American study requirement are Art 15, Art of Africa, Oceania, and the Americas; Art 16, North American Indian Art; Art 17, African Art; Art 18, Survey of Asian Art; Art 19, Pre-Columbian Art of Mexico and Central America; and Art 315, Studies: Tribal Arts.

Students may take any number of studio courses and apply them as elective credit toward a degree in other fields. They do not fulfill the humanities requirement.

Degree Requirements

Bachelor of Arts in Art History Candidates for this degree study the history of the visual arts from prehistory to the present. A minimum of 35, but no more than 45, hours in art history must be taken. The following courses are required:

Art 5, Introduction to Art

Art 303, Media and Technique in Art History

Art 395, Senior Art History Seminar

In addition to these specific requirements, majors must complete at least one course in each of the following areas: Non-Western arts, Classical Art and Archaeology, Medieval, Renaissance, Baroque, and American/Modern, with choices to be made from the following art courses:

15, Art of Africa, Oceania and the Americas

16, North American Indian Art

17, African Art

18, Survey of Asian Art

19, Pre-Columbian Art of Mexico and Central America

215, Greek Art and Archaeology

216, Roman Art and Archaeology

225, Medieval Art

235, Renaissance Art

245, Baroque Art

255, Modern Art

258, American Art

Art

- 259, Modern Architecture
- 315, Studies: Tribal Arts
- 316, Studies in Ancient Art
- 325, Early Christian Art and Archaeology
- 326, Monasteries, Cathedrals and Preaching Churches
- 335, Artists and Theories of the Renaissance
- 345, Age of Grandeur: Perspectives in 17th and 18th Century Art
- 356, Nineteenth Century Art
- 357, Twentieth Century Art

At least **nine credit hours** must be taken in art history courses numbered 300 or above.

Nine hours in studio art may be applied toward the required hours for the B.A. in art history. French or German is recommended for the foreign language requirement. Advisers will help students select studio art electives.

Minors

Minor in Art History A minor in art history requires the completion of a program of courses, at least 15 hours and normally not more than 18, with a grade point average of 2.0 or better. This program can consist of an historical survey of the basic periods in Western Art History, Classical through Modern. Alternatively, it can be a group of courses which are coherent in theme, methodology, or art-historical scope, which has been specified in advance with an adviser from the art department, and which has the approval of the department chairperson.

Minor in Studio Art Students who wish to minor in studio art must take a minimum of 18 hours with a grade point average of 2.0 or better. The requirements for the minor are as follows:

- Art 40, Basic Drawing I
- Art 140, Basic Drawing II
- Art 50, Basic Design I

and **two consecutive courses** (six hours) in any single area to be selected from the following (students should be aware that courses are not always available in all areas):

- Painting
- Printmaking (any one subfield)
- Photography
- Graphic Design
- Advanced Drawing

plus **a studio art elective:** one three-hour course.

Pre-Professional Graduation

The Department of Art sponsors the 3+4 Program for the School of Architecture at Washington University. A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate 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 a major and lacks only the total hours (electives) necessary for a degree.
- 2) A student who has not completed required courses for a degree must remedy the deficiency with courses taken at the University of Missouri-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 the professional school.
- 3) A student who has not completed all the courses required for a major may, if the major department at UM-St. Louis agrees, 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.

Career Outlook

Students in art history have found career opportunities in museums, galleries, sales and auction houses, libraries as art conservators, on art journal and editorial staffs, and even as travel guides. In addition, the undergraduate degree in the field prepares one for further study in art history or related areas and for teaching. Study in art history broadens and enriches a general education, offering insight into the visual, architectural, and cultural artifacts left by earlier as well as modern civilizations.

Students of studio art begin a preparation for careers in fine and applied arts. Some foundation courses in the field are available. It is usually possible to transfer credit for these courses to other colleges and universities which offer a B.A. or B.F.A. degree.

Biology

Faculty

Zuleyma T. Halpin, Interim Chair, Associate Professor*
Ph.D., University of California-Berkeley

Robert I. Bolla, Professor*
Ph.D., University of Massachusetts-Amherst

Thomas B. Croat, Adjunct Professor*
Ph.D., University of Kansas

Charles R. Granger, Professor*
Ph.D., University of Iowa

Arnold B. Grobman, Professor Emeritus*
Ph.D., University of Rochester

Marshall R. Crosby, Adjunct Professor*
Ph.D., Duke University

Enrique Forero, Adjunct Professor*
Ph.D., City University of New York

Kenneth D. Laser, Adjunct Professor*
Ph.D., Iowa State University

Peter H. Raven, Adjunct Professor*; Director, Missouri Botanical Garden
Ph.D., University of California-Los Angeles

Martin Sage, Professor
Ph.D., Nottingham University

Monroe W. Strickberger, Professor*
Ph.D., Columbia University

Lon A. Wilkens, Professor*
Ph.D., Florida State University

William G. D'Arcy, Adjunct Associate Professor*
Ph.D., Washington University

Albert Derby, Associate Professor*
Ph.D., City University of New York

Harvey P. Friedman, Associate Professor*
Ph.D., University of Kansas

Lawrence D. Friedman, Associate Professor*
Ph.D., University of Wisconsin

Alwyn H. Gentry, Adjunct Associate Professor*
Ph.D., Washington University

Peter Goldblatt, Adjunct Associate Professor*
Ph.D., University of Cape Town, South Africa

Donald E. Grogan, Associate Professor*
Ph.D., University of Missouri-Columbia

James H. Hunt, Associate Professor*
Ph.D., University of California-Berkeley

Victoria Sork, Associate Professor*; Director of Graduate Studies
Ph.D., University of Michigan

Jane A. Starling, Associate Professor*
Ph.D., The William Marsh Rice University

Teresa Thiel, Associate Professor*
Ph.D., Case Western Reserve University

Judith E. Bramble, Adjunct Assistant Professor*
Ph.D., University of North Carolina

Jerry L. Bryant, Jr., Assistant Professor
Ph.D., Massachusetts Institute of Technology

Ola M. Fincke, Adjunct Assistant Professor*
Ph.D., University of Iowa

Sandra S. Gottfried, Assistant Professor
Ph.D., University of Connecticut

Barry E. Hammel, Adjunct Assistant Professor*
Ph.D., Duke University

Peter C. Hoch, Adjunct Assistant Professor*
Ph.D., Washington University

Robert J. Marquis, Assistant Professor
Ph.D., University of Iowa

Nancy R. Morin, Adjunct Assistant Professor*
Ph.D., University of California-Berkeley

Stephen S. Mulkey, Assistant Professor*
Ph.D., University of Pennsylvania

Jill M. Trainer, Adjunct Assistant Professor*
Ph.D., University of Michigan

Carl L. Thurman, Visiting Assistant Professor*
Ph.D., University of Minnesota

Edwin W. Joern, Lecturer
M.S., University of Missouri-Columbia

Ann O. Wilka, Lecturer, Director of Undergraduate Laboratories
M.S., University of Illinois

*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; and, in cooperation with the School of Education, offers the B.S. in secondary education with a major in biology and the B.A. or B.S. in biology with teacher certification. The Department of Biology also offers graduate work leading to the Master of Science and the Doctor of Philosophy degrees in Biology. The Ph.D. program, in cooperation with the Missouri Botanical Garden, offers a concentration in Evolutionary Biology with emphasis areas of Plant Systematics and Environmental Studies.

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 which 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 a 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 390, Research; and 3) complete an honors thesis based on Biology 390 research work. The academic record and thesis will be evaluated by the Honors Committee 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. Students should consult their adviser and the chairperson of the biology department.

Biology

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. degree in three broad areas of biology: (a) Cellular, Molecular, and Developmental Biology, (b) Physiology and Organismal Biology, and (c) Ecology, Evolution, and Systematics. Graduate students in the Ph.D. program will receive training in several areas of Evolutionary Biology. 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 through our 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 in the areas of Plant Systematics and Environmental Studies and to prepare tropical biologists for leadership and scientific positions involving the conservation and management of tropical ecosystems.

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. Out-of-state 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 February 1.

Facilities Department facilities include research and teaching laboratories, environmental chambers, greenhouses, animal care rooms, and a large array of supporting modern research instrumentation. Also available are wildlife facilities at Weldon Springs Experimental Farm and Tyson Tract, both within 30 to 45 minutes of the campus.

Cooperative Programs The department also participates in a cooperative consortium program in biology with Washington University, St. 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. Biology courses may be used to meet the science and mathematics requirement of the University.

The foreign language requirement of the College of Arts and Sciences fulfills the departmental requirements for the B.A. degree. There is no foreign language requirement for the B.S. degree.

Satisfactory/Unsatisfactory Option

Up to 24 credit hours may be taken on a satisfactory/unsatisfactory basis. Excluded from this option are required courses in chemistry, physics, mathematics, or psychology, and biology courses other than Biology 389, Seminar, and Biology 390, Research.

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. All biology majors must take at least 37 credit hours in biology including the following **biology foundation** courses: (19 hours)

Foundation Courses

- 10, Introductory Biology
- 210, Cell Structure and Function
- 224, Genetics
- 246, Introduction to Evolution
- 276, Biological Chemistry
- 289, Seminar or 285, Methods of Teaching Biology in Secondary Schools (for those seeking teacher certification)

Breadth Requirements Flexibility is available in choosing the remaining biology courses, but some restrictions are placed on both the lectures and laboratories that can be taken to make up the 37-hour requirement. At least **one lecture course must be taken in each of the following areas:**

Area A

- 213, Vertebrate Physiology
- 235, Development
- 254, General Plant Physiology and Development

Area B

- 220, General Ecology
- 280, Animal Behavior
- 342, Population Biology

Area C

- 250, Biology of Plants
- 260, Vertebrate Biology
- 264, Invertebrate Biology

Laboratory Course Requirements In addition to the lecture course requirements, **three laboratory courses** of two credit hours each will be required. To ensure diversity in laboratory experience, the three laboratories must be distributed so that at least one laboratory is taken in any two of the following four groups.

Group 1

- 212, Histology and Microtechniques
- 218, Microbiology Lab
- 278, Biological Chemistry Lab
- 319, Immunology Lab
- 336, Virology Lab
- 378, Advanced Biological Chemistry Lab

Biology

Group 2

- 215, Vertebrate Physiology Lab
- 226, Genetics Lab
- 237, Development Lab
- 315, Comparative and Environmental Physiology Lab
- 322, Neurophysiology Lab
- 332, Advanced Development Lab
- 352, Plant Physiology Lab
- 372, General and Comparative Endocrinology Lab

Group 3

- 222, General Ecology Lab
- 282, Animal Behavior Lab
- 344, Population Biology Lab
- 382, Advanced Animal Behavior Lab
- 383, Biosystematics Lab

Group 4

- 252, Biology of Plants Lab
- 262, Vertebrate Biology Lab
- 266, Invertebrate Biology Lab
- 307, Nonvascular Plant Lab
- 308, Vascular Plant Lab
- 366, Adaptive Radiation of the Vertebrates Lab

The remaining three hours required to complete the 37-hour requirement are elective hours and can consist of any biology course that is numbered 200 or above. Off-campus transfer students must satisfactorily complete at least 12 credit hours of UM-St. Louis biology course work (including two laboratories) at the 200 level or above before receiving a B.A. degree from the College of Arts and Sciences with a major in biology.

Related Area Requirements

The following courses in **chemistry** are required:

- 11, Introductory Chemistry I (or 1, General Chemistry I plus 9, General Chemistry II)
- 12, Introductory Chemistry II
- 261, Structural Organic Chemistry

and one of the following **chemistry** courses:

- 122, Quantitative Analysis
- 262, Organic Reactions
- 263, Techniques of Organic Chemistry

Also required:

- Mathematics 30**, College Algebra and **Mathematics 35**, Trigonometry or **Mathematics 40**, Precalculus Mathematics
- Mathematics 31**, Elementary Statistical Methods or **Mathematics 132**, Applied Statistics I or **Education 320**, Educational Statistics or **Psychology 101**, Psychological Statistics or **Biology 388**, Biometry.
- Mathematics 101**, Survey Calculus or **Mathematics 80**, Analytical Geometry and Calculus
- Physics 11**, Basic Physics
- Physics 12**, Basic Physics

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 foundation courses, breadth,

and General Education requirements as those seeking the Bachelor of Arts degree. In addition certain minimal requirements in depth of study, laboratory experience, research, data processing, communication skills and background in associated science areas are required.

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.

In order 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. A minimum of 23 hours in biology must be completed at UM-St. Louis. Candidates must have a cumulative grade point average of 2.0 or better in biology courses.

Foundation Courses

All candidates for the B.S. degree must successfully complete the same basic courses as those for the B.A. degree.

Breadth Requirements To ensure a minimum of breadth, candidates for the B.S. degree must take at least one course in each of the following areas:

Area A

- 213, Vertebrate Physiology
- 216, Microbiology
- 235, Development
- 254, General Plant Physiology and Development

Area B

- 220, Ecology
- 280, Animal Behavior
- 342, Population Biology
- 395, Field Biology
- 396, Marine Biology

Area C

- 250, Biology of Plants
- 260, Vertebrate Biology
- 264, Invertebrate Biology

Depth Requirement Students must take at least two 300-level lecture courses. Selection should reflect the career interest of the student and at least one of the courses should be in a topic area that could lead to an independent research project (Biology 390).

Laboratory Experience A minimum of five laboratory courses must be taken to satisfy the Bachelor of Science requirements. It is strongly suggested that at least one laboratory experience be at the 300 level. Introductory and General Biology laboratories do not count toward this requirement.

Biology

Basic Skills Requirement

There are certain skills outside the biology subject matter that are needed to function adequately in a research environment. The Basic Skills Requirement is designed to provide the student with a background in data processing and communication and knowledge in associated science areas.

1) Data Processing Students must show a basic understanding of mechanisms for handling data by successfully completing **one** course in each of the following sets:

Set A. Statistics

Mathematics 31, Elementary Statistical Methods or **Mathematics 132**, Applied Statistics I or **Education 320**, Educational Statistics or **Psychology 101**, Psychological Statistics or **Biology 388**, Biometry.

Set B. Computer Science

Mathematics 22, Introduction to Computing or **Mathematics 122**, Computers and Programming

2) Communication Skills Courses in formal speaking and technical writing are required to develop the minimal communication skills needed to transmit scientific information. The following two courses satisfy this requirement:

Communication

Communication 40, Introduction to Public Speaking

Writing

English 213, Technical Writing

3) Associated Science Area The following courses or their equivalents must be successfully completed in science areas related to biology:

Physics 11, Basic Physics

Physics 12, Basic Physics

Chemistry 11, Introductory Chemistry I or **Chemistry 1**, General Chemistry I **plus Chemistry 9**, General Chemistry II

Chemistry 12, Introductory Chemistry II

Chemistry 261, Structural Organic Chemistry

Chemistry 262, Organic Reactions

Chemistry 263, Techniques of Organic Chemistry or Chemistry 122, Quantitative Analysis

Philosophy 280, Philosophy of Science

Mathematics 30, College Algebra and **Mathematics 35**,

Trigonometry or **Mathematics 40**, Precalculus Mathematics

Mathematics 101, Survey Calculus or **Mathematics 80**, Analytical Geometry and Calculus I

Research Requirement

All students acquiring a Bachelor of Science degree are strongly encouraged to complete a minimum of two credit hours of undergraduate research, Biology 390. 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.

Biology majors may take any of the following 100-level biology courses:

110, Human Biology

115, Human Heredity and Evolution

116, General Microbiology

120, Environmental Biology

150, Plants and Civilization

These courses **do not count** toward the credit hours required for a major, but they will be included in the credit-hour maximum that a student can take in the major.

Bachelor of Science in Education with Emphasis in Biology

The B.S.Ed. is a professional degree designed for those individuals who wish to pursue a teaching career in biology in the secondary schools. The biology requirements are the same as for the B.A. degree with the exception that Biology 285, Methods of Teaching Biology in Secondary Schools, and Biology 286, Laboratory in Teaching Life Science are substituted for Biology 389, Seminar. Students must also fulfill the requirements for the B.S.Ed. degree as prescribed by the School 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 School of Education by fulfilling the B.A. or B.S. requirements in biology, with the exception of Biology 389, Seminar and in addition completing the following courses (36 hours):

Psychology 3, General Psychology

Psychology 271, Adolescent Psychology

ED FND 111, The School in Contemporary Society

ED PSY 312, The Psychology of Teaching and Learning

Communication 40, Introduction to Public Speaking

SEC ED 213, Techniques of Secondary School Teaching

SPC ED 313, The Psychology and Education of Exceptional Individuals

SEC ED 385, Problems of Teaching Reading in Secondary Schools

SEC ED 290, Secondary School Student Teaching

Biology 285, Methods of Teaching Biology in Secondary Schools

Biology 286, Laboratory in Teaching the Life Sciences

Contact the Department of Biology and the School of Education for special advising regarding teacher certification.

Minor in Biology

Students may minor in biology by fulfilling the requirements, consisting of a minimum of **17 credit hours**, of which at least 9 hours of the biology course credits for the minor must be taken in residence at UM-St. Louis.

Requirements are:

1) Biology 10, Introductory Biology

(**Biology 1 and Biology 3**, General Biology and Laboratory, may be substituted if a grade of B or better is earned in both courses.)

2) At least 9 credit hours should be at the 200 level or above. These may include either lecture or laboratory courses.

Biology

3) **One** of the following courses:

Biology 115, Human Heredity and Evolution

Biology 246, Introduction to Evolution or **Biology 224**, Genetics
(If either of these 200-level courses is taken, it may be used to satisfy in part the 9-credit-hour requirement at the 200 level.)

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 as his or her program a group of courses that exhibits a coherent area of specialization to coordinate with a unique career objective. Such a candidate must receive prior approval by the biology department in order 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 basis.**

Biochemistry Certificate

The University offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization which may be earned by completing the core requirements and either a **chemistry track** or a **biology track**. All students complete the following **core requirements**:

Biology 10, Introductory Biology

Biology 210, Cell Structure and Function

Biology 224, Genetics

Chemistry 11, Introductory Chemistry I

Chemistry 12, Introductory Chemistry II

Chemistry 122, Quantitative Analysis

Chemistry 261, Structural Organic Chemistry

Chemistry 262, Organic Reactions

Chemistry 263, Techniques of Organic Chemistry

and **one** of the following **biology** courses:

216, Microbiology

235, Development

310, Cell Physiology

326, Molecular Biology

Students choosing to complete the certificate through the **biology track** must take these **additional courses**:

Biology 376, Topics in Biological Chemistry

Biology 378, Topics in Biological Chemistry Laboratory

Biology 389, Senior Seminar

Chemistry 230, Physical Chemistry for the Life Sciences

Students choosing to complete the certificate through the **chemistry track** must take these **additional chemistry courses**:

231, Physical Chemistry I

232, Physical Chemistry II

233, Laboratory in Physical Chemistry

289, Seminar

371, Biochemistry

372, Advanced Biochemistry

373, Biochemical Techniques

Biotechnology Certificate

The University offers a certificate program for science majors who are interested in careers in biotechnology. A student may receive the Certificate in Biotechnology by completing a total of 18 hours taken from the following requirements:

Students must take:

Biology 326, Molecular Biology

Biology 328, Methods in Biotechnology

Biology 338, Microbial Genetics

Chemistry 230, Physical Chemistry for the Life Sciences

The remaining hours can be taken from the following:

Biology 310, Cell Physiology

Biology 334, Virology

Biology 376, Topics in Biological Chemistry

Biology 378, Topics in Biological Chemistry Laboratory

Biology 417, Advanced Immunology

Biology 492, Topics in Molecular Biology/Genetics

Preprofessional Graduation

The Department of Biology sponsors a 3+4 Program for the UM-St. Louis School of Optometry.

In this program students may be admitted to the School 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.

- 1) All general education requirements and all requirements for the 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 School of Optometry.
- 3) Up to six hours from the School of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology.

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 traditional apprenticeship in research leading to a written thesis. The second is a non-thesis option suitable for those who may already have extensive research experience or for educators who seek to upgrade their academic skills but do not require research experience. Starting with a common core, either option may be developed into a final degree program in one of the following emphasis areas: animal behavior, biochemistry, biotechnology, development, ecology, evolution, genetics, microbiology, molecular and cellular biology, plant and animal physiology, plant systematics, population biology, and tropical biology.

Biology

Admission Requirements

Applicants to the M.S. program must submit completed application and personal data forms, three letters of recommendation from undergraduate faculty, GRE scores, and transcripts of all previous work. Admission as a regular graduate student requires graduation from an accredited college with an overall minimum grade point average of 2.75 and minimum grade average of 3.0 in the applicant's undergraduate major.

All foreign applicants, except those from countries where English is the primary language, must take the TOEFL (Test of English as a Foreign Language). Ordinarily, a score of 550 or better is required.

In addition to the Graduate School admission requirements, applicants should have completed undergraduate biology courses in genetics, biochemistry, and one course in each of the following areas: cellular-molecular, organismal, and population biology-ecology. Courses in organic chemistry, college physics, and calculus are also required, and a course in statistics is highly recommended. Students admitted to the degree program who have not met all the prerequisites may be asked to pass appropriate courses before receiving the Master's degree. Courses taken to make up deficiencies will not count for graduate credit towards the degree.

Degree Requirements

General Requirements All students are required to take Biology 401, Current Topics in Biology, and at least four but not more than eight hours of Biology 489, Graduate Seminar. Biology 401 should be taken during the first year of graduate study.

Thesis Option Including the general requirement, students must take at least 30 graduate credit hours of which at least half must be at the 400 level. No more than 10 hours of Biology 490, Graduate Research, may be counted toward the degree. Students must complete either an experimental or library thesis and defend it in an oral examination before the thesis committee.

Non-Thesis Option Including the general requirement, students must take at least 36 credit hours of which at least half must be at the 400 level. Biology 497, Microcomputer Techniques for Biologists, or an approved computer course, is required together with either a laboratory course (300 or 400 level) or two credit hours of Biology 490, Graduate Research. Only 2-5 credit hours of Biology 490 will be counted toward 36-credit-hour total. Research must be conducted in the laboratory or field.

Advisers The director of Graduate Studies in Biology will advise new master's students. Students are responsible for finding permanent advisers. This should be done as soon as students decide upon their area of specialization. Students, with their advisers, then recommend an appropriate advisory

committee of three or more faculty members for approval by the graduate committee. This group then plans a suitable program of research and course work and submits it to the graduate dean for approval. Advisory committees are also responsible for approving the Master's thesis.

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 focal 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 in industry.

Admission Requirements

Applicants to the Ph.D. program must submit 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, Graduate Record Examination (GRE) scores (Verbal, Quantitative and Analytical), and transcripts of all post-secondary 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 (Test of English as a Foreign Language). 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 institution outside the United States. Applicants should have the appropriate background for graduate work in biology including courses in genetics, biochemistry, and at least one course each in the areas of cellular and molecular biology, organismal biology, and population biology/ecology. Courses in organic chemistry, college physics, and calculus are required. A course in statistics is recommended. Students admitted to the Ph.D. program who have not met all the prerequisites will be required to make up deficiencies before admission to candidacy.

Degree Requirements

In addition to the general requirements of the Graduate School, the basic requirements for the Ph.D. degree in Biology include sixty (60) credit hours of course work which must be taken beyond the bachelor's degree. At least 30 of the 60 hours must be taken at the 400 level. With the explicit consent of the advisory committee, students may take for graduate credit up to 3 credit hours of 200 level courses in allied departments. Courses at the 200 level and below in Biology are not available for graduate credit. At least 31 of the 60 hours must be taken while in residency 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.

Biology

Specific courses shall be completed as follows:

- a) **Biology 401** (1 hour), Current Topics in Biology
- b) **Biology 403** (1 hour), Biology Colloquium. A required course during the first two semesters of the program.
- c) **Biology 489** (2 hours), Graduate Seminar. Four semesters required (total 8 hours).
- d) **Biology 388** (3 hours), Biometry, or equivalent course in statistics.
- e) 12 hours of formal course work as identified by the 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 for the following courses is:

Biology 403, 405, and 407: 8 hours total in combination

Biology 489: 10 hours

Biology 490: 20 hours

Foreign Language Students shall demonstrate a reading knowledge of a foreign language pertinent to the student's field of research. There are two ways in which a student may demonstrate a reading knowledge: by satisfactory completion of a designated course within 5 years, or by passing an examination.

Teaching At least one semester of supervised teaching is required of all doctoral students.

Qualifying Examination and Dissertation Students must earn a passing score on a written qualifying examination 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, prior to 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. Questions for the exam will be submitted by three faculty members in the emphasis area. Students who receive a conditional pass will be tested orally after additional study. Students who fail may be allowed to retake the qualifying examination the following year. Students who fail twice will **not** be admitted to candidacy.

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. Dissertations are to be presented in a style appropriate for one or more publications in scientific journals.

Program Structure During the week of registration prior to the beginning of classes, students newly admitted to the doctoral program shall meet with at least 3 members of the faculty representing the area of emphasis of the student. These meetings are designed to introduce each student to the faculty in his/her area of study and to provide early orientation in the department and degree program. In addition, this informal process will help to identify particular strengths and/or possible deficiencies in the background of the student and therefore to assist in the organization of a

program of studies. It is expected that students will complete the major portion of their formal course requirements in the lecture/laboratory format during the first 2-3 semesters of their graduate studies.

As soon as practical a student should choose a faculty adviser, select members of an advisory committee, and present to the committee for approval, a **prospectus** of the experimental work which has been designed in consultation with the student's adviser. Students also will be expected at this time to submit a research proposal to outside agencies seeking support for their dissertation research, although successful completion of the study program does **not** depend on receipt of financial support.

A student is admitted to **candidacy** for the degree when the research prospectus has been approved by the advisory committee and the chairperson of the graduate program. The student must defend the dissertation in an oral presentation open to the public followed by an oral examination by his/her advisory committee. A preliminary draft of the dissertation must be made available to committee members two months prior to the scheduled date of the defense; a revised, penultimate draft should be in the committee's hands two weeks before the defense.

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, teaching, 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: **1)** provide research-oriented training and education; **2)** provide qualified graduates for doctoral programs; and **3)** 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.

Chemistry

Faculty

Lawrence Barton, Chairperson; Professor*
Ph.D., University of Liverpool

James S. Chickos, Professor*
Ph.D., Cornell University

Joyce Y. Corey, Professor*
Ph.D., University of Wisconsin

M. Thomas Jones, Professor*; Deputy to the Chancellor
Ph.D., Washington University

David W. Larsen, Professor*
Ph.D., Northwestern University

Robert W. Murray, Curators' Professor*
Ph.D., Yale University

Joseph Feder, Adjunct Professor
Ph.D., Illinois Institute of Technology

Robert I. Stearns, Adjunct Professor
Ph.D., Tulane University

Gordon K. Anderson, Associate Professor*; Director of Graduate Studies
Ph.D., University of Glasgow

Charles W. Armbruster, Associate Professor*
Ph.D., Washington University

Michael R. Berman, Adjunct Associate Professor
Ph.D., University of California-Berkeley

David L. Garin, Associate Professor*; Interim Director, Center for Science and Technology
Ph.D., Iowa State University

Harold H. Harris, Associate Professor*
Ph.D., Michigan State University

Wesley R. Harris, Associate Professor
Ph.D., Texas A. and M. University

Jane A. Miller, Associate Professor*
Ph.D., Tulane University

Robert G. Orth, Adjunct Associate Professor
Ph.D., Case Western Reserve University

William P. Ridley, Adjunct Associate Professor
Ph.D., University of Minnesota

James P. Riehl, Associate Professor*
Ph.D., Purdue University

Rudolph E.K. Winter, Associate Professor*; Director of Master's Degree Program
Ph.D., The Johns Hopkins University

James J. O'Brien, Assistant Professor
Ph.D., Australian National University

Valerian T. D'Souza, Assistant Professor
Ph.D., University of Detroit

William J. Welsh, Assistant Professor*
Ph.D., University of Pennsylvania

John Gutweiler, Lecturer
Ph.D., St. Louis University

Mark Schuermann, Lecturer
M.S., University of Notre Dame

William H. Stegmann, Lecturer
M.S., Southern Illinois University

Pawan Bali, Graduate Assistant
Ph.D., University of Idaho

Megh Singh, Research Associate
Ph.D., University of Jodhpur

Rajadhyaksha Shirish, Research Associate
Ph.D., Oklahoma State University

Robert Cabaniss, Glassblower
Joseph Kramer, Electronics Technician II
David Darner, Supervisor of Chemistry Stores
Norman Windsor, Senior Electronics Technician

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The chemistry department offers courses leading to the B.A. in chemistry; the B.S. in chemistry; in cooperation with the School of Education, the B.S. in education with emphasis in chemistry and the B.A. in chemistry with teacher certification; and, in cooperation with the School of Business Administration, the B.A. in chemistry with a business option.

The chemistry department is accredited by the American Chemical Society. Students completing the B.S. degree in chemistry are certified to the American Chemical Society and are well prepared for graduate study in chemistry or a career in the chemical industry.

The chemistry department also offers work leading to the M.S. degree in chemistry, with or without a thesis. The Ph.D. degree in chemistry is offered in the emphasis areas: inorganic, organic, and physical chemistry.

In addition to a balanced program of basic graduate courses, the department offers special topics courses and seminars in current research areas. Research is being carried on in inorganic, organic, and physical chemistry areas by postdoctoral associates, faculty members, and graduate and undergraduate students.

The department provides students with opportunities for strong interaction with faculty representing the various areas. Students and faculty working in one area consult freely with members in other areas. In addition, a number of joint research projects are currently under investigation involving faculty and students from two or more areas. The department currently includes eighteen full-time and ten part-time faculty members.

Departmental Honors The chemistry department 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 Chemistry 290, Chemical Research, and have presented an acceptable thesis.

Minor in Chemistry A minor in chemistry is available to students majoring in related areas.

Chemistry

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. candidates should meet the requirements in French, German, Japanese, or Russian. Chemistry majors normally include Language 100 in their foreign language sequence.

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 take the six elective hours in science on this option.

Degree Requirements

Bachelor of Arts in Chemistry This degree is intended primarily for preprofessional students in the health sciences and related areas, as well as prelaw students interested in patent law. Candidates must complete the following **chemistry** courses:

- 11, Introductory Chemistry I
- 12, Introductory Chemistry II
- 122, Quantitative Analysis
- 202, Introduction to Chemical Literature
- 231, Physical Chemistry I
- 232, Physical Chemistry II
- 233, Laboratory in Physical Chemistry I
- 261, Structural Organic Chemistry
- 262, Organic Reactions
- 263, Techniques of Organic Chemistry
- 289, Seminar (2 credit hours)

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.

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. Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following **chemistry** courses are required: (12 hours)

- 234, Laboratory in Physical Chemistry II
- 264, Synthetic and Analytical Methods of Organic Chemistry
- 324, Instrumental Analysis
- 341, Inorganic Chemistry I
- 343, Inorganic Reactions

Students must also take six elective hours of advanced work in science at the 200 level or above. It is preferred that these hours be in chemistry; however, three of these hours may be taken in biology, computer science, mathematics, or physics.

Students are encouraged to take Chemistry 290, Chemical Research, to fulfill at least a portion of the advanced elective requirement.

At least 47, but no more than 50, 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:

- Mathematics 80**, Analytic Geometry and Calculus I
- Mathematics 175**, Analytic Geometry and Calculus II
- Mathematics 180**, Analytic Geometry and Calculus III
- *Physics 111**, Physics: Mechanics and Heat
- *Physics 112**, Physics: Electricity, Magnetism and Optics

*If neither of these courses included a laboratory, a separate laboratory course is required.

B.S. degree in Secondary Education with an Emphasis in Chemistry In addition to the general requirements for the B.S. degree in secondary education, students must complete the 32 required hours for the B.A. degree in chemistry with the following exceptions: Chemistry 280, Methods of Teaching Chemistry in Secondary Schools, is required instead of Chemistry 202, Introduction to Chemical Literature, and Chemistry 289, Seminar. In addition, an investigative laboratory (usually Chemistry 234, Chemistry 264, or at least two credits of Chemistry 290) and a computer science course (Mathematics 122 recommended) are required.

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 School of Education section of this *Bulletin*.)

Bachelor of Arts in Chemistry for Students with an Interest in Business

The following courses are suggested for students seeking careers in chemical sales, market research, and so forth. In addition to the B.A. in chemistry requirements, the following core courses are suggested:

- Economics 51**, Principles of Microeconomics
- Business Administration 131**, Elementary Statistics
- Business Administration 140**, Fundamentals of Financial Accounting

Students may then choose to complete **one** of the following three sets of courses:

1) Marketing Management

- Business Administration 206**, Basic Marketing
- Business Administration 275**, Marketing Intelligence
- Business Administration 303**, Industrial Marketing

2) Financial Management

- Business Administration 204**, Financial Management
- Business Administration 334**, Investments
- Business Administration 350**, Financial Policies

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3) Accounting

Business Administration 145, Managerial Accounting
Business Administration 340, Intermediate Accounting
Business Administration 345, Cost Accounting

Requirements for the Minor

Students may complete a minor in chemistry as described below:

The **three required courses** are:

Chemistry 11, Introductory Chemistry I
Chemistry 12, Introductory Chemistry II
Chemistry 261, Structural Organic Chemistry

Electives

At least **one course** is required from each of the two groupings below:

Lecture Courses

Chemistry 231, Physical Chemistry I
Chemistry 262, Organic Reactions
Chemistry 371, Biochemistry

Laboratory Courses

Chemistry 122, Quantitative Analysis
Chemistry 263, Techniques of Organic Chemistry

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.

Biochemistry Certificate

The University offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization which may be earned by completing the core requirements and either a **chemistry track** or a **biology track**. All students complete the following **core requirements**:

Biology 10, Introductory Biology
Biology 210, Cell Structure and Function
Biology 224, Genetics
Chemistry 11, Introductory Chemistry I
Chemistry 12, Introductory Chemistry II
Chemistry 122, Quantitative Analysis
Chemistry 261, Structural Organic Chemistry
Chemistry 262, Organic Reactions
Chemistry 263, Techniques of Organic Chemistry

and **one** of the following **biology** courses:

216, Microbiology
235, Development
310, Cell Physiology
326, Molecular Biology

Students choosing to complete the certificate through the **biology track** must take these **additional courses**:

Biology 376, Advanced Biological Chemistry
Biology 378, Advanced Biological Chemistry Laboratory
Biology 389, Senior Seminar
Chemistry 230, Physical Chemistry for the Life Sciences

Students choosing to complete the certificate through the **chemistry track** must take these **additional chemistry courses**:

231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry
289, Seminar
371, Biochemistry
372, Advanced Biochemistry
373, Biochemical Techniques

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 applicants for the Ph.D. degree in chemistry. Students with bachelor's degrees in fields other than chemistry may be admitted to pursue graduate chemistry studies under the following conditions: they must make up background deficiencies, usually by taking undergraduate course work, and will not be considered as applicants for the Ph.D. degree until such deficiencies have been removed. M.S. candidates must remove deficiencies within two years, and Ph.D. candidates must complete all remedial work during the first calendar year of enrollment.

The ultimate choice of whether students may enroll in the M.S. or Ph.D. degree programs resides with the chemistry faculty. Decisions are based on performance on the placement examinations and in course work at UM-St. Louis, as well as considerations of students' backgrounds.

The department admissions committee, which makes admission recommendations to the chairperson, usually considers applicants' grade point averages and normally requires above-average performance in all areas of chemistry (general, analytical, organic, physical, and inorganic) 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.

Financial Support

Teaching assistantships are available to qualified applicants for the academic year, and a limited number are also available during the summer. Research assistantships and fellowships are available for advanced students. For further information, contact the Graduate Admission Committee, Department of Chemistry.

Chemistry

Preliminary Advisement

Incoming students are given comprehensive placement examinations, and, on the basis of the examination scores and student needs and interests, the departmental Director of Graduate Studies prescribes a tentative plan of study in consultation with students. Students may be required to repeat undergraduate course work for no credit. Students must take chemistry courses for graduate credit at the 300 and 400 level, including one each in inorganic, organic and physical chemistry, and courses outside the discipline as recommended by the department. (Chemistry 341, Inorganic Chemistry I, may not be used to satisfy the core/requirement in inorganic chemistry.)

Master's Degree Requirements

Master of Science in Chemistry Candidates for the M.S. degree in chemistry must take the placement examinations and, if necessary, repeat undergraduate courses for no credit. The director of graduate studies will advise students of their programs before registration.

Students selected for the M.S. program and others enrolling by personal choice are usually required to complete the M.S. degree before their admission to the Ph.D. degree program can be considered.

A minimum of 30 hours is required, including three hours in Chemistry 489, Chemistry Colloquium. No more than three hours in Chemistry 489 may be applied toward the program. Students are not required to take the cumulative examinations or foreign language study.

Master of Science in Chemistry with Thesis Students selecting this option must be enrolled full-time in the day division for at least two consecutive semesters. During this time, students are expected to enroll in Chemistry 490, Graduate Research in Chemistry, and work on their theses.

A maximum of 12 hours of Chemistry 490 may be applied toward the required 30 hours. At least nine hours must be at the 400 level, excluding Chemistry 490. A maximum of nine hours in 200-level or above courses outside the department may be accepted if students receive prior approval of their advisers and the department.

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 400 level, a maximum of six credits of Chemistry 490, Graduate Research in Chemistry, may be included in place of 300-level courses. A maximum of 12 hours taken in 200-level or above courses outside the department may be accepted with prior approval of the graduate studies director.

Doctoral Degree Requirements

In addition to the Ph.D. requirements set forth by the Graduate School, students seeking the Ph.D. in chemistry must take a series of cumulative examinations given nine times a year. Students must pass three of the examinations by the end of the third year and a total of eight examinations before completing the program. At least six of these examinations should be in the student's specialization area. Students are encouraged to begin the examination sequence during the first year of graduate study, but must start no later than the second year in the Ph.D. program. The examinations are usually given the second Saturday of each month, September through May. The mechanism for designing and deciding on passing and failing grades for each examination resides with faculty members in each specialization area.

Seminar Requirement Students must present a seminar in their third year and during each subsequent year. One of the seminars is for the purpose of describing dissertation research. Students must enroll in Chemistry 489, Chemistry Colloquium, each semester they are in residence.

Advancement to Precandidacy Students will be advanced to precandidate status after completing 20 hours of graduate work, including research hours, passing three cumulative examinations, maintaining good standing, and selecting their research advisers.

Advancement to Candidacy In addition to general Graduate School requirements for advancement to candidacy, students must complete the following:

1) Sixty hours, of which 21 should be in nondissertation work. The 21 hours **may not** include:

- Chemistry 324**, Instrumental Analysis
- Chemistry 341**, Inorganic Chemistry I
- Chemistry 343**, Inorganic Reactions
- Chemistry 380**, Teaching of College Chemistry
- Chemistry 419**, Advanced Reading in Chemistry
- Chemistry 448**, Inorganic Problem Seminar
- Chemistry 468**, Organic Problem Seminar
- Chemistry 489**, Chemistry Colloquium

but should include one from each area: organic, inorganic, and physical chemistry.

- 2) Pass eight cumulative examinations.
- 3) Demonstrate satisfactory proficiency in the library use of French and German scientific chemical literature.
- 4) Present at least one seminar to the department on the dissertation research.
- 5) Participate in the undergraduate academic program as laboratory assistant for at least one semester.
- 6) Be in good standing.

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Dissertation

Six copies of the dissertation must be submitted upon completion of the graduate research problem.

Probation and Dismissal

Students are dismissed from the program if they fail to pass at least three cumulative examinations before the end of the second year **as applicants** for the Ph.D. or otherwise fail to meet the standards set forth by the Graduate School.

Career Outlook

The B.S. degree in chemistry is the usual foundation for graduate study in chemistry, while any bachelor's degree in chemistry provides students with professional competence to enter the chemical industry. The St. Louis Metropolitan Area is a major center for industrial chemistry, and the demand for graduates consistently exceeds the supply.

A major in chemistry provides students excellent preprofessional training in the health sciences. A double major in chemistry and biology is often chosen by premedical and pre dental students and those interested in graduate work in biochemistry and biology. A minor in chemistry provides the minimum qualifications and training for a position as laboratory technician in industry, hospital laboratories, etc.

Communication

Faculty

Elizabeth Kizer, Chairperson; Associate Professor*; Director, Communication Theory and Rhetoric Area
Ph.D., Purdue University

Gary Burns, Associate Professor*; Director, Radio/TV/Film Activities
Ph.D., Northwestern University

James Fay, Associate Professor*
M.F.A., Tulane University

Michael Murray, Associate Professor*; Director, Mass Communication Area
Ph.D., University of Missouri-Columbia

Donald Shields, Associate Professor*
Ph.D., University of Minnesota

Barbara Kachur, Assistant Professor*; Director, Theatre Activities
Ph.D., The Ohio State University

C. Thomas Preston, Assistant Professor*; Co-Director, Debate/Forensic Activities
Ph.D., University of Nebraska-Lincoln

Ronald Turner, Assistant Professor*; Special Assistant to the President
Ph.D., University of Missouri-Columbia

William Deering, Lecturer
M.A., Webster University

Diane Hirson, Lecturer
M.A., Northeast Louisiana University

Scott Jensen, Lecturer; Co-Director of Forensics Activities
M.A., Central Missouri State University

Clark McMillion, Lecturer; Director Public Speaking Course
M.A., State University College of New York at Brockport

*members of Graduate Faculty

Each member of the faculty of the Department of Communication represents a requisite balance between practitioner and scholar and teacher. The department's curricula and activities demand a faculty with practical expertise in such disciplines as communication, radio/television/film, and theatre. Each faculty member has demonstrated repeatedly an excellence as a practitioner through varied endeavors in workshops and lectures as well as communication, radio/television/film, and theatrical programs and productions. Concomitantly, the faculty acknowledges the need for scholarly research as a contribution to the continued growth of academic study, publishing the results of their scholarly pursuits in a wide spectrum of scholarly journals and presenting papers at regional, national, and international professional conferences. Additionally, faculty members contribute to the University's mission through active public service and a commitment to high standards of academic achievement. Annual student evaluations rate the department's teaching as excellent.

General Information

The Bachelor of Arts in Communication

The B.A. in Communication is a flexible degree program that allows the student to emphasize a particular field of study (communication, mass communication, or theatre) or tailor a specific concentration (through the general communication option) to meet the student's individual needs and interests. An emphasis in communication, mass communication, or theatre is recommended for students with clear career goals in one of these areas. The general communication option is recommended for students interested in teacher certification, the Bachelor of General Studies degree in the Evening College, or in specific interdisciplinary fields such as public relations/advertising/organizational communication, business theatre, electronic journalism, television acting, arts administration, and marketing communication. The faculty encourages all students to meet early and often with their adviser to select a meaningful group of courses for a coherent career-oriented training program.

Minors and Certificates for Communication Majors

The department actively supports the following minors and certificate programs open to students majoring in communication: Minor in Public Affairs Journalism, Minor in Photographic Studies, Minor in Legal Studies, the Certificate in Writing, and the Certificate in Secondary Education. For more information, see Certificate Programs and Interdisciplinary Studies in this *Bulletin*.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. The College's foreign language requirement may be taken in any language. Communication courses may not be taken on a satisfactory/unsatisfactory basis.

Course Emphasis Categories

Courses offered by the communication department are categorized below. Students will need to refer to this list in choosing courses to meet the requirements of their particular emphasis area.

Interdivisional Courses

- 60, Voice and Diction
- 160, Fundamentals of Oral Interpretation
- 199, Special Projects in Communication
- 260, Advanced Oral Interpretation
- 261, Readers Theatre
- 262, Storytelling Workshop
- 299, Special Projects in Communication
- 392, Administration of Cocurricular Activities
- 395, Seminar in Special Topics in Communication
- 399, Internship in Communication

Communication

Communication Theory and Rhetoric Area Courses

- 30, Interpersonal Communication I
- 40, Introduction to Public Speaking
- 130, Interpersonal Communication II
- 135, Communication Theory
- 140, Advanced Public Speaking
- 141, Business and Professional Speaking
- 143, Parliamentary Procedure
- 230, Small Group Communication
- 231, Communication in the Organization
- 237, Male/Female Communication
- 240, Persuasive Communication
- 241, Argumentation and Debate
- 242, Theory and Practice of Interviewing
- 243, Communication in American Politics
- 331, Research Methods in Speech Communication
- 332, Intercultural Communication
- 335, Seminar in Applied Communication Research
- 340, Rhetorical Criticism
- 341, Classical Rhetoric and Public Address
- 342, Modern Rhetoric and Public Address
- 343, The Rhetoric of Protest

Mass Communication Area Courses

- 50, Introduction to Mass Media
- 70, Introduction to Cinema
- 110, Introduction to Radio and Television Broadcasting
- 114, Radio Production I
- 116, News Writing
- 118, Radio and Television Announcing
- 210, Television Production I
- 212, Broadcast Writing and Reporting
- 215, Radio Production II
- 216, Radio News
- 217, Script Writing for Business and Industry
- 219, Promotion, Publicity, and Advertising in Broadcasting
- 271, History of Film to World War II
- 272, History of Film Since World War II
- 273, Basic Film Production
- 310, Television Production II
- 311, Broadcast Management
- 316, Television News
- 317, Radio and the Recording Industry
- 350, Mass Communication History and Criticism
- 355, Media Law and Regulation
- 370, Documentary Film

Theatre Area Courses

- 21, Fundamentals of Acting
- 23, Production Aesthetics
- 80, Introduction to the Theatre
- 124, Stage Movement
- 125, Stagecraft
- 126, Costuming for the Theatre
- 128, Stage Lighting
- 221, Ensemble Acting
- 223, Aesthetics of Theatrical Styles
- 224, Movement for Musical Theatre
- 225, Designing for the Theatre
- 281, Theatre from the Ancient Greeks to the Restoration
- 282, Theatre from the 18th Century to the 1980s
- 321, Acting Styles
- 322, Directing for the Theatre
- 323, Theatre Management

Degree Requirements

Bachelor of Arts in Communication Majors must complete a minimum of 36, but not more than 45, hours in communication courses. At least 24 of these hours must be taken at UM-St. Louis. Each major must take at least six hours of communication courses numbered 200-299 and at least six hours of communication courses numbered 300-399. Every major must complete the requirements for an emphasis area as described below.

Emphasis Areas

Four emphasis areas are available: General Communication, Communication Theory and Rhetoric, Mass Communication, and Theatre.

Required Courses for All Majors

- Communication 40**, Introduction to Public Speaking
- Communication 135**, Communication Theory
- Communication 199**, Special Projects in Communication (at least three hours)

Emphasis Area Requirements In addition to the above required course work, majors must complete the requirements specified below for one of the following emphasis areas:

I General Communication

In addition to the required courses for all majors, students must take the following:

- a **Three additional hours** in Communication Theory and Rhetoric
- b **One** of the following **Mass Communication** courses:
 - 50, Introduction to Mass Media
 - 70, Introduction to Cinema
 - 110, Introduction to Radio and Television Broadcasting
- c **Three additional hours** in Mass Communication
- d **One** of the following **Theatre** courses:
 - 21, Fundamentals of Acting
 - 23, Production Aesthetics
 - 80, Introduction to the Theatre
- e **Three additional hours** in Theatre
- f Plus **12-21 hours** from any area or areas in the communication department.

II Communication Theory and Rhetoric

In addition to the required courses for all majors, students must take the following:

- a **Communication 230**, Small Group Communication
- b **Twelve additional hours** in Communication Theory and Rhetoric
- c **One** of the following **Mass Communication** courses:
 - 50, Introduction to Mass Media
 - 70, Introduction to Cinema
 - 110, Introduction to Radio and Television Broadcasting
- d **One** of the following **Theatre** courses:
 - 21, Fundamentals of Acting
 - 23, Production Aesthetics
 - 80, Introduction to the Theatre

Communication

- e Plus **6-15 hours** from any area or areas in the communication department.

III Mass Communication

In addition to the required courses for all majors, students must take the following:

- a **Communication 50**, Introduction to Mass Media
Communication 70, Introduction to Cinema
Communication 110, Introduction to Radio and Television Broadcasting
- b **Nine additional hours** in Mass Communication
- c **One** of the following **Theatre** courses:
21, Fundamentals of Acting
23, Production Aesthetics
80, Introduction to the Theatre
- d Plus **6-15 hours** from any area or areas in the communication department.

IV Theatre

In addition to the required courses for all majors, students must take the following:

- a **Communication 21**, Fundamentals of Acting
Communication 23, Production Aesthetics
Communication 80, Introduction to the Theatre
- b **Nine** additional hours in **Theatre**
- c **One** of the following **Mass Communication** courses:
50, Introduction to Mass Media
70, Introduction to Cinema
110, Introduction to Radio and Television Broadcasting
- d Plus **6-15 hours** from any area or areas of the communication department.

Bachelor of Arts in Communication with Certification in Secondary Education In addition to the requirements for the B.A. in Communication and general requirements set by the School of Education, students must meet the state requirements for **certification**.

The department suggests students satisfy the general emphasis area requirements and recommends strongly the following courses for meeting the state requirements.

Grades 7-12

The following courses are recommended:

- 21**, Fundamentals of Acting
23, Production Aesthetics
50, Introduction to Mass Media
80, Introduction to the Theatre
160, Fundamentals of Oral Interpretation
230, Small Group Communication
241, Argumentation and Debate
322, Directing for the Theatre
392, Administration of Cocurricular Speech Activities

Grades 7-9

The following courses are recommended:

- 21**, Fundamentals of Acting
23, Production Aesthetics
80, Introduction to the Theatre
160, Fundamentals of Oral Interpretation

241, Argumentation and Debate

392, Administration of Cocurricular Speech Activities

The General Communication emphasis is recommended for students interested in certification. With this emphasis, students can complete the minimum requirements for the B.A. and certification for grades 7-12 by taking a minimum of 39 hours in communication, selected according to departmental recommendations. The B.A. and certification for grades 7-9 can be obtained by taking 36 hours in communication, selected according to departmental recommendations.

Requirements of the School of Education include courses in professional education and English 262, The Curriculum and Methods of Teaching English (same as SEC ED 232).

Departmental Activities, Laboratories, and Internships

Cocurricular projects and activities relevant to student interests and vocational plans are sponsored and advised by the department (debate and forensic speaking, radio club, television/film club, University Players).

The department sponsors main-stage theatrical productions annually, a summer high school institute, and both a high school and college forensics tournament on the University of Missouri-St. Louis campus.

In addition to the traditional classroom experience, students receive practical training in the department's laboratory facilities: the Benton Hall Theatre and Technical Shop; and the Lucas Hall Radio/Television/Video Laboratories.

Internships at radio and television stations, community agencies, newspapers, public relations and advertising firms, professional theatres, and in a variety of business organizations provide unique opportunities for majors to apply their communication studies.

Minors in Communication

Students with majors other than communication may select from four minors to complement their academic and career goals.

The following conditions apply to all minors:

Credit hours in Communication 195, and/or Communication 395, may be substituted for credit hours listed below with written permission of the communication department chairperson.

At least nine of the 18 hours required for the minor must be taken at UM-St. Louis.

A minimum GPA of 2.5 is required in the minor.

Communication

1) Requirements for the minor in General

Communication are as follows:

- a **Communication 40**, Introduction to Public Speaking
- b **One** of the following **Mass Communication** courses:
 - 50**, Introduction to Mass Media
 - 70**, Introduction to Cinema
 - 110**, Introduction to Radio and Television Broadcasting
- c **One** of the following **Theatre** courses:
 - 21**, Fundamentals of Acting
 - 23**, Production Aesthetics
 - 80**, Introduction to the Theatre
- d Plus **three hours** from communication courses at the 100 level and **six additional hours** in communication at the 200 level or above.

2) Requirements for a minor in Communication Theory and Rhetoric are as follows:

- a **Communication 40**, Introduction to Public Speaking
Communication 135, Communication Theory
- b **One** of the following **Communication Theory and Rhetoric** courses:
 - 30**, Interpersonal Communication I
 - 140**, Advanced Public Speaking
 - 141**, Business and Professional Speaking
- c Plus **nine hours** from courses in Communication Theory and Rhetoric at the 200 level or above.

3) Requirements for a minor in Mass Communication are as follows:

- a **Communication 50**, Introduction to Mass Media
Communication 110, Introduction to Radio and Television Broadcasting
- b **One** of the following **Mass Communication** courses:
 - 70**, Introduction to Cinema
 - 350**, Mass Communication History and Criticism
- c Plus **nine hours** in Mass Communication courses at the 200 level or above.

4) Requirements for a minor in Theatre are as follows:

- a **Communication 21**, Fundamentals of Acting
Communication 23, Production Aesthetics
Communication 80, Introduction to the Theatre
- b Plus **six hours** from Theatre courses at the 100 level and **three additional hours** in Theatre at the 200 level or above.

Career Outlook

The B.A. in Communication prepares students for careers in numerous fields. Past graduates are working in the following positions: radio and television news, promotion, administration, directing, announcing, production, and sports journalism; theatrical management, acting, directing, and production; communication in public relations, advertising, marketing, market research, corporate media, business theatre, sales, training, speech writing, print editing, journalism, teaching, and research. Other students have pursued graduate training in communication, mass communication, and theatre programs offering the M.A., M.F.A., and Ph.D. degrees.

Economics

Faculty

Sharon G. Levin, Professor*; Chairperson
Ph.D., University of Michigan

Robert Loring Allen, Professor Emeritus*
Ph.D., Harvard University

Elizabeth M. Clayton, Professor*
Ph.D., University of Washington

Joseph P. McKenna, Professor Emeritus*
Ph.D., Harvard University

William E. Mitchell, Professor*; Graduate Coordinator
Ph.D., Duke University

Donald Phares, Professor*
Ph.D., Syracuse University

Susan K. Feigenbaum, Associate Professor
Ph.D., University of Wisconsin

Thomas R. Ireland, Associate Professor*
Ph.D., University of Virginia

Robert L. Sorensen, Associate Professor*; Undergraduate Coordinator
Ph.D., Virginia Polytechnic Institute

Herbert D. Werner, Associate Professor*
Ph.D., University of California-Berkeley

Hassan Khademian, Assistant Professor*
Ph.D., Michigan State University

Sarapage McCorkle, Assistant Professor; Director, Center for Economic Education
Ed.D., University of Missouri-St. Louis

David C. Rose, Assistant Professor
Ph.D., University of Virginia

Mark E. Stover, Assistant Professor*
Ph.D., Washington University

Kathleen Phares, Lecturer
M.A., University of Missouri-St. Louis

Mary Suiter, Assistant Director; Teaching Associate, Center for Economic Education
M.I.E.E., University of Delaware

*members of Graduate Faculty

The economics department is actively engaged in teaching, research, publishing, and community service. Members have received numerous grants for basic and applied research projects. In addition to published research, members regularly present papers and serve as moderators and discussants at professional meetings. They have been honored with teaching and research fellowships and as visiting scholars at leading universities throughout the United States. Faculty members actively participate in community service; they address local citizen and business groups on topics of current interest, and frequently act as consultants for public service groups and local governmental units.

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 housing, productivity, employment, taxation, zoning, technology diffusion, the Soviet Union, international trade flows, agriculture, energy, monetary economics, conglomerates, and public choice.

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 micro- and 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 School of Business Administration and the Department of Political Science in offering a master's degree program in public policy administration.

Departmental Honors The economics department has established the following requirements for departmental honors:

- 1) A minimum GPA of 3.5 overall and in the major.
- 2) Satisfactory completion of Economics 492, Seminar in Economic Research. This course will automatically serve as an honors thesis or project.

Minor in Economics A minor in economics is also available. See the section below for requirements.

Economics

Undergraduate Studies

General Education Requirements

All undergraduate economics majors must meet the University and College of Arts and Sciences general education requirements. Candidates for the B.S. degree, however, do not need to fulfill the College's foreign language requirement. Candidates for the B.A. degree may take any foreign language to meet this 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.

Satisfactory/Unsatisfactory (S/U) Option

Courses outside the major field and Economics 51, Principles of Microeconomics, and Economics 52, Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory (S/U) basis.

Degree Requirements

Bachelor of Arts in Economics Candidates for the B.A. degree must take at least 30, but no more than 45, hours in economics. At least 24 hours must be above the 100 level. All required economics courses must be completed with a grade of C or better. The following courses are required:

Economics 51, Principles of Microeconomics
Economics 52, Principles of Macroeconomics
Economics 220, Money and Banking
Economics 250, Intermediate Economic Theory: Macroeconomics
Economics 251, Intermediate Economic Theory: Microeconomics
Economics 380, History of Economic Thought

Also required is:

Mathematics 31, Elementary Statistical Methods, or **Business Administration 131**, Elementary Statistics, or **Mathematics 132**, Applied Statistics

Since many theories in economics make use of calculus, it is also recommended that students take:

Mathematics 80, Analytic Geometry and Calculus I or **Mathematics 101**, Survey Calculus

Requirements outside the economics department should be completed by the end of the sophomore year.

Bachelor of Science in Economics

Candidates for the B.S. degree must complete at least 33 hours, but no more than 45, in economics. At least 24 hours must be above the 100 level. All required economics courses must be completed with a grade of C or better. The following courses are required:

Economics 51, Principles of Microeconomics
Economics 52, Principles of Macroeconomics
Economics 220, Money and Banking

Economics 250, Intermediate Economic Theory: Macroeconomics
Economics 251, Intermediate Economic Theory: Microeconomics
Economics 365, Economic Statistics and Econometrics

Also required are:

Mathematics 31, Elementary Statistical Methods, or **Business Administration 131**, Elementary Statistics, or **Mathematics 132**, Applied Statistics
Mathematics 80, Analytic Geometry and Calculus I or **Mathematics 101**, Survey Calculus
Mathematics 122, Computers and Programming or **Business Administration 103**, Computers and Information Systems

Also required are **two** of the following:

Economics 351, Quantitative Methods for Economics and Business Analysis
Economics 366, Econometrics
Economics 368, Analysis of Business Conditions
 or any mathematics course numbered 175 or above (with consent of adviser)

Requirements outside the economics department should be completed by the end of the sophomore year.

Complementary Areas of Study

The department encourages all majors to develop breadth in related disciplines. Course work, as well as minors, is 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.

Graduate School Preparation:

It is recommended that students considering doctoral-level graduate work in economics also take:

Math 80, Analytical Geometry and Calculus I
Math 175, Analytical Geometry and Calculus II
Math 180, Analytical Geometry and Calculus III
 or
Math 245, Matrix Algebra with Applications

General Business Preparation:

It is recommended that students interested in pursuing careers in business also take:

Business 140, Fundamentals of Financial Accounting
Business 145, Managerial Accounting
Business 156, Legal Environment of Business
Business 204, Financial Management
Business 206, 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 above the 100 level. The following courses are required:

Economics 51, Principles of Microeconomics
Economics 52, Principles of Macroeconomics

Economics

It is also recommended that students take:

Economics 250, Intermediate Economic Theory: Macroeconomics

Economics 251, Intermediate Economic Theory: Microeconomics

Also required is a GPA of 2.0 or better for courses presented for the minor.

The satisfactory/unsatisfactory option may be applied to Economics 51 and Economics 52 only.

Graduate Studies

Admission Requirements

Application for admission may be submitted at any time, although class work formally begins in late August and in mid-January. An undergraduate major in economics is not required for acceptance into the program, but studies to remove any deficiencies in prior training must be completed in addition to the regular M.A. requirements.

In addition to the general admission requirements of the Graduate School, applicants must complete the following courses, or the equivalent, before admission as regular students:

Mathematics 31, Elementary Statistical Methods

Mathematics 101, Survey Calculus

Economics 250, Intermediate Economic Theory: Macroeconomics or **Business Administration 411**, Analysis of National Economic Environment

Economics 251, Intermediate Economic Theory: Microeconomics or **Business Administration 410**, Managerial Economic Analysis

For further information about the program and an application form, write or call the graduate coordinator, Department of Economics.

Degree Requirements

Master of Arts in Economics Candidates for the M.A. in economics must complete 30 hours for the degree. No more than six hours of work outside the field may be applied toward the program.

The following courses are required:

Economics 365, Economic Statistics and Econometrics

Economics 401, Macroeconomic Analysis

Economics 402, Microeconomic Analysis

Economics 492, Seminar in Economic Research

Plus a minimum of two additional 400-level economics courses.

All students must pass a comprehensive examination—written, oral, or both. Students failing the examination may repeat it at the end of six months but may not take it more than twice.

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.

The M.A. degree in economics prepares candidates for positions as professional economists. Career opportunities are available in economic research and operational areas in banks or other financial institutions, in business, international organizations, and various governmental agencies, in community-college teaching, and in sales administration, production control, urban planning, and international government operations.

Career planning materials are available in the Economics Resource Center, 455 SSB.

English

Faculty

Charles Larson, Professor*; Chairperson
Ph.D., Indiana University

David Carkeet, Professor*
Ph.D., Indiana University

B. Bernard Cohen, Professor Emeritus
Ph.D., Indiana University

Charles Dougherty, Professor Emeritus
Ph.D., University of Toronto

William C. Hamlin, Professor;
Associate Chairperson; Graduate Coordinator*
Ph.D., University of Missouri-Columbia

Eugene B. Murray, Professor*
Ph.D., Columbia University

James E. Tierney, Professor*
Ph.D., New York University

Peter Wolfe, Professor*
Ph.D., University of Wisconsin

Joseph Carroll, Associate Professor*
Ph.D., University of California-Berkeley

Richard M. Cook, Associate Professor*
Ph.D., University of Michigan

Sylvia J. Cook, Associate Professor*
Ph.D., University of Michigan

Bruce L. Liles, Associate Professor*
Ph.D., Stanford University

John T. Onuska, Jr., Associate Professor*
Ph.D., Harvard University

Howard Schwartz, Associate Professor*
M.A., Washington University

Jane Williamson, Associate Professor*
Ph.D., Bryn Mawr College

Sally Fitzgerald, Assistant Professor*; Director, Center
for Academic Development
Ed.D., University of Missouri-St. Louis

Jane Flinn, Assistant Professor*
Ed.D., University of Missouri-St. Louis

Kathy Gentile, Assistant Professor*
Ph.D., University of Oregon

Deborah A. Larson, Assistant Professor*; Assistant Dean,
College of Arts and Sciences
Ph.D., Columbia University

Sally Reagan, Assistant Professor*
Ph.D., Indiana University

Dennis Bohnenkamp, Lecturer
M.A., University of Missouri-Columbia

Ellie Chapman, Lecturer
M.A., Murray State University

Bill Foster, Lecturer
M.A., University of Missouri-Columbia

Judy Gurley, Lecturer
M.A., University of Arkansas

William Klein, Lecturer
M.A., University of Tulsa

Judith Linville, Lecturer
M.A., University of Arkansas

Terence Martin, Lecturer
Ph.D., Southern Illinois University-Carbondale

David Rota, Lecturer
M.A., Southern Illinois University-Edwardsville

Nanora Sweet, Lecturer
M.A., University of Missouri-Columbia

Susan Tierney, Lecturer
M.A., Southern Illinois University-Edwardsville

Charles Warts, Lecturer
B.A., Lincoln University

Harry Weber, Lecturer
M.A., University of Minnesota

Adam Casmier, Visiting Lecturer
M.A., University of Notre Dame

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The English department offers or participates in the offering of the B.A. in English, the B.A. in English with certification for secondary teaching, and the B.S. in secondary education with a major 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.

A graduate studies program is also available. The Master of Arts program in English is designed to provide the student with a comprehensive coverage of literature and language rather than with a specialization in any one area of study. The program allows students to select courses from any of the four areas of study offered by the department: English literature, American literature, linguistics, and writing.

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

Majors must meet the University general education requirements and the requirements of the School or College from which they expect to receive their degree. English courses may be used to meet the University's humanities requirement, **except** the following:

- 09, Basic Writing
- 10, Freshman Composition
- 11, Freshman Composition for International Students
- 22, Traditional Grammar
- 112, Topics in Writing
- 209, Practical Criticism: Writing About Literature
- 210, Advanced Expository Writing
- 211, Advanced Expository Writing for International Students
- 212, Business Writing
- 213, Technical Writing
- 214, News Writing
- 215, Feature Writing
- 218, Reporting
- 262, The Curriculum and Methods of Teaching English
- 300, Writing in the Professions
- 305, Writing for Teachers
- 313, Advanced Business and Technical Writing
- 316, Gateway Writing Project
- 319, Editing

English

The College's foreign language requirement may be met in any language.

Satisfactory/Unsatisfactory Option

English majors may take any English course on a satisfactory/unsatisfactory basis **except** the following:

- 09, Basic Writing
- 10, Freshman Composition
- 11, Freshman Composition for International Students
- 209, Practical Criticism: Writing About Literature
- 210, Advanced Expository Writing
- 211, Advanced Expository Writing for International Students
- 212, Business Writing
- 213, Technical Writing
- 262, The Curriculum and Methods of Teaching English

Degree Requirements

Bachelor of Arts in English English majors must complete at least 36, but no more than 45, hours in English **exclusive** of English 09, Basic Writing; English 10, Freshman Composition; English 11, Freshman Composition for International Students; and the courses in library science.

1) Students majoring in English must take:

- 131, English Literature I
- 132, English Literature II and **one** of these two:
- 171, American Literature I
- 172, American Literature II

(Students who are candidates for teacher certification may substitute a 300-level American literature course for the 100-level American requirement.)

2) **English 209**, Practical Criticism: Writing About Literature. (For English majors, this course is a prerequisite or corequisite for 300-level courses in English.)

3) Students must also complete **one** course **from five** of the following seven areas:

Area 1 Medieval English

- 324, Chaucer
- 325, Medieval English Literature

Area 2 Shakespeare

- 337, Shakespeare: Tragedies and Romances
- 338, Shakespeare: Comedies and Histories

Area 3 The Renaissance

- 332, Elizabethan Poetry and Prose
- 339, Tudor and Stuart Drama
- 342, Early Seventeenth-Century Poetry and Prose
- 345, Milton

Area 4 Restoration and Eighteenth-Century English

- 346, Restoration and Eighteenth-Century Drama
- 352, Age of Dryden and Pope
- 353, Age of Johnson
- 364, The Eighteenth-Century English Novel

Area 5 Nineteenth-Century English

- 365, The Nineteenth-Century English Novel
- 368, Early Romantic Poetry and Prose
- 369, Later Romantic Poetry and Prose
- 371, Prose and Poetry of the Victorian Period
- 372, The Later Nineteenth Century

Area 6 Nineteenth-Century American

- 373, Selected Major American Writers I
- 374, Selected Major American Writers II
- 375, American Fiction to World War I

Area 7 Twentieth-Century English/American

- 376, Modern American Fiction
- 383, Modern British Fiction
- 384, Modern Poetry
- 385, Modern Drama
- 386, Poetry Since World War II

No more than six hours of English taken on a satisfactory/unsatisfactory basis may be counted toward the 36-hour minimum requirement for a major in English. Majors must complete at least 18 graded (i.e., not satisfactory/unsatisfactory) hours in English courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

Transfer students majoring in English must complete a minimum of 12 graded hours in English courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

Work in 100-level courses provides a background in literary history and forms, as well as the means for discussing literary issues, on paper and orally. Thus, the department requires English 131 as a prerequisite for English majors for English 324, 325, 332, 337, 338, 339, 342, 345, 346, 352, 353, and 364; similarly, it requires English 132 as a prerequisite for majors for English 365, 368, 369, 371, 372, 383, 384, and 385. Both English 131 and English 132 must be taken before the major has completed 90 hours toward a degree.

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 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. Alternatively, this requirement may be met by an adolescent literature unit within a children's literature course.

English

2) Twelve hours in composition and rhetoric. The following courses may be counted:

English 10, Freshman Composition

English 209, Practical Criticism: Writing About Literature

English 209, Practical Criticism: Writing About Literature, is required. Other suggested courses include creative writing, journalism, business writing, and English 305, Writing for Teachers.

3) Six hours in linguistics.

a Must include two of the following courses:

English 220, Development of the English Language

English 221, American Dialects

English 322, Modern English Grammar

b Candidates must pass the English-Educational Studies Test in Basic Grammar.

c English 22, Traditional Grammar, is recommended preparation for the above test; English 22 does not, however, count toward the 6 hours of required linguistics.

4) English 262, The Curriculum and Methods of Teaching English (taken concurrently with student teaching).

5) Candidates for certification in Missouri must have a 2.5 cumulative G.P.A., computed from the beginning of freshman year and including all colleges attended.

Courses in professional education listed as requirements under the secondary education department are also required for secondary certification. Note that SEC ED 385, Problems of Teaching Reading in Secondary Schools, is required for prospective English teachers.

Bachelor of Science in Secondary Education with a Major in English 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 School of Education rather than those of the College of Arts and Sciences.

Minor in English A student may minor in English by taking at least 18 hours of English courses, exclusive of English 09, Basic Writing, English 10, Freshman Composition, and English 11, Freshman Composition for International Students. Also, 12 of the 18 hours must be in literature courses, and 9 of these 12 literature hours must be in courses at the 200 or 300 level. Every student taking a minor in English must consult with an adviser in the English department in order to ensure a coherent program of studies. The GPA in courses for the minor must be 2.0 or better.

No more than three hours taken on a satisfactory/unsatisfactory basis may be counted toward the 18-hour minimum.

Minor in Library Science A minor will consist of four core courses (11 hours) and one elective (three hours).

The four required courses are:

Library Science 220, Introduction to Cataloging

Library Science 221, Selection and Acquisition of Library Materials

Library Science 222, Introduction to Reference

Library Science 223, Administration of School Libraries" Media Centers

The elective may be chosen from:

ELE ED 230, Children's Literature and Readings

ELE ED 340, Selection and Utilization of Educational Media

ED TEC 345, Preparation of Graphic Materials for Audio-Visual Education

ED TEC 493, Practicum in Educational Technology

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:

Communication 212, Broadcast Writing and Reporting

Communication 217, Script Writing for Business and Industry

English 103, Poetry Writing

English 104, Short Story Writing

English 112, Topics in Writing

English 209, Practical Criticism: Writing About Literature

English 210, Advanced Expository Writing

English 212, Business Writing

English 213, Technical Writing

English 214, News Writing or **Communication 116**, News Writing

English 215, Feature Writing

English 218, Reporting

English 300, Writing in the Professions

English 302, Writing Literary Criticism

English 303, Advanced Poetry Writing

English 304, Advanced Fiction Writing

English 305, Writing for Teachers

English 313, Advanced Business and Technical Writing

English 319, Professional Editing

English 320, Independent Writing Project (This course is required. It is to be taken as the last course a student will take in his/her program, and it is to be used to generate an extensive final project.)

Note: English 313, Advanced Business and Technical Writing, may be substituted for **English 320** as the required final course for students who wish to do their final projects in business or technical writing.

Courses taken to fulfill requirements for the Writing Certificate may not be taken on a satisfactory/unsatisfactory basis.

English

Graduate Studies

Admission Requirements

To enter the graduate program in English, a candidate must satisfy the requirements both of the Graduate School and of the Department of English. A candidate should have a bachelor's degree, with at least 24 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. In addition, the English department requires letters of recommendation from two of the applicant's former English teachers. The graduate committee will use the letters, the undergraduate record, and the Graduate Record Examination scores as the basis for its decision. Applications should be submitted according to the following schedule: May 1 for the Fall semester; May 1 for the Summer session; and December 1 for the Winter semester. Late applications will be considered for the upcoming semester only if all spaces for that semester have not been filled.

Teaching Assistantships A number of teaching assistantships are available for qualified applicants. 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 24 of the required 30 hours for graduation in 400-level courses, all of which must be approved by the department and Graduate School.

A student may offer no more than six of the required 30 hours in courses other than literature or linguistics. A student who composes a Master's essay about writing or the teaching of writing may offer nine credit hours. The Director of Graduate Study must approve any other exceptions.

At the outset of the program, students must take English 400, Introduction to Graduate Study in English, which focuses upon bibliography, research methods, and literary criticism. Students must receive graduate credit for English 400. At the conclusion of the program, students may elect English 499, Master's Essay. While not required, this course is strongly recommended because of the unique opportunity it provides to conduct research and to write a substantial essay under the personal direction of a member of the Graduate Faculty.

Further details regarding the program may be found in *The Master of Arts in English*, available from the English department.

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.

History

Faculty

- William S. Maltby**, Chairperson; Professor*
Ph.D., Duke University
- Mark A. Burkholder**, Professor*
Ph.D., Duke University
- Jerry M. Cooper**, Professor*
Ph.D., University of Wisconsin
- Walter Ehrlich**, Professor*
Ph.D., Washington University
- Louis Gerteis**, Professor*; Graduate Coordinator
Ph.D., University of Wisconsin
- John R. Gillingham**, Professor*
Ph.D., University of California-Berkeley
- Steven C. Hause**, Professor*
Ph.D., Washington University
- Charles P. Korr**, Professor*
Ph.D., University of California-Los Angeles
- Howard S. Miller**, Professor*
Ph.D., University of Wisconsin
- Richard H. Mitchell**, Professor*
Ph.D., University of Wisconsin
- James Neal Primm**, Curators' Professor Emeritus of History*
Ph.D., University of Missouri-Columbia
- Arthur H. Shaffer**, Professor*
Ph.D., University of California-Los Angeles
- Blanche M. Touhill**, Professor*; Vice Chancellor for Academic Affairs
Ph.D., St. Louis University
- Roy Gene Burns, Jr.**, Associate Professor*
Ph.D., University of Missouri-Columbia
- Paul Corby Finney**, Associate Professor*
Ph.D., Harvard University
- Winston Hsieh**, Associate Professor*
Ph.D., Harvard University
- Richard W. Resh**, Associate Professor*
Ph.D., University of Wisconsin
- Steven W. Rowan**, Associate Professor*
Ph.D., Harvard University
- John A. Works, Jr.**, Associate Professor*; Undergraduate Coordinator
Ph.D., University of Wisconsin
- Dana Frank**, Assistant Professor
Ph.D., Yale University
- Louise B. Robbert**, Adjunct Associate Professor
Ph.D., University of Wisconsin

*members of Graduate faculty

General Information

The study of history, in addition to providing background for other subjects and disciplines, is an essential part of a liberal arts education. It encourages students to develop self-knowledge and helps them to understand people of widely disparate backgrounds and periods. The history department offers instruction in a wide variety of fields and formats at all levels, and the program is organized to serve as an introduction to the discipline of history.

Cicero said, "To be ignorant of the past is to remain a child," Santayana reminded nations that those who did not know history were doomed to repeat it, and Demosthenes told

Athenians that "the time for extracting a lesson from history is ever at hand." Fortunately, the past does not die, we cannot let bygones be bygones. We remember, and we bolster that memory with the written and artifactual record to make it more accurate and lasting. This extension of memory allows us to establish a common pool of wisdom. One of the early acts of the tyrant is to burn the books. Knowledge of what has been said and done is essential to freedom.

Degrees and Areas of Concentration The department offers work in Asian, African, European, Latin American, Middle Eastern, 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 School 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 Latin American, European, East Asian, and United States history.

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) completed 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 social science requirement are:

- History 3**, American Civilization
- History 4**, American Civilization
- History 107**, The History of Missouri
- History 311**, Topics in American Constitutional History

Students may take any language to fulfill the College's foreign language requirement. Majors may not take required history courses on a satisfactory/unsatisfactory basis.

Degree Requirements

Bachelor of Arts in History Students are encouraged to take programs which combine breadth of coverage with intensity. The following courses are required:

Courses 1 to 199.

- History 3**, American Civilization
- History 4**, American Civilization
- History 31**, Topics in European Civilization: The Emergence of Western Europe to 1715
- History 32**, Topics in European Civilization: 1715 to the Present
- Non-Euro/American survey**: One three-hour course

History

Courses 201 to 399.

One course in **United States history, pre-1865**

One course in **United States history, post-1865**

One course in **European history, pre-1715**

One course in **European history, post-1715**

One course in **Non-Euro-American history**

History 393, Senior Seminar

One additional course

Other

36-hour minimum/45 maximum; • No grade below C in major; • Course 255 does not count; • Courses 200 and 204 as optional electives only.

Minor in History

Students may minor in history by taking **18 hours** of history courses as follows:

1) One course numbered 1-199 in **each** of the following areas: United States history, European history, and Non-Euro-American history

2) One course numbered 201-399, except 204 and 255, 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 For information, refer to the School 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 School of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the School of Education section in this *Bulletin*.

Graduate Studies

Degree Requirements

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" below) 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 for students with avocational interests in history.

The department offers study in European history (including Britain and Russia), United States history, East Asian history, Latin American history, and African and Middle Eastern history. Within these general areas of study, students may specialize in the following fields:

Europe to 1715	Latin America
Europe since 1715	China and Japan since 1800
United States to 1865	Africa and the Middle East
United States since 1865	

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 must take the Graduate Record Examination (GRE) Aptitude Test; the Advanced Test is optional. The departmental Graduate Committee bases its admission decisions upon the undergraduate transcript, the letters of recommendation, the sample of written work, and the GRE scores.

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 300 level (except History 393). This 26-hour core must include seven courses at three credit hours each (21 hours in all), and one five-credit-hour writing seminar (consisting of a two-credit-hour research paper supplement to a three-credit-hour, 400-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 three credit hours or more), the second and third with a minimum of two courses each (at three credit hours or more). Each field must include at least one 400-level course.

In addition to this core, each candidate must select one of the two following degree options:

History

1) Thesis Option—32 hours total

In addition to the Core, the candidate choosing this option must enroll for six 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 a major professor, who directs the thesis, and two other 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 may demonstrate foreign language competence by satisfactory performance on a GSFLT examination or by other means approved by the department Graduate Committee. Candidates may demonstrate quantitative methods competence by satisfactory performance in History 300, Selected Topics in History: Quantitative Methods in Historical Research, or by other means approved by the Graduate Committee.

2) Research Paper Option—36 hours total

To complete this option, the candidate must complete two five-credit-hour seminars (each consisting of a 400-level reading seminar plus two 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.

Career Outlook

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 to our 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 that are 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, broadening the historian's traditional options of teaching, civil service, and social service.

Writing history accurately is a public service. To break off a significant fragment of the human past and examine it closely is an act of social importance; historical research contributes to society's store of useful memory. Writing a history essay or monograph carries with it the stirring experience of first-hand knowledge. One who paints, writes poetry, or carves in stone understands the problems of the masters better than any armchair critic. The writer of history gains an astuteness in understanding it. In facing social, political, or moral questions, a keenness for historical truth is valuable mental equipment.

Mathematics and Computer Science

Faculty

Jerrold Siegel, Chairman, Professor*
Ph.D., Cornell University

Edward Z. Andalafte, Professor*
Ph.D., University of Missouri-Columbia

Raymond Balbes, Professor*
Ph.D., University of California-Los Angeles

Deborah Tepper Haimo, Professor*
Ph.D., Harvard University

Grant V. Welland, Professor*
Ph.D., Purdue University

Chal Benson, Associate Professor
Ph.D., Yale University

William Connett, Associate Professor*
Ph.D., University of Chicago

Ronald Dotzel, Associate Professor*, Associate Chairman
Ph.D., Rutgers University

Richard Friedlander, Associate Professor*
Ph.D., University of California-Los Angeles

Wayne L. McDaniel, Associate Professor*
Ph.D., St. Louis University

Gail Ratcliff, Associate Professor
Ph.D., Yale University

Stephen Selesnick, Associate Professor*
Ph.D., University of London

Alan L. Schwartz, Associate Professor*
Ph.D., University of Wisconsin-Madison

Frederick Wilke, Associate Professor*
Ph.D., University of Missouri-Columbia

Haiyan Cai, Assistant Professor
Ph.D., University of Maryland

W.L. Golik, Visiting Assistant Professor
Ph.D., New Mexico State University

Peter E. Maher, Assistant Professor
Ph.D., University College of Wales, Aberystwyth

Hassan Pournaghshband, Assistant Professor
Ph.D., University of Oklahoma

Mohammad Saleem, Visiting Assistant Professor
Ph.D., University of California-Davis

David Welsh, Specialist in Computer Science
Ph.D., University of Notre Dame

John Antognoli, Lecturer, Coordinator of Evening Mathematics
M.A., University of Missouri-St. Louis

Dorothy Gotway, Lecturer
M.A., University of Kansas-Lawrence

Marlene Gustafson, Lecturer
M.A., Western Reserve University

Niceta Labrador, Lecturer
M.A., University of Illinois, Champaign-Urbana

Carol Page, Lecturer
M.S., Western Illinois University

Shahla Peterman, Lecturer
M.S., University of Wisconsin-Madison

Gillian Raw, Lecturer
M.A., Washington University

Paul Schneider, Lecturer
M.A., St. Louis University

Cynthia Siegel, Lecturer
M.S., University of Chicago

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The mathematics and computer science department offers work leading to the B.A. in mathematics, the B.S. in applied mathematics, the B.S. in computer science, and in cooperation with the School of Education, the B.S. in secondary education with a major in mathematics. The applied mathematics program has three emphasis areas: statistics, classical applied mathematics, and computational mathematics.

The department also offers minors in computer science, mathematics, and statistics.

The program leading to the B.A. in mathematics is flexible, providing a broad introduction to the important branches of mathematics, but giving students the depth necessary to pursue graduate study successfully. The B.S. in applied mathematics and the B.S. in computer science provide a solid foundation for the student interested in applications of mathematics, including computer-related mathematics. The B.S. in secondary education introduces students to those branches of mathematics most relevant to teaching secondary-school mathematics.

The mathematics and computer science department also offers work leading to the M.A. in mathematics. The program is designed to ensure that students will obtain a strong background in the areas of analysis and algebra. Through appropriate choice of electives, students may build upon this background a degree program well suited to preparation for teaching at the high school, junior college, or four-year liberal arts college level; a program directed toward application of mathematics in industry or business; or a program designed to serve as a basis upon which students may continue toward a Ph.D. in mathematics.

Mathematical Sciences Alumni Scholarship

The Mathematical Sciences Alumni Scholarship is a monetary award for an outstanding junior or senior, majoring in mathematical sciences, as evidenced by a grade point average of 3.5 or higher in at least 24 graded hours of course work at the University of Missouri-St. Louis, and superior achievement in courses in mathematical sciences. Application forms may be obtained from the Department of Mathematics and Computer Science. The deadline for application is April 15.

Mathematics and Computer Science

Undergraduate Studies

General Education Requirements

All majors must satisfy the University and appropriate School or College general education requirements. All mathematics courses except Mathematics 02 may be used to meet the University's general education breadth of study requirement in science 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 250 or above must be taken in residence. Students must have a 2.0 grade point average in the mathematical sciences courses completed.

All introductory courses in mathematics, other than Mathematics 02a, require as a prerequisite a satisfactory score on the Mathematics Placement Test. The dates on which this test is administered are given in the *Schedule of Courses*. Placement into the introductory courses (other than Mathematics 02) assumes a mastery of approximately one and one-half years of high school algebra.

A minimum grade of C shall be 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.

Bachelor of Arts in Mathematics and Bachelor of Science in Education majoring in Secondary Education with Emphasis in Mathematics Candidates for either the B.A. degree or the B.S. in education are required to complete the following course work:

1) All of the following **mathematics** courses:
(B.S. in secondary education majors must also complete Computer Science 122, Computers and Programming.)

- 80**, Analytic Geometry and Calculus I
- 175**, Analytic Geometry and Calculus II
- 180**, Analytic Geometry and Calculus III
- 202**, Linear Algebra and Differential Equations
- 250**, Introduction to Modern Mathematics
- 345**, Linear Algebra

2) Four courses from **three of the following blocks** with at least one course from the first block and at least two courses in some block.

Analysis and Topology

- 310**, Advanced Calculus I
- 311**, Advanced Calculus II
- 316**, Functions of a Complex Variable
- 380**, Introduction to Topology

Algebra

- 335**, Theory of Numbers
- 340**, Introduction to Abstract Algebra I
- 341**, Introduction to Abstract Algebra II

Applications

- 303**, Applied Mathematics II
- 306**, Applied Differential Equations
- 320**, Mathematical Statistics I
- 321**, Mathematical Statistics II
- 323**, Numerical Analysis I
- 324**, Numerical Analysis II
- 327**, The Calculus of Variations
- 355**, Discrete Mathematics

Geometry and Logic

- (B.S. in secondary education majors must complete 366 or 367.)
- 358**, Mathematical Logic
 - 362**, Projective Geometry
 - 364**, Introduction to Differential Geometry
 - 366**, Foundations of Geometry
 - 367**, Introduction to Non-Euclidean Geometry

Bachelor of Science in Applied Mathematics The following course work is required:

1) Mathematics

- 80**, Analytic Geometry and Calculus I
- 175**, Analytic Geometry and Calculus II
- 180**, Analytic Geometry and Calculus III
- 202**, Linear Algebra and Differential Equations
- 250**, Introduction to Modern Mathematics
- 310**, Advanced Calculus I or **340**, Introduction to Abstract Algebra I

2) Computer Science

- 122**, Computers and Programming

3) Probability and Statistics

- 132**, Applied Statistics I

Mathematics and Computer Science

4) All the courses in option a, b, or c:

a) Classical Applied Mathematics Option

The following courses in **mathematics** are required:

- 303, Applied Mathematics II
- 316, Functions of a Complex Variable
- 320, Mathematical Statistics I
- 323, Numerical Analysis I
- 345, Linear Algebra

Also required are **two** additional courses in mathematical sciences, numbered above 250, as well as Physics 111, Physics: Mechanics and Heat, and Physics 112, Physics: Electricity, Magnetism and Optics.

b) **Probability and Statistics Option** The following courses in **probability and statistics** are required:

- 232, Applied Statistics II
- 320, Mathematical Statistics I
- 321, Mathematical Statistics II
- 330, Multivariate Analysis
- 333, Nonparametric Methods in Statistics

Also required is the following **computer science** course:
123, Programming Techniques

One further course in mathematical sciences, numbered above 250, and two related area courses should be chosen with the approval of the adviser.

c) **Computational Mathematics Option** The following courses in **mathematics** and **computer science** are required:

- 123, Programming Techniques
- 322, Data Structures
- 323, Numerical Analysis I
- 324, Numerical Analysis II
- 345, Linear Algebra
- 355, Discrete Mathematics

Also required are **three additional courses** numbered above 250, one of which must be in computer science, and two in mathematics.

Bachelor of Science in Computer Science The following course work is required:

1) Mathematics

- 80, Analytic Geometry and Calculus I
- 175, Analytic Geometry and Calculus II
- 180, Analytic Geometry and Calculus III
- 202, Linear Algebra and Differential Equations
- 250, Introduction to Modern Mathematics

Also required is **one** of the following:

- 320, Mathematical Statistics I
- 323, Numerical Analysis I
- 355, Discrete Mathematics

2) Computer Science

- 122, Computers and Programming
- 123, Programming Techniques
- 240, Computer Hardware and Small Computer Systems I
- 241, Computer Hardware and Small Computer Systems II
- 322, Data Structures
- 328, Programming Languages and Compilers
- 376, Operating Systems

3) Probability and Statistics

- 132, Applied Statistics I

4) **Three further courses in mathematical sciences**, numbered above 250, at least one of which must be in computer science. Computer Science 272, Programming Languages Laboratory, may be counted as one of these three courses only if three or more hours of credit are obtained in the course.

Related Area Requirements

In order to broaden student understanding of the sources and uses of mathematics, the department requires all candidates for the B.A. in mathematics, B.S. in education, B.S. in applied mathematics, and B.S. in computer science to complete **all courses in any two** of the groups below with a grade of C or better.

Restrictions Students are reminded that related area requirements may not be taken on a satisfactory/unsatisfactory basis. Students in either the computer science degree program or the statistics or computational mathematics emphasis areas for the applied mathematics degree program may not choose group 5; students in the classical applied math emphasis area may not choose group 8. Candidates for the B.S. in applied mathematics and the B.S. in computer science who choose group 9 must satisfy group 9 requirements with Physics 221, Mechanics, and Physics 223, Electricity and Magnetism. Students in the computational mathematics emphasis area for the applied mathematics degree are strongly encouraged to choose group 8 as one of their related areas.

Related Area Courses

1) Biology:

- Biology 224, Genetics
- Biology 226, Genetics Laboratory

2) Biology:

- Biology 342, Population Biology
- Biology 344, Population Biology Laboratory

and one additional course at the 200 level, or above, excluding Biology 224 and 226. The department recommends Biology 348, Animal Societies and Aggregations, or Biology 380, Advanced Animal Behavior.

Mathematics and Computer Science

3) Chemistry:

Chemistry 11, Introductory Chemistry I

Chemistry 12, Introductory Chemistry II

4) Chemistry:

Chemistry 231, Physical Chemistry I

and another 200-level, or above, chemistry course.

5) Two of the following computer science courses:

Computer Science 123, Programming Techniques

Computer Science 322, Data Structures

Business Administration 224, Introduction to Systems Programming

6) Economics:

Economics 365, Economic Statistics and Econometrics

Economics 366, Econometrics

7) Philosophy:

Philosophy 160, Formal Logic

Philosophy 260, Advanced Formal Logic

Philosophy 280, Philosophy of Science

8) Physics:

Physics 111, Physics: Mechanics and Heat

Physics 112, Physics: Electricity, Magnetism, and Optics

9) Physics:

Physics 221, Mechanics

and another 200-level, or above, physics course

10) Business Administration

Business Administration 375, Operations Research

Business Administration 385, Operations Research II, or **487**, Advanced Operations Research Applications, or **483**, Production and Operations Management

Many students are qualified, as a result of having studied calculus in high school, to begin their major with Mathematics 175, Analytic Geometry and Calculus II, or Mathematics 180, Analytic Geometry and Calculus III. These students are urged to consult with a faculty member before planning their programs. Credit for Mathematics 80, Analytic Geometry and Calculus I, will be granted to such students who complete Mathematics 175 with a grade of C or better.

Students preparing for graduate study should take eight or nine mathematics courses at the junior-senior level. The department recommends the following **mathematics** courses:

310, Advanced Calculus I

311, Advanced Calculus II

316, Functions of a Complex Variable

340, Introduction to Abstract Algebra I

341, Introduction to Abstract Algebra II

380, Introduction to Topology

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:

122, Computers and Programming

123, Programming Techniques

240, Computer Hardware and Small Computer Systems I

241, Computer Hardware and Small Computer Systems II

and **one** additional **computer science** course numbered above 241. A minimum of two computer science courses numbered above 240 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:

80, Analytic Geometry and Calculus I

175, Analytic Geometry and Calculus II

180, Analytic Geometry and Calculus III

and **one** additional three-hour **mathematics** course numbered above 180. A minimum of two mathematics courses numbered 180 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:

132, Applied Statistics I

232, Applied Statistics II

320, Mathematical Statistics I

321, Mathematical Statistics II

A minimum of **two statistics** courses numbered above 200 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Mathematics and Computer Science

Graduate Studies

Preliminary Advisement

Incoming students are assigned advisers with whom they should consult before each registration period. First-year students will meet with their advisers to determine proper placement. If necessary, students may have to repeat undergraduate course work for no credit.

Degree Requirements

Master of Arts in Mathematics Candidates for the M.A. degree must complete 30 hours of work including:

a) The following **mathematics** courses:

310, Advanced Calculus I

340, Introduction to Abstract Algebra I

345, Linear Algebra

b) Fifteen hours of mathematical sciences courses numbered above 400, chosen with prior approval of the graduate director.

Note: Requirement **a** can be waived, but no credit obtained, if the student passes an appropriate examination.

Thesis Option The student may elect to work on a thesis in which case he or she must enroll in at most six hours of Mathematics 490, Master's Thesis.

Up to six hours in courses outside of mathematical sciences, numbered 200 or above, may be taken with prior approval of the graduate director.

Examination Candidates for the degree must take an examination which will be oral or written or both at the option of the department. Candidates failing the examination may repeat it after six months. Candidates are not allowed to take the examination more than twice. Students electing to write a thesis will, as part of their examination, present and defend that thesis. The thesis option will be available in various areas but primarily in computing.

Financial Assistance Financial support is available to full-time graduate students in the form of teaching assistantships. For further information, contact the graduate director.

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, in computer science, and in 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.

Modern Foreign Languages and Literatures

Faculty

Lorna Williams, Chairperson, Associate Professor, Spanish
Ph.D., University of Indiana

Albert J. Camigliano, Assistant Professor*, German
Ph.D., University of Wisconsin

Francisco Caranas, Professor*, Spanish
Ph.D., University of Valencia

Roland A. Champagne, Professor*, French; Associate Dean,
College of Arts & Sciences
Ph.D., The Ohio State University

Marcus Allen, Associate Professor Emeritus*, French
Ph.D., University of Pittsburgh

Alfred F. Goessl, Associate Professor Emeritus*, German
Ph.D., Tulane University

Sonja G. Stary, Associate Professor*, French
Ph.D., University of Cincinnati

Ingeborg M. Goessl, Assistant Professor*, German
Ph.D., University of Kansas

Paul R. Hoffman, Assistant Professor, German
M.A.

Rolf R. Mueller, Assistant Professor, German; Director, Language
Laboratory
Ph.D., University of Kansas

Jeanne Morgan Zarucchi, Assistant Professor*, French
Ph.D., Harvard University

Deborah Baldini, Lecturer, Spanish
M.A.

Rita Bergoudian, Lecturer, Spanish and French
M.A.

Ludmila Bronstein, Lecturer, Russian
M.A.

Pierrette Daly, Lecturer, French
Ph.D., Washington University

Julianne Dueber, Lecturer, Spanish
M.A.

Fernande Gontier, Lecturer, French
Ph.D., University of Virginia

Geremie Hoff, Lecturer, Italian and Spanish
M.A.

Murial S. Pascoe, Lecturer, Spanish
Ph.D., Washington University

Alicia Ramos, Lecturer, Spanish
Ph.D., Northwestern University

Rita C. White, Lecturer, French
M.A.

Phyllis Wright, Lecturer, Latin and Ancient Greek
Ph.D., University of Toronto

*members of Graduate Faculty

The department is proud of the quality of its faculty, foreign language instruction, and the performance of its graduates. To achieve and maintain this quality, the department has a faculty whose members have either native or near-native ability in the foreign languages taught. Each year the department arranges to provide the services of native-speaking assistants to enrich the students' language experience on an informal basis.

General Information

Degrees and Areas of Concentration The Department of Modern Foreign Languages and Literatures offers course work in French, German, and Spanish, leading to the B.A. degree, and a field of concentration in each of these languages for those students seeking the B.S. degree in education. In addition, the department offers lower-level courses in Italian, Latin, Ancient Greek, and Russian. A minor in French, German, or Spanish may also be earned in the department. For details, see "Specific Requirements for the Minor" below.

Each of the languages offering a major has an active foreign language club which enables students to meet with each other and their instructors to practice the language in a casual setting. A resource center is maintained where books, journals, magazines, records, and other foreign language realia are available to students. The language laboratory is a cassette-oriented center, housing a cassette library with holdings in the seven languages taught by the department. In addition, a computer-assisted instruction program is available in the language laboratory.

Cooperative Study Courses in Chinese, Hebrew, and Japanese are available to UM-St. Louis students through Washington University. Portuguese is available through St. Louis University. 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 3-6 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.

Alumni Scholarship Qualified junior and senior language majors may apply for the Modern Foreign Language Alumni Scholarship that is renewable each semester on a competitive basis. For information, contact the department.

German Majors Students of German may apply for UM-St. Louis Strassenfest Summer scholarships that will partially finance their summer studies abroad. Qualified German majors with junior or senior standing may apply for Strassenfest-funded educational fee waivers. For information, contact the department.

Departmental Honors Candidates for departmental honors in French, German, 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 1 and 2)
- 2) maintain an overall GPA of 3.2
- 3) successfully complete an honors thesis and project

Modern Foreign Languages and Literatures

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. Any literature or civilization course offered by the department may be used to meet the humanities requirement.

Satisfactory/Unsatisfactory Option

Any course offered by the department may be taken on a satisfactory/unsatisfactory basis by nonmajors except Language 1, 2, and 101 (or equivalent), Elementary and Intermediate French, German, Ancient Greek, Italian, Latin, Russian, or Spanish; and Language 115a, b, and c, Intensive Language. Courses taken as a part of the major may not be taken on a satisfactory/unsatisfactory basis.

Students who have fulfilled the language requirement (thirteen hours: Language Courses 1, 2, and 101) 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 1 or may enroll in Language 115. Language 115 (a, b, and c) is the intensive study of a language and will satisfy the foreign language requirement.

Effective Fall 1987 Students with a degree of proficiency equivalent to 13 hours of college-level work may obtain exemption and/or credit 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.

Effective Fall 1986 Students who receive two D's in Intensive Language must complete Language 2 and 101. Students who receive three D's must complete Language 1, 2 and 101. Students wishing to major or minor in the language must pass all three sections with a grade of C or better. (Business students choosing Intensive Language as their language option should consult with the School of Business Administration regarding specific requirements.)

Starting in Fall Semester, 1984, a D in a Language 1 course is a passing grade but not an entrance grade for a Language 2 course. Starting in Winter Semester, 1985, a D in a Language 2 course is a passing grade but not an entrance grade for a Language 101 course or its equivalent.

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.

Scientific Language 100

Scientific Language 100 or Commercial Language 105 is the equivalent of Language 101 and may be substituted for Language 101.

Degree Requirements

Students electing to major in the department must have completed Course Number 2 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 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 1 and 2). The maximum number of hours that may be taken in the major is 45 (including Language 1 and 2). In addition, students seeking the B.A. in a foreign language who desire a teaching certificate must also take Course 264 (same as SEC ED 274), Curriculum and Methods of Teaching Foreign Languages, and fulfill the professional secondary education requirements of the School 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 1 and 2), of which 12 hours must be on the 300 level. Students working toward a degree in elementary education, with related work in a foreign language, should consult the School of Education concerning their program.

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.

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 successfully completed.

Students who have not yet received college-level credit in French, German, and Spanish may receive up to 13 hours advanced standing in that language, provided that they take the Department Placement Exam to qualify for enrollment in an upper-level language course, and complete that course with a grade of C or better. In Italian and Russian, ten hours advanced standing may be earned.

Transfer Students Transfer students majoring in one of the modern foreign languages must complete, at UM-St. Louis, a minimum of 12 graded hours in language courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

Modern Foreign Languages and Literatures

Specific Requirements for the Major

French Each major in French must complete the following courses:

- 101**, Intermediate French, or **105**, Commercial French, or the equivalent
- 171**, French Conversation and Pronunciation, or **172**, French Composition
- 180**, Readings in French
- 200**, Advanced Grammar
- 280**, French Literature I: Middle Ages to Eighteenth Century
- 281**, French Literature II: Nineteenth and Twentieth Centuries

and **four** courses at the 300 level.

The following courses are also strongly **recommended**:

- German 110**, Masterpieces of German Literature in Translation
- Spanish 110**, Spanish Literature in Translation
- History 332c**, Modern France: To 1870
- History 333a**, Contemporary France: Since 1870

German Each major in German must complete the following courses:

- 101**, Intermediate German
- 171**, German Conversation and Pronunciation, or **172**, German Composition
- 180**, Readings in German
- 201**, Masterpieces of German Literature
- 202**, The German Novelle and Drama
- 208**, Intermediate Composition and Conversation
- 210**, German Culture and Civilization

and **four** courses at the 300 level.

Also **recommended** are these courses:

- English 120**, Classical Literature in Translation
- English 337**, Shakespeare: Tragedies and Romances
- French 110**, Modern French Literature in Translation, or **150**, European Literature in Translation: Special Topics
- Spanish 110**, Spanish Literature in Translation, or **150**, European Literature in Translation: Special Topics
- History 333b**, Germany in the Modern Age
- Philosophy 105**, Twentieth-Century Philosophy

Spanish Each major in Spanish must complete the following courses:

- 101**, Intermediate Spanish, or **105**, Commercial Spanish, or the equivalent
- 171**, Spanish Conversation and Pronunciation, or **172**, Spanish Composition, or **180**, Readings in Spanish
- 200**, Syntax of the Spanish Language
- 210**, Hispanic Culture and Civilization: Spain, or **211**, Hispanic Culture and Civilization: Spanish America
- 280**, Introduction to Hispanic Literature: Spain
- 281**, Introduction to Hispanic Literature: Spanish America

and **four** courses at the 300 level, one of which must be:

- 399**, Seminar on Hispanic Literature

Strongly **recommended** are:

- French 110**, Modern French Literature in Translation or **150**, European Literature in Translation: Special Topics
- German 110**, Masterpieces of German Literature in Translation
- History 332a**, History of Spain
- History 271**, History of Latin America: to 1808
- History 272**, History of Latin America: Since 1808
- Political Science 253**, Political Systems of South America
- Political Science 254**, Political Systems of Mexico, Central America, and the Caribbean

Specific Requirements for the Minor

A minor in French, German, or Spanish may be earned by completing six courses in the language beginning with Language 101 or its equivalent. These courses must be completed with a grade of C or better. Transfer students must complete at least two courses for the minor at UM-St. Louis. After Language 101, students must complete the following courses in the language of their chosen minor:

French

- French 160**, French Phonetics, **French 171**, Conversation and Pronunciation, or **French 172**, Composition
 - French 180**, Readings in French
 - French 280**, French Literature I, or **French 281**, French Literature II
- Plus any two additional courses on the 200 level or above.

German

- German 171**, Conversation and Pronunciation, or **German 172**, Composition
 - German 180**, Readings in German
 - German 201**, Masterpieces of German Literature, or **German 202**, The German *Novelle* and Drama
- Plus any two additional courses on the 200 level or above.

Spanish

- Spanish 171**, Conversation and Pronunciation, or **Spanish 172**, Composition, or **Spanish 180**, Readings in Spanish
 - Spanish 200**, Syntax of the Spanish Language, or **Spanish 271**, Advanced Spanish Conversation
 - Spanish 280**, Introduction to Hispanic Literature: Spain, or **Spanish 281**, Introduction to Hispanic Literature: Spanish America
- Plus any two additional courses on the 200 level or above.

Native Speakers

For all languages, native speakers must complete five courses on the 200 level or above.

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.

Music

Faculty

Leonard Ott, Chairperson; Assistant Professor*
Ph.D., Michigan State University

Kenneth E. Miller, Professor*
Ph.D., Northwestern University

Warren T. Bellis, Associate Professor Emeritus
D.M.A., University of Michigan

John Hylton, Associate Professor*
D.Ed., Penn State University

Evelyn Mitchell, Associate Professor*

Arnold Perris, Professor Emeritus
Ph.D., Northwestern University

James Richards, Associate Professor*
Ph.D., University of Rochester, Eastman School of Music

Diane Toulatos, Professor*
Ph.D., Ohio State University

Bruce Vantine, Associate Professor*
D.M.A., University of Illinois at Urbana-Champaign

Fred Willman, Professor*
Ph.D., University of North Dakota

Gregory Fox, Assistant Professor
Ed.D., University of Illinois at Urbana-Champaign

Mark Madsen, Assistant Professor*
D.M.A., University of Arizona

Rex Matzke, Assistant Professor
M.M., University of Nebraska

Carolee Coombs-Stacy, Lecturer (Voice)

Hubert Drury, Lecturer (Piano)
M.M.

Jan Gippo, Lecturer (Flute)†
M.M.

Marc Gordon, Lecturer (Oboe)†

Robert Mottl, Lecturer (Bassoon)†
M.M.

Jan Parker, Lecturer (Voice)
M.M.

Gene Pokorny, Lecturer (Tuba)†
B.M.

Alan Rosenkoetter, Lecturer (Guitar)
B.S.

Bernard Schneider, Lecturer (Trombone)†

Janis Smith, Lecturer (Flute)†
B.M.E.

Sue Stubbs, Lecturer (String Bass)
B.M.

Robert Tobler, Lecturer (Trombone)
M.M.

John P. Walsh, Lecturer (Organ)
M.M.

Carolyn White, Lecturer (Double Bass)†
B.M.

*members of Graduate Faculty
†member, Saint Louis Symphony Orchestra

Music faculty members have received recognition for distinguished achievements in conducting, composition, and performance. The faculty is also recognized for research in musicology and music education. Part-time applied music lecturers are all professional musicians.

General Information

Degrees and Areas of Concentration

The Department of Music offers programs of study leading to the B.M. degree in music education (and state teaching certification in grades K-12); the B.M. degree with an emphasis in performance; the B.M. degree with an emphasis in music management; and the B.A. degree in music.

Instruction in piano, organ, voice, and all band and orchestral instruments is given by full-time faculty and 25 part-time professional musicians, many of whom are members of the Saint Louis Symphony Orchestra. Faculty recitals are regularly scheduled.

Music Minors Three minors in music are available: a minor in music; a minor in music education (choral/vocal, Grades K-9); and a minor in Jazz studies.

Facilities All of the department's facilities, classrooms, rehearsal rooms, studios, practice rooms, and listening labs are located in the Music Building.

Ensembles Thirteen performing ensembles are open to all by audition with credit optional:

40, University Chorus

41, The University Singers

50, University Orchestra

52, University Band

53, University Wind Ensemble

54, Chamber Ensemble: a, brass; b, jazz combo; c, percussion; d, strings; e, voice; f, woodwinds

55, Jazz Ensemble

56, Opera Workshop

Each year about 40 recitals and concerts are presented.

Undergraduate Studies

General Education Requirements

General education requirements apply to all majors, except students in the B.M. with an emphasis in music management and B.M. in music education degree programs who are not required to take a foreign language. Courses required for degree programs may not be taken on a satisfactory/unsatisfactory basis.

Students may complete any number of hours of applied music (private lessons) toward a degree. Nonmusic majors may complete no more than eight hours in music-performing organizations (Music 40, University Chorus; 41, University Singers; 50, University Orchestra; 52, University Band, et. seq.) toward graduation, including credit transferred. Courses in applied music (private lessons and performing organizations) do not fulfill the humanities general education requirement. Department courses which meet the non-European study requirement are Music 9, Non-Western Music I, and Music 10, Non-Western Music II.

Music

Degree Requirements

Admission to all music degree programs is by audition and interview to demonstrate musical aptitude and potential, moderate technical proficiency, and seriousness in selecting music as a four-year course of study. Auditions are scheduled from January to May for the fall semester; a limited number are held in December for the winter semester. **APPLICANTS MUST BE ADMITTED TO THE UNIVERSITY BEFORE REQUESTING AN AUDITION.** All students in Applied Music must pass an examination to confirm their level of performance skills before faculty approval for enrollment in Music 244 is granted. This examination usually will be taken in lieu of the Applied Music jury for Music 145.

Evidence of sound musicianship, a close acquaintance with an appropriate portion of musical literature, and the ability to bring it to actual performance are required for graduation in all music degree programs. Students in the Bachelor of Music-Performance Emphasis fulfill this requirement with junior and senior recitals. Those in all other degree programs must satisfy the requirement by participating in three regularly scheduled student recitals during the last two semesters of applied music study, or by performing for a special jury of faculty members. The faculty may invite students who are not in the Bachelor of Music-Performance Emphasis program to give public senior recitals with the recommendation of the applied music instructor.

Music majors are required to participate in an approved ensemble (Symphonic Band, University Singers, University Chorus, or Orchestra) and to study one applied area progressively each semester of the degree program. (Music education majors are exempt from these requirements during the student teaching semester.) The following specific ensemble enrollments, depending upon the applied music area, are required:

wind and percussion students—Band;
string students—Orchestra;

voice students—University Singers or Chorus;
keyboard and guitar students—any approved ensemble, but those in the Bachelor of Music in Music Education program must enroll in an ensemble compatible with the teaching certification they are pursuing.

Majors are required to appear in performance at the department's discretion and to attend a prescribed number of departmental recitals. Non-keyboard players are required to pass an exam in piano proficiency: Music 118, Intermediate Piano Proficiency, or equivalent for instrumentalists, or Music 120, Intermediate Piano Proficiency, or equivalent for vocalists.

Core Curriculum

The following core courses are **required** for all music majors:

Music Theory

30A , Theory of Music I	30B , Aural Training I
31A , Theory of Music II	31B , Aural Training II
130A , Theory of Music III	130B , Aural Training III
131A , Theory of Music IV	131B , Aural Training IV
141 , Orchestration	

Music History and Literature

101, History of Western Music I
102, History of Western Music II

and at least **one** 300-level course.

In addition to the core curriculum, students must fulfill the requirements for the specific degree program or emphasis area as listed below:

Bachelor of Arts in Music In addition to the required Core Curriculum, candidates must complete the following:

151, Conducting I
192, Senior Research

Applied Area 12 credit hours of private lessons

Ensemble Four hours maximum credit

Bachelor of Music in Music Education In addition to the required Core Curriculum, candidates must complete the following:

Applied Area 10 credit hours of private lessons

Practicum

151, Conducting I
152, Conducting II
161, Junior-Senior High School Materials Laboratory
162, Elementary School Materials—Conducting Laboratory

Instrumental Certification 8 credit hours

25, 26, 27, and 28, Instrumental Techniques

Vocal Certification

125, Singer's Diction: French and Italian
126, Singer's Diction: English and German

For students whose applied area is **not** Voice, the following courses are also required:

123, Intermediate Vocal Techniques
124, Intermediate Vocal Techniques

Ensemble Four hours maximum credit

Curriculum and Methods of Teaching The following courses are required:

257, Curriculum and Methods of Teaching Elementary School Music
267, Philosophic and Practical Foundations of the Secondary Music Education Curriculum

Proficiency Exam Students working toward certification in choral/vocal or instrumental music K-12 or K-9 are required to pass a proficiency examination **before** admission to student teaching in music, usually before or during the sixth semester of their program.

Music

Professional Education and Student Teaching The following education courses are required:

- ED FND 111**, The School in Contemporary Society
- ED PSY 312**, The Psychology of Teaching and Learning
- ELE ED 210**, Elementary School Organization, Management, and Techniques of Teaching
- SEC ED 213**, Techniques of Secondary School Teaching
- SEC ED 293**, Student Teaching in Music Education, K-6
- SEC ED 294**, Student Teaching in Music Education, 7-12
- SPC ED 313**, The Psychology and Education of Exceptional Individuals

Bachelor of Music with an Emphasis in Performance

In addition to the required Core Curriculum, candidates must complete the following:

- 311**, Analysis of Twentieth-Century Techniques
- 312**, Tonal Counterpoint
- 151**, Conducting I
- 152**, Conducting II
- 192**, Senior Research

Music History and Literature An additional 300-level course is required.

Applied Area 24 credit hours of private lessons (junior and senior recitals required).

Ensemble Participation required as follows:

- Large Group** Four hours maximum credit
- Chamber Ensemble/Accompanying** Six hours
- 156**, Piano Pedagogy (Keyboard students only)

Foreign Language Candidates pursuing this emphasis area with an applied area in voice must complete two semesters of one foreign language selected from French, German, or Italian 1 and Italian 2.

Bachelor of Music with an Emphasis in Music Management

In addition to the required Core Curriculum, candidates must complete the following:

Applied Area Twelve hours of private lessons

Music History and Literature: An additional 300-level course is required.

- 09**, Non-Western Music or
- 10**, Non-Western Music

Practicum

- 151**, Conducting I
- 161**, Junior-Senior High School Materials Laboratory

Ensemble Four hours maximum credit

Internship

292, Internship (replaces Music 192 in Core Curriculum)

English One of the following English courses is required:

- 210**, Advanced Expository Writing
- 212**, Business Writing
- 213**, Technical Writing

Business Administration The following courses in business administration are required:

- 140**, Fundamentals of Financial Accounting
- 145**, Managerial Accounting
- 206**, Basic Marketing
- 210**, Management as a Behavioral Science I

Two courses selected from the following list must also be taken:

- 103**, Introduction to Business Data Processing
- 156**, Legal Environment of Business
- 204**, Financial Management
- 256**, Business Law
- 270**, Management of Promotion
- 301**, Buyer Behavior
- 309**, Personnel Management
- 311**, Management as a Behavioral Science II
- 312**, Industrial and Labor Relations
- 347**, Income Taxes

Note: The following courses fulfill general education requirements and are prerequisites to the required business administration courses:

Psychology 3, General Psychology, or **Sociology 10**, Introduction to Sociology

Economics 51, Principles of Microeconomics

Curricula for Minors

Minor in Music Candidates must complete the following courses (24 hours):

Music Theory

- 30A**, Theory of Music I
- 31A**, Theory of Music II
- 30B**, Aural Training I
- 31B**, Aural Training II

Music History and Literature

- 101**, History of Western Music I
- 102**, History of Western Music II

Applied Area Four credit hours of private lessons

Ensemble Two credit hours (four hours maximum credit)

Six additional credit hours to be chosen from such courses as the following:

- 130A**, Theory of Music III
- 130B**, Aural Training III
- 131A**, Theory of Music IV
- 131B**, Aural Training IV
- 141**, Orchestration
- 116**, Intermediate Piano Proficiency (Prerequisite: Music 15)
- 118**, Intermediate Piano Proficiency
- Any 300-level **Music History and Literature** course
- Any **Applied Music** courses in sequence
- Any **Ensemble** course

Music education methods courses and instrumental techniques courses may not be taken to complete this minor.

Non-keyboard players are required to pass an exam of piano proficiency (Music 15 or equivalent).

A GPA of 2.5 for all music hours is required to complete this minor.

Minor in Music Education (Choral/Vocal, Grades K-9)

The minor in music education is designed to provide a second classification area for students enrolled in other education programs that lead to initial teaching certification.

Music

Candidates must complete the following courses (**41 hours**):

Music Theory

- 30A, Theory of Music I
- 31A, Theory of Music II
- 30B, Aural Training I
- 31B, Aural Training II

Music History and Literature

- 101, History of Western Music I
- 102, History of Western Music II

Music Education

- *257, Curriculum and Methods of Teaching Elementary School Music
- *267, Philosophic and Practical Foundations of the Secondary Music Education Curriculum
- *269, Curriculum and Methods of Teaching Middle School/Junior High School General Music

Practicum

- 151, Conducting I
- 161, Junior-Senior High School Materials Laboratory
- 162, Elementary School Materials—Conducting Laboratory

Ensemble

- 14/15, Piano Proficiency
- 40/41, Chorus or University Singers
- 116/118, Intermediate Piano Proficiency

Applied Music. Voice (at least two hours must be private rather than class voice)

*Elementary education majors will omit Music 177 from their regular elementary program to take these courses.

Also required, as applicable, is **SEC ED 393**, Student Teaching.

The student must receive at least a C in each music course and maintain a 2.5 GPA in all music courses (Chorus/Singers is not included in the GPA).

Minor in Jazz Studies Candidates must complete **29 credit hours** from the following:

Music Theory

- 30A, Theory of Music I
- 31A, Theory of Music II
- 32, Theory of Jazz
- 30B, Aural Training I
- 31B, Aural Training II

Music History and Literature

- 7, Introduction to Jazz
- 102, History of Western Music II

Applied Area Four credit hours of private lessons

Jazz Improvisation

- 20, Jazz Improvisation Laboratory (two credit hours/Music 20 repeated)

Piano Proficiency

- 14/15, Piano Proficiency
- 116, Intermediate Piano Proficiency
- 117, Jazz Keyboard Harmony

Ensemble Two credit hours minimum, to be selected from:

- 54b, Jazz Combo
- 54e, Voice
- 55, Jazz Ensemble

Career Outlook

A music degree is the basis for a career in professional performance, in music education as a school or private studio teacher, or as a church music director. Opportunities also exist in the music industry in recording, publishing, radio programming, manufacturing, and retail business. A trained artistic mind also can be an advantage in the fields of advertising, public relations, and consumer services.

A number of UM-St. Louis music graduates have been readily accepted into leading graduate schools. Many are pursuing successful careers in music education, in business and industry, or as professional musicians.

Philosophy

Faculty

Lawrence H. Davis, Chairperson; Associate Professor*

Ph.D., University of Michigan

James F. Doyle, Professor*

Ph.D., Yale University

Peter Fuss, Professor*

Ph.D., Harvard University

Robert M. Gordon, Professor*

Ph.D., Columbia University

Ronald Munson, Professor*

Ph.D., Columbia University

David A. Conway, Associate Professor*

Ph.D., Princeton University

Edward B. Costello, Associate Professor*

Ph.D., Northwestern University

John E. Parks-Clifford, Associate Professor*

Ph.D., University of California-Los Angeles

Stephanie A. Ross, Associate Professor*

Ph.D., Harvard University

Paul A. Roth, Associate Professor*

Ph.D., University of Chicago

Henry L. Shapiro, Assistant Professor*

Ph.D., Columbia University

David J. Griesedieck, Lecturer

M.A., Princeton 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 problems that are common to several areas of inquiry, such as art, ethics, the social sciences, and the natural sciences. 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, 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 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 Oriental modes of thought.

General Information

Degrees and Areas of Concentration The philosophy department offers three options leading to the B.A. degree in philosophy: one for students intending to enter graduate school in philosophy; another for students seeking a general liberal arts education as their ultimate academic objective or as preparation for professional degrees such as law; and the third for students taking a double major in philosophy and another discipline. Each option offers a balance between 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. Any course in philosophy will satisfy the humanities requirement. Philosophy 120, Asian Philosophy, also satisfies the college non-Euro-American 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.

Option One Designed to prepare students for graduate work in philosophy, the program requires:

1) Philosophy 160, Formal Logic

2) History of Philosophy

Choose alternative a or b:

a. Two courses from Philosophy 101-107 sequence and **one** course from Philosophy 201-210 sequence.

b. Philosophy 10, History of Philosophy I and **Philosophy 11**, History of Philosophy II; **one** course from Philosophy 101-107 sequence; and **one** course from Philosophy 201-210 sequence.

3) Normative Philosophy

One course from the following:

Philosophy 230, Social and Political Philosophy

Philosophy 235, Classical Ethical Theories

Philosophy 238, Recent Ethical Theory

4) One of the following courses:

Philosophy 240, Theories of Knowledge

Philosophy 245, Metaphysics

5) Philosophy and Other Disciplines

One course from the Philosophy 270-290 sequence.

Philosophy

When appropriate, Philosophy 250, 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 Less restrictive, this option is intended for general liberal arts students or students whose special interests, such as prelaw preparation, do not fall clearly into any one traditional academic department. Requirements include:

1) Philosophy 160, Formal Logic

2) History of Philosophy

Choose alternative a or b:

a. two courses from the following:

Philosophy 101-107 sequence

Philosophy 201-210 sequence

b. Philosophy 10, History of Philosophy I, and **Philosophy 11**, History of Philosophy II, and **one** course from the following:

Philosophy 101-107 sequence

Philosophy 201-210 sequence

3) Twelve hours at the 200 level.

Option Three Open only to students seeking a double major, the option requires:

1) Philosophy 60, Logic and Language or **Philosophy 160**, Formal Logic

2) History of Philosophy

Choose alternative a or b:

a. two courses from the following:

Philosophy 101-107 sequence

Philosophy 201-210 sequence

b. Philosophy 10, History of Philosophy I, and **Philosophy 11**, History of Philosophy II, and **one** course from the following:

Philosophy 101-107 sequence

Philosophy 201-210 sequence

3) Nine hours at the 200 level.

Departmental Honors Majors with a 3.2 grade point average or higher in philosophy and overall may, with the department's consent, earn departmental honors by:

1) completing at least six hours, but not more than nine, of Philosophy 291, Senior Thesis;

2) submitting an acceptable thesis before the end of the senior year; and by

3) passing an oral examination.

In such cases, the 30 hours required for the major will include the credit earned in Philosophy 291, Senior Thesis.

Related Area Requirements Majors are urged to acquire a familiarity with some other field above the introductory level.

Requirements for the Minor Fifteen hours of course work in philosophy are required: Philosophy 60, or Philosophy 160, and four other courses numbered above 100, including two numbered above 200.

All courses presented for the minor must be completed with a grade of C or better.

Prospective minors are encouraged to consult with members of the department for advice in planning an appropriate sequence of courses.

Physics

Faculty

Philip B. James, Chairperson; Professor*

Ph.D., University of Wisconsin

Ta-Pei Cheng, Professor*

Ph.D., Rockefeller University

Bernard J. Feldman, Professor*

Ph.D., Harvard University

Peter H. Handel, Professor*

Ph.D., University of Bucharest

Bob L. Henson, Professor*

Ph.D., Washington University

Jacob J. Leventhal, Curators' Professor*

Ph.D., University of Florida

Frank E. Moss, Professor*

Ph.D., University of Arizona

John S. Rigden, Professor*

Ph.D., The Johns Hopkins University

Richard D. Schwartz, Professor*

Ph.D., University of Washington

Robert Hight, Associate Professor*

Ph.D., University of Missouri-Columbia

Bruce A. Wilking, Associate Professor*

Ph.D., University of Arizona

Phil Fraundorf, Assistant Professor

Ph.D., Washington University

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The physics department offers course work leading to the B.A. in physics, the B.S. in physics, and in cooperation with the School 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 junior and senior 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 science requirement:

Astronomy 1, Cosmic Evolution/Introductory Astronomy

Astronomy 11, Planets and Life in the Universe or **Astronomy 12**, The Violent Universe and the New Astronomy

Atmospheric Science 1, Elementary Meteorology

Geology 1, General Geology or **Geology 2**, Historical Geology

Physics 1, Foundations of Modern Physical Theory I

Physics 170, Physics of Music or **Physics 172**, Light and Color

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.

Core Curriculum The following **physics** courses are required:

111, Mechanics and Heat

112, Electricity, Magnetism, and Optics

200, Survey of Theoretical Physics

221, Mechanics

223, Electricity and Magnetism

231, Introduction to Modern Physics I

Also required are:

Mathematics 80, Analytic Geometry and Calculus I

Mathematics 122, Computers and Programming

Mathematics 175, Analytic Geometry and Calculus II

Mathematics 180, Analytic Geometry and Calculus III

Mathematics 202, Linear Algebra and Differential Equations

Chemistry 11, Introductory Chemistry I or equivalent

Note Students are urged to begin the calculus sequence (Mathematics 80, 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 Mathematics 122, Computers and Programming.

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 200 or 300 level 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 four options: general physics, astrophysics, engineering physics, or geophysics.

Physics

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 48 hours, but no more than 51, are required. In addition to the core curriculum, the following **physics** courses are required:

201, Elementary Electronics I
311, Advanced Physics Laboratory I
323, Modern Optics
325, Linear Analysis of Physical Systems
331, Introduction to Quantum Mechanics
341, Thermal and Statistical Physics

and **three electives** at the 200 or 300 level.

Also required are:

Mathematics 303, Applied Mathematics II
Chemistry 12, Introductory Chemistry II, or equivalent

and **one elective** in math or computer science.

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 courses are required:

Physics 323, Modern Optics
Physics 331, Introduction to Quantum Mechanics
Astronomy 50, Introduction to Astronomy I
Astronomy 51, Introduction to Astronomy II
Astronomy 201, Astrophysics
Astronomy 222, Observational Astronomy

and **two Physics electives** at the 200 or 300 level. With permission of the astronomy adviser, there may be substitution of Astronomy 1, 11, or 12 for 50 or 51.

Also required are:

Mathematics 303, Applied Mathematics II

and **one additional elective** in mathematics or computer science.

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 46 hours, but no more than 51, are required. In addition to the core curriculum, the following courses are required:

Engineering 30, Engineering Graphics
Engineering 85, Statics and Elementary Strength of Materials

Engineering 185, Introduction to Dynamics
Engineering 124, Circuits I
Physics 201, Elementary Electronics I
Physics 323, Modern Optics
Physics 325, Linear Analysis of Physical Systems
Physics 341, Thermal and Statistical Physics

Also required are **two** additional courses in computer science or numerical analysis.

Geophysics Option

This option is designed for students who are interested in careers in the geosciences. It provides preparation for careers in industry or for graduate study. At least 46 hours, but no more than 51, are required. In addition to the core curriculum, the following courses are required:

Physics 311, Advanced Physics Laboratory I
Physics 325, Linear Analysis of Physical Systems
Physics 333, Reflection Seismology
Geology 1, General Geology
Geology 2, Historical Geology
Geology 201, Stratigraphy and Sedimentation

and **two additional physics electives** at the 200 or 300 level.

Also required are:

Mathematics 303, Applied Mathematics II
Mathematics 323, Numerical Analysis I
Chemistry 12, Introductory Chemistry II, or equivalent

Bachelor of Science in Education with an Emphasis in Physics

This program is designed for students wishing to teach physics in secondary schools and gives a firm foundation in the history, philosophy, and principles of physics. Students must fulfill the School of Education's general education requirements. For details, consult the physics department and the School of Education.

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:

111, Mechanics and Heat
112, Electricity, Magnetism and Optics
200, Survey of Theoretical Physics

and **two additional emphasis courses** chosen from the following **physics** courses:

201, Elementary Electronics
221, Mechanics
223, Electricity and Magnetism
231, Introduction to Modern Physics

A GPA of at least 2.0 is required in courses presented for a minor.

Physics

Graduate Studies

Admission Requirements

In addition to meeting the Graduate School general admission requirements, applicants must submit scores from the Graduate Record Exam (GRE) physics test. 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 400 level; of the latter 15, a maximum of three 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 72 hours 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. Language requirement--pass examination or equivalent of one year collegiate level course work with grade of B or better; overall requirement of B grades or better.

Thesis: Thesis may be written in absentia.

Special Equipment, Facilities, or Programs: The supporting facilities of the University of Missouri-St. Louis include a modern library with holdings in excess of 390,000 bound volumes, a microtext department containing 72,000 titles, and approximately 87,000 titles in the government documents section. A DEC Vax-8600 computer and a network of micro Vax's is shared with the chemistry department. An IBM 4381 is also available. The physics 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: 400-level and 300-level course
Total: 6 hours

Second Semester

Physics: 400-level and 300-level course
Total: 6 hours

Third Semester

Physics: 400-level and 300-level course
Physics 490, Thesis Research or Seminar
Total: 9 hours

Fourth Semester

Physics: 400-level and 300-level course
Physics 490 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, University of Chicago, and others. 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, McDonnell-Douglas, and the National Center for Atmospheric Research. Several former students are currently teaching physics in high schools around the St. Louis area.

Political Science

Faculty

Dennis R. Judd, Chairperson, Professor*
Ph.D., University of Illinois

Norton E. Long, Curators' Professor Emeritus
Ph.D., Harvard University

Marguerite Ross Barnett, Professor*; Chancellor, University
of Missouri-St. Louis
Ph.D., University of Chicago

Edwin H. Fedder, Professor*; Director of Center for
International Studies
Ph.D., American University

Werner F. Grunbaum, Professor*
Ph.D., University of Chicago

Kenneth F. Johnson, Professor*
Ph.D., University of California-Los Angeles

E. Terrence Jones, Professor*; Dean, College of Arts and Sciences
Ph.D., Georgetown University

Lance T. LeLoup, Professor*
Ph.D., Ohio State University

C. Peter Magrath, Professor*; President, University of Missouri
Ph.D., Cornell University

Eugene J. Meehan, Curators' Professor of Political Science*
Ph.D., London School of Economics

Frederic S. Pearson, Professor*
Ph.D., University of Michigan

Lyman T. Sargent, Professor*
Ph.D., University of Minnesota

Andrew Glassberg, Associate Professor*; Director, Public Policy
Administration Program
Ph.D., Yale University

Joel N. Glassman, Associate Professor*
Ph.D., University of Michigan

Michele M. Hoyman, Associate Professor*
Ph.D., University of Michigan

Carol W. Kohfeld, Associate Professor*
Ph.D., Washington University

Michael B. MacKuen, Associate Professor*
Ph.D., University of Michigan

Joyce M. Mushaben, Associate Professor*
Ph.D., Indiana University

David B. Robertson, Associate Professor*
Ph.D., Indiana University

J. Martin Rochester, Associate Professor*
Ph.D., Syracuse University

J. Frederick Springer, Associate Professor*
Ph.D., University of California-Davis

Barbara A. Graham, Assistant Professor*
Ph.D., Washington University

Lana Stein, Assistant Professor*
Ph.D., Michigan State University

Calvin J. Mouw, Assistant Professor
Ph.D., Michigan State University

*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 recently have received distinctions such as Brookings and Fulbright fellowships, national, state and local research grants, AMOCO good teaching awards, and other honors. The faculty has published its research in more than 55 books and 300 articles in scholarly journals and is devoted to using 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 and the potential for the department to achieve even greater national and international recognition in the 1990s.

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 administration, and, in cooperation with the School of Education, the B.S. in education with an emphasis in social studies. (See School of Education section in this *Bulletin* for details.) Minors in political science are available to students who are majoring in another discipline with a special interest in law, government, and politics.

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, 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. A collaborative program is available for students interested in the administration of justice field, and the flexibility of the general master's degree allows for individualized programs in urban politics, pre-legal education, American national government, comparative politics, international relations, and political theory.

The Ph.D. in political science emphasizes 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, many of which are interdisciplinary. Internships, when appropriate, may be a component of many programs. As a research-oriented Ph.D., all successful doctoral candidates must complete a dissertation which makes a significant contribution to knowledge in the field.

Most graduate classes are scheduled so that those employed outside the University can participate in the programs on a part-time basis.

Political Science

Special Interdisciplinary Degree The Department of Political Science also cooperates with the Department of Economics in the College of Arts and Sciences and the School 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, 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' Center for Metropolitan Studies, the Center for International Studies, and the office of Computing and Telecommunications. The department's membership in the Inter-University 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. Financial assistance is available for qualified students; details can be obtained from the department office.

Course Designations The department has designated the following instructional areas for the political science student:

- Public Law
- American Politics
- Public Policy and Administration
- Comparative Politics
- Theory and Methodology
- International Relations

In addition to these areas, the department offers several ungrouped courses. All course descriptions are found in a separate *Bulletin*, entitled *Description of Courses*.

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. Students may count six hours in political science taken on a satisfactory/unsatisfactory basis toward the major. However, no required departmental course may be taken on a satisfactory/unsatisfactory basis.

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 successful completion of an honors thesis, project, or report.

Degree Requirements

Bachelor of Arts in Political Science

Students must take at least 36 hours, but no more than 45, of political science **including** Political Science 11, Introduction to American Politics, and Political Science 12, Introduction to Comparative Politics. Students must also take at least one course in the political theory and methodology field, with at least one course in four of the following other fields:

- Public Law
- American Politics
- Public Policy and Administration
- Comparative Politics
- International Relations

Students must take at least 18 hours of their political science course work in courses at the 200 or 300 level.

Note As early as possible, students should determine their educational objectives and consult with advisers regarding a plan of study. Depending on career and other interests, students may wish to concentrate their course work in one or two of the above-mentioned fields. (See Political Science Minors below which is suggestive of the tracks of courses that majors might wish to pursue in some depth.) The plan of study should include recommended electives in other departments to complement a student's political science course work. Students are encouraged to take at least one course in statistics or accounting.

Bachelor of Science in Public Administration

Majors must take at least 33, but no more than 45, hours in Political Science. The following **political science** courses are **required**:

- 11, Introduction to American Politics
- 12, Introduction to Comparative Politics
- 102, Research Methods in Political Science
- 140, Public Administration
- 242, Introduction to Public Policy
- 244, Public Budgeting
- 295, Public Affairs Internship or 296, State Legislative Internship (when appropriate)
- 340, Organizational Politics
- 342, Public Personnel Management
- 348, Program Evaluation
- 351, Comparative Public Policy and Administration

The following courses from other departments are **required**:

- Economics 51**, Principles of Microeconomics
- Economics 52**, Principles of Macroeconomics
- Business Administration 140**, Fundamentals of Financial Accounting

plus **one** of the following **statistics** courses:

- Mathematics 31**, Elementary Statistical Methods
- Mathematics 132**, Applied Statistics
- Business 131**, Elementary Statistics
- Psychology 101**, Psychological Statistics
- Sociology 220**, Quantitative Techniques in Sociology

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and **one** of the following **computer science courses**:

- Mathematics 22**, Introduction to Computing
- Mathematics 122**, Computers and Programming
- Business 103**, Introduction to Business Data Processing

Satisfactory/Unsatisfactory Option

Students may take six hours in the required courses on a satisfactory/unsatisfactory basis that count toward the major.

Area of Specialization: 12 hours required

Each major must specialize in some substantive or topical area within public administration. Possible areas of specialization include, but are not limited to: planning, budgeting, personnel, management, and evaluation/analysis. Courses designed to fulfill the specialization requirement must be selected in conjunction with the B.S. in public administration program adviser. These hours may be used in partial satisfaction of the general education requirement in social science.

Note Students considering the B.S. in public 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.

Minor in Political Science, General

Fifteen hours of political science with a 2.0 grade point average. Students may count no more than three hours in political science taken on a satisfactory/unsatisfactory basis toward the minor.

Minor in American Politics

Fifteen hours, chosen from the following **political science** courses:

- 11**, Introduction to American Politics
- 130**, State Politics
- 135**, Introduction to Urban Politics
- 165**, American Political Thought
- 230**, The American Presidency
- 231**, Congressional Politics
- 232**, Black Americans and the Political System
- 233**, Introduction to Political Behavior
- 234**, Politics and the Media
- 235**, Political Parties and Elections
- 240**, Bureaucratic Politics
- 241**, The Politics of Business Regulation
- 242**, Introduction to Public Policy
- 282**, United States Foreign Policy
- 295**, Public Affairs Internship (when appropriate)
- 296**, State Legislative Internship (when appropriate)
- 328**, The Federal Judicial System: Politics, Process and Behavior
- 331**, Legislative Processes
- 332**, Studies in American Politics
- 333**, Mock Constitutional Convention
- 390**, Special Readings (when appropriate)

Minor in Comparative Politics

Political Science 12, Introduction to Comparative Politics

plus **12 hours**, from the following **political science** courses:

- 155**, Asian Comparative Politics
- 251**, Comparative Politics of Europe
- 252**, The Politics of Modernization
- 253**, Political Systems of South America
- 254**, Political Systems of Mexico, Central America, and the Caribbean
- 256**, Soviet Political Systems
- 351**, Comparative Public Policy and Administration
- 359**, Studies in Comparative Politics
- 390**, Special Readings (when appropriate)

Minor in International Relations

Fifteen hours, chosen from the following **political science** courses:

- 80**, Global Issues
- 180**, World Politics
- 282**, United States Foreign Policy
- 284**, European International Relations
- 285**, International Institutions and Global Problem-Solving
- 288**, African Politics
- 289**, Middle Eastern Politics
- 295**, Public Affairs Internship (when appropriate)
- 381**, Comparative Foreign Policy
- 385**, International Law
- 386**, Studies in War and Peace
- 388**, Studies in International Relations
- 390**, Special Readings (when appropriate)

Minor in Political Theory

Fifteen hours, chosen from the following **political science** courses:

- 60**, Civilization and Politics
- 101**, Theory and Policy
- 160**, Contemporary Political Ideologies
- 165**, American Political Thought
- 261**, Ancient and Medieval Political Thought
- 262**, Modern Political Thought
- 265**, Recent Political Thought
- 269**, The Marxist Heritage
- 368**, Studies in Political Theory
- 390**, Special Readings (when appropriate)

Minor in Public Administration

Political Science 140, Public Administration

plus **12 hours**, chosen from the following **political science** courses:

- 240**, Bureaucratic Politics
- 241**, The Politics of Business Regulation
- 242**, Introduction to Public Policy
- 244**, Public Budgeting
- 245**, Urban Administration
- 295**, Public Affairs Internship (when appropriate)
- 340**, Organizational Politics
- 342**, Public Personnel Management
- 343**, Studies in Policy Formation
- 346**, Urban Planning and Politics
- 348**, Program Evaluation
- 349**, Studies in Public Administration
- 351**, Comparative Public Policy and Administration
- 390**, Special Readings (when appropriate)

Political Science

Minor in Public Law

Fifteen hours, chosen from the following **political science** courses:

- 20, Foundations of Law: Introduction to Legal Studies
- 121, Civil Liberties
- 129, Women and the Law
- 225, Jurisprudence
- 227, Urban Law: Poverty and the Justice System
- 320, Introduction to American Constitutional Law
- 327, Urban Judicial Systems
- 328, The Federal Judicial System: Politics, Process and Behavior
- 329, Studies in Public Law
- 385, International Law
- 390, Special Readings (when appropriate)

Minor in Public Policy

Political Science 242, Introduction to Public Policy

plus **12 hours**, chosen from the following **political science** courses:

- 130, State Politics
- 135, Introduction to Urban Politics
- 140, Public Administration
- 230, The American Presidency
- 241, The Politics of Business Regulation
- 244, Public Budgeting
- 245, Urban Administration
- 246, The Politics of Poverty and Welfare
- 295, Public Affairs Internship (when appropriate)
- 296, State Legislative Internship (when appropriate)
- 346, Urban Planning and Politics
- 348, Program Evaluation
- 351, Comparative Public Policy and Administration
- 390, Special Readings (when appropriate)

Minor in Urban Politics

Political Science 135, Introduction to Urban Politics

plus **12 hours**, chosen from the following **political science** courses:

- 227, Urban Law: Poverty and the Justice System
- 245, Urban Administration
- 246, The Politics of Poverty and Welfare
- 295, Public Affairs Internship (when appropriate)
- 296, State Legislative Internship (when appropriate)
- 327, Urban Judicial Systems
- 346, Urban Planning and Politics
- 390, Special Readings (when appropriate)

Graduate Studies

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 Graduate Record Examination 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 400 level, and 12 hours must be in core courses in **political science**, including:

401, Introduction to Policy Research

and **three** of the following **political science** courses:

- 410, Introduction to Policy Analysis
- 420, Proseminar in Public Law
- 430, Proseminar in American Politics
- 440, Proseminar in Public Policy Administration
- 450, Proseminar in Comparative Politics
- 460, Proseminar in Political Theory
- 470, Proseminar in Urban Politics
- 480, 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.

Political Science

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 baccalaureate or graduate 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 Graduate Record Examination 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. Application deadlines are April 1 for Fall Semester and October 15 for Winter Semester.

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 69-75 credit hours beyond the baccalaureate degree for completion of the Ph.D. To ensure sufficient background for doctoral-level policy courses, students must demonstrate competence in computing and intermediate economics during their course of study. Course requirements are as follows:

Core courses (21 credit hours)

Twenty-one 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
- public budgeting and finance
- labor and employment
- criminal justice
- social welfare

Internship (6 credit hours)

The Ph.D. intern program offers an opportunity to gain first-hand experience in select research and administrative positions. When appropriate, additional course work approved by the program adviser may be substituted for the internship requirement.

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 area of policy concentration. The degree is awarded upon completion and defense of the Ph.D. dissertation (minimum of 18 dissertation credit hours required).

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 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 prelaw students. Many other majors pursue graduate education in business, education, public administration, public policy administration, journalism, 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 non-profit 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, 8001 Natural Bridge Road, St. Louis, MO 63121-4499.

Psychology

Faculty

Gary K. Burger, Chairperson; Professor*
Ph.D., Loyola University

Edmund S. Howe, Professor*, Director, Doctoral Program in
General-Experimental Psychology Emphasis Area and Master of
Arts Program in Psychology
Ph.D., University of London

Arthur L. Irion, Professor*, Emeritus
Ph.D., University of Iowa

Alan G. Krasnoff, Professor*
Ph.D., University of Texas

Miles L. Patterson, Professor*
Ph.D., Northwestern University

Patricia Resick, Professor*
Ph.D., University of Georgia

Jayne E. Stake, Professor*, Director, Doctoral Program in Clinical
Psychology Emphasis Area
Ph.D., Arizona State University

George T. Taylor, Professor*
Ph.D., University of New Mexico

Fred J. Thumin, Professor*†
Ph.D., Washington University

Dominic J. Zerbolio, Jr., Professor*
Ph.D., Michigan State University

Kenneth H. Bohm, Adjunct Professor
Ph.D., St. Louis University

James A. Breugh, Associate Professor*†
Ph.D., Ohio State University

Robert J. Calsyn, Associate Professor*, Director of Gerontology
Ph.D., Northwestern University

Robert J. Carr, Adjunct Associate Professor
Ed.D., Boston University

Dennis L. Dossett, Associate Professor*†
Ph.D., University of Washington

Samuel J. Marwit, Associate Professor*
Ph.D., State University of New York at Buffalo

Jacob L. Orlofsky, Associate Professor*, Director, Community
Psychological Service
Ph.D., State University of New York at Buffalo

Suzanna M. Rose, Associate Professor*
Ph.D., University of Pittsburgh

Vicki V. Vandaveer, Adjunct Associate Professor
Ph.D., University of Houston

Brian Vandenberg, Associate Professor*
Ph.D., University of Rochester

John J. Boswell, Assistant Professor*
Ph.D., Tulane University

Peter J. DePaulo, Assistant Professor*†
Ph.D., Bryn Mawr College

Carol J. Dye, Adjunct Assistant Professor
Ph.D., Washington University

Michael J. Haines, Adjunct Assistant Professor
Ph.D., St. Louis University

Michael Harris, Assistant Professor†
Ph.D., University of Illinois

Timothy J. Jovick, Adjunct Assistant Professor
Ph.D., St. Louis University

Donald D. Lisenby, Assistant Professor*; Associate Chairperson
Ph.D., Washington University

Therese M. Macan, Assistant Professor
Ph.D., Rice University

Judith A. McGee, Adjunct Assistant Professor
Ph.D., St. Louis University

Lynn J. McLaughlin, Adjunct Assistant Professor
Ph.D., Yale University

Paul W. Paese, Assistant Professor
Ph.D., University of Illinois

Dean L. Rosen, Adjunct Assistant Professor
Psy.D., University of Illinois-Champaign/Urbana

Michele B. Ruffy, Adjunct Assistant Professor
Ph.D., University of Geneva

Robert A. Soskin, Adjunct Assistant Professor
Ph.D., Washington University

Mark E. Tubbs, Assistant Professor*, Director, Doctoral Program
in Applied Psychology Emphasis Area
Ph.D., University of Houston

James H. Wallhermfachtel, Adjunct Assistant Professor
Ph.D., St. Louis University

Mary D. Zalesny, Assistant Professor*†
Ph.D., University of Illinois

*members of the Graduate Faculty

†Primary appointment in the School of Business Administration

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 wide variety of areas, including animal and human learning, perception, physiological, industrial-organizational, cognitive processes, personality-social, developmental, clinical, and community psychology. The student may choose an area of concentration in graduate school preparation, child care and development specialization, clinical/community mental health, or applied (industrial-organizational) specialization. Alternatively, the student may devise an individual program in consultation with the adviser.

The department also offers a terminal M.A. as well as a Ph.D. in psychology. The emphasis areas within the Ph.D. program are clinical psychology, experimental psychology, and applied psychology.

Facilities Among the department's physical facilities are an environmental chamber, comparative, social, and human experimental laboratories, and a wide range of research equipment, including portable videotaping systems. The department also has an electronics technician.

Minor in Psychology The department offers a minor in psychology to students with a special interest in this field but who wish to major in another discipline.

Psychology

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 (Room 340 Stadler Hall) are available to answer questions regarding career options in psychology, as well as provide specific information on degree requirements. The advisers can process all necessary materials for registration and graduation.

Degree Requirements

Bachelor of Arts in Psychology

At least 32, but no more than 45, hours must be completed in courses taught by or cross-listed with the psychology department. The following **core curriculum is required**:

Psychology 3, General Psychology
Psychology 101, Psychological Statistics
Psychology 219, Research Methods

Note Students must take Mathematics 30, College Algebra, or the equivalent, before taking Psychology 101, Psychological Statistics.

In addition to the core curriculum, at least 22 additional credit hours in psychology must be taken. At least **three** of these courses totaling a minimum of nine hours must be at the 300 level. No more than six hours of independent study courses (Psychology 295, Selected Projects in Field Placement; and Psychology 390, Directed Studies) may be counted toward the 32-hour minimum needed for graduation.

Graduate School Preparation This program is designed for students planning to pursue doctoral studies in psychology. In addition to the core curriculum, students are advised to take:

Psychology 361, History and Systems of Psychology

and at least **one** of the following laboratory courses in **psychology**:

314, Physiological Psychology
354, Experimental Personality and Social Psychology
355, Psychology of Perception
357, Psychology of Learning
365, Psychological Tests and Measurements

Students are also encouraged to become involved in independent research (Psychology 390, Directed Studies).

Child Care and Development Specialization The program is ideal for double majors in education and psychology or for students interested in working with children in a variety of career fields. 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 **300 level**:

150, The Psychology of Individual Differences
216, Personality Theory
270, Child Psychology
271, Adolescent Psychology
272, Adult Development and Aging
295, Selected Projects in Field Placement
305, Cognitive Development
306, Social Development
349, Human Learning and Memory
356, Thinking and Cognition

Clinical Psychology/Community Mental Health Specialization Designed for students interested in clinical psychology, counseling, and community programs. This specialization 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 **300 level**:

160, Social Psychology
161, Helping Relationships
162, Applied Skills
225, Behavior Modification
232, Psychology of Victims
235, Community Psychology
245, Abnormal Psychology
256, Environmental Psychology
295, Selected Projects in Field Placement
340, Clinical Problems of Childhood
346, Introduction to Clinical Psychology
365, Psychological Tests and Measurements

Applied (Industrial-Organizational) Specialization This program is designed for students interested in human resource management, performance assessment, personnel training, organizational behavior, and related fields. This specialization 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 at least **five** of the following **psychology** courses with at least **two** at the **300 level**.

160, Social Psychology
222, Group Processes in Organizations
318, Industrial and Organizational Psychology
320, Personnel Assessment
360, Attitude Structure and Change
365, Psychological Tests and Measurement
370, Human Factors in Industry

Psychology

At least **two** of the following courses are **recommended**:

- Business Administration 210**, Management as a Behavioral Science I
- Business Administration 311**, Management as a Behavioral Science II
- Business Administration 312**, Industrial and Labor Relations
- Business Administration 319**, Employee Training and Development
- Sociology 304**, 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 six hours at the 300 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 emphasis area.

Teaching Assistantships Stipends for full-time teaching assistantships are available for the doctoral program only. Out-of-state tuition fees are waived for teaching assistants.

Applications Each emphasis area has its own deadline for completed applications. They are as follows:

Ph.D. in Psychology:

- Clinical Psychology** – February 1
- Applied Psychology** – February 1
- Experimental Psychology** – February 28

M.A. in General Psychology – July 15

Master of Arts in Psychology

The master of arts in psychology degree program has a broad, general foundation with specialization sub-areas including: industrial psychology and personnel management, and experimental psychology. The program is **not** directed toward the areas of clinical psychology or counseling. There is no thesis or language requirement. Most classes are held in the early evening hours. Part-time or full-time enrollment is permissible. The M.A. degree is a terminal degree.

The M.A. in psychology requires a total of 32 semester hours of course work. Students must take either **one** of the following sets of quantitative courses:

Set I

- Psychology 427**, Quantitative Measurement and Evaluation of Psychology I
- Psychology 428**, Quantitative Measurement and Evaluation of Psychology II

or

Set II

- Psychology 421**, Quantitative Methods I, and
- Psychology 422**, Quantitative Methods II

Two courses in General Psychology are required and may be fulfilled by two courses from **either** of the following sets:

Set I

- Psychology 408**, Proseminar in General Psychology, and
- Psychology 409**, Proseminar in Experimental Psychology

Set II

(Any two courses from the following:)

- Psychology 405**, Personality
- Psychology 411**, Learning and Cognitive Processes
- Psychology 412**, Social Psychology
- Psychology 417**, Human Factors
- Psychology 461**, Learning
- Psychology 467**, Conceptual Systems
- Psychology 468**, Cognitive Processes

Elective courses will constitute the remaining hours needed for the degree. All students' programs of study 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.

Emphasis Areas

There are three distinct emphasis areas within the Ph.D. program. Each emphasis area has its own specific course and research requirements. Handouts describing these requirements are available from the department on request. The following briefly describes each emphasis area.

Psychology

Clinical Psychology The clinical psychology emphasis area is accredited by the American Psychological Association and is patterned upon the scientist-professional model with a focus on problems in urban living. The goal of this emphasis area is to train clinical psychologists who are capable of generating, applying, and transmitting knowledge in order to understand, correct, and prevent psychological and social dysfunctions. Integrating theory, research, and clinical training through the medium of courses, practicum, and research experiences, this emphasis area prepares clinical psychologists for careers in service, research, and teaching.

Students participate at each year level 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 practicum settings in the community and during a full-time year-long internship. Research requirements include an initial independent research project and a dissertation. Only full-time students are accepted into the clinical psychology emphasis area.

General Experimental Psychology The general experimental emphasis area provides opportunities for study and research in the areas of human learning, memory and cognition, personality and social psychology, and psychobiology. Part-time or full-time enrollment is possible.

Applied (Industrial-Organizational) Psychology The applied psychology emphasis area is offered in cooperation with selected faculty from the School of Business, to prepare students for careers in industry, academia, and organizational consulting. This emphasis provides training in personnel selection and training, test development and validation, and organizational psychology. Research and other training experiences in various settings are also incorporated. Both part-time and full-time enrollment is possible.

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 child care and development, and community mental health. Job opportunities with a bachelor's degree include working in business, social welfare, and probation and parole. For more career information see an adviser in the Undergraduate Psychology Office (Room 316 Stadler). To function specifically as a psychologist, a graduate degree is required, and students with such an interest should plan for this additional training.

Social Work

Faculty

Lois Pierce, Chairperson, Associate Professor*
Ph.D., Washington University
Norman Flax, Associate Professor*
Ph.D., St. Louis University
Muriel Pumphrey, Professor Emeritus*
D.S.W., Columbia University
Joan Hashimi, Associate Professor*
Ph.D., Washington University
Linda Rosenman, Associate Professor
Ph.D., Washington University
Uma Segal, Assistant Professor*
Ph.D., Washington University

*members of Graduate Faculty

The social work faculty reflects a cross section of the social work profession. Many specialties are represented, including child welfare, gerontology, community organization, and medical social work. The faculty, in addition to maintaining high standards of teaching, provide many hours of community service and practice to the numerous social service agencies in St. Louis. Research is also an integral part of the faculty's activities and many scientific papers are given by our faculty to local, national, and international meetings.

General Information

Degrees and Areas of Concentration The Department of Social Work offers courses leading to a Bachelor of Social Work degree (B.S.W.). The social work program is fully accredited by the Council on Social Work Education. The faculty stresses the scientific and applied aspects of social work. Social forces and cultural traditions affecting the individual are studied from a scientific perspective, and first-hand exposure to their effects is stressed through community involvement. Throughout, the contributions of arts and sciences toward a well-rounded liberal arts education are emphasized. A minor in social work is also offered.

The department's scientific approach is reflected in an emphasis on the development of adequate theoretical and methodological tools. There is a strong emphasis on practice, with community and social agency field work as important parts of the program. Many faculty members are engaged in research on urban-related issues and work with various urban agencies, particularly in the areas of crime, delinquency, social welfare, gerontology, and education.

Social work majors should obtain a copy of the Student Handbook. Students who wish to take a practicum must set up an appointment with the practicum coordinator one semester prior to enrolling in the practicum and attend a series of pre-practicum classes.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements, except that proficiency in a foreign language is not required.

Courses required for the B.S.W. degree may not be taken on a satisfactory/unsatisfactory basis except Social Work 320 and 321.

Degree Requirements

Bachelor of Social Work Students completing this degree may enter beginning positions as social workers or choose to enter professional schools of social work, looking toward eventual careers in supervision, administration, research, and other specialized areas of practice. Candidates for this degree program must complete the **core requirements** including the following **social work** courses:

- 100**, Introduction to Social Service
- 150**, Social Welfare as a Social Institution
- 151**, Social Welfare as a Social Institution Laboratory
- 210**, Introduction to Interventive Strategies
- 280**, Human Behavior in the Social Environment
- 285**, Social Issues and Social Policy Development
- 300**, Interventive Strategies for Social Work with Individuals, Families, and Groups
- 305**, Interventive Strategies for Social Work with Organizations and Communities
- 320 and 321**, Supervised Field Experience in Social Work I and II
- 320a and 321a**, Integrative Field Experience Seminar I and II

A maximum of 50 hours in social work may be elected with a minimum of 30 hours in social work, plus 20 hours in related 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 1**, General Biology or **Biology 10**, Introductory Biology
- Economics 40**, Introduction to the American Economy
- Political Science 11**, Introduction to American Politics
- Psychology 3**, General Psychology
- Sociology 10**, Introduction to Sociology
- Sociology/Psychology 160**, Social Psychology
- Sociology 220**, Quantitative Techniques in Sociology
- Sociology 230**, Research Methods
- Sociology 231**, Research Methods Lab

and **one additional biology course** from the following:

- 110**, Human Biology
- 113**, Human Physiology and Anatomy
- 115**, Human Heredity and Evolution
- 120**, Environmental Biology
- 140**, Female Sexuality

Social Work

At least **nine additional hours** must be taken in social work, sociology, political science, psychology, administration of justice, anthropology, or economics at the 100 level or above.

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 Anthropology, biological sciences, and Spanish are strongly advised by graduate social work schools.

Requirements for the Minor in Social Work

Candidates must complete the following **social work** courses:

100, Introduction to Social Service

150, Social Welfare as a Social Institution

210, Interventive Strategies in Social Work Practice

285, Social Issues and Social Policy Development

and **one** course at the 200 level or above.

Career Outlook

The bachelor of social work program is designed to prepare persons for employment in social welfare agencies, schools, hospitals, correctional institutions, or day care, geriatric, or rehabilitation centers. Individuals currently working in social welfare settings can improve their skills or increase their opportunities for job advancement.

Students completing the Bachelor of Social Work degree may enter beginning positions as social workers or choose to enter professional schools of social work in preparation for eventual careers in supervision, administration research, and other specialized areas of practice.

Additional information may be obtained from:

UM-St. Louis Admissions Office
8001 Natural Bridge Road
St. Louis, Missouri 63121-4499
Telephone: (314) 553-5451

Sociology

Faculty

Harry H. Bash, Acting Chairperson; Associate Professor*
Ph.D., University of Pennsylvania

K. Peter Etzkorn, Professor*
Ph.D., Princeton University

Jarome Himelhoch, Professor Emeritus*
Ph.D., Columbia University

George J. McCall, Professor*; Acting Director, James T. Bush
Center for Law, Social Change, and Conflict Resolution
Ph.D., Harvard University

Sarah L. Boggs, Associate Professor*
Ph.D., Washington University

Rita Braitto, Associate Professor*
Ph.D., University of Minnesota

Daniel J. Montl, Associate Professor*
Ph.D., University of North Carolina

Herman W. Smith, Associate Professor*
Ph.D., Northwestern University

Michael C. Stein, Assistant Professor*
Ph.D., University of Nebraska-Lincoln

Steven P. Wallace, Assistant Professor
Ph.D., University of California-San Francisco

Cindy A. Stearns, Visiting Assistant Professor
Ph.D., University of California-Davis

J.L. Simmons, Lecturer
Ph.D., University of Iowa

*members of Graduate Faculty

The faculty prides itself on its commitments to high standards of teaching and to 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 Excellence in Teaching awards. The scholarly research expected of UM-St. Louis faculty is reflected particularly in the conduct of upper-level and graduate courses, as well as in the publication credits of the faculty. Each year, faculty members author numerous articles in scholarly and professional journals and present research papers at various professional meetings.

General Information

Degrees and Areas of Concentration The sociology department offers work leading to the B.A. and B.S. in sociology and, in cooperation with the School of Education, the B.S. in education with an emphasis in social studies (see School of Education section in this *Bulletin* for details). A minor in sociology is also offered.

Faculty stress the scientific and applied aspects of sociology. Social forces and cultural traditions affecting the individual are studied from a scientific perspective, and first-hand exposure to their effects is stressed through community involvement. Throughout, the contributions of sociology toward a well-rounded liberal arts education are emphasized.

The department's scientific approach is reflected in an emphasis on the development of adequate theoretical and methodological tools. In addition, there is strong emphasis on the applied uses of sociological insights and methods in a distinctly urban thrust. Many faculty members are engaged in

research on urban-related issues and work with various urban agencies, particularly in the areas of crime, delinquency, social welfare, and education. Sociology majors should obtain a copy of *Guide to Undergraduate Studies in Sociology* from their advisers to familiarize themselves with the degree programs, rules and regulations, and interests of faculty members. All majors should consult their advisers regularly.

The department also offers graduate work leading to an M.A. in sociology. The program is designed around two central considerations: intellectual and professional rigor, and realistic career preparation. Thus, the academic strengths of traditional graduate education are combined with practical modalities for applying sociological knowledge to contemporary urban issues and problems.

Minor in Sociology The minor in sociology is designed to provide a coherent curriculum to students majoring in other disciplines and to enhance the employment options for certain students majoring in related disciplines.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. Courses in sociology may be used to meet the social sciences requirement. Any foreign language may be used to meet the language requirement for the B.A. degree. A foreign language is not required for the B.S. degree. Department courses taken on a satisfactory/unsatisfactory basis may not be applied toward the major.

Degree Requirements

Bachelor of Arts in Sociology Candidates must complete the following **core requirements**:

Sociology 10, Introduction to Sociology

Sociology 210, Sociological Theory

Sociology 220, Sociological Statistics or **Mathematics 31**,
Elementary Statistical Methods or **Mathematics 102**, Finite
Mathematics I

Sociology 230, Research Methods

Sociology 231, Research Methods Lab

Note Students planning to do graduate study are urged to take Sociology 220 rather than the mathematics option.

At least 18 more hours of sociology courses must be taken, including **at least six** hours at the **300 level**, exclusive of Sociology 350, Special Study. No more than three hours in sociology below the 100 level can count toward these 18 hours. Applied training through one or more practicum courses may be used as part of this requirement.

A minimum 2.0 average must be maintained for all sociology courses.

Not more than 10 hours of junior college transfer credit may be applied toward the minimum 31 hours required for the major.

Sociology

Related Area Requirements

Majors expecting to continue their studies in graduate school are strongly advised to be well prepared in mathematics, computer science, and philosophy of science. It is also advisable to take courses in anthropology, economics, philosophy, political science, and psychology.

Bachelor of Science in Sociology Candidates must complete the **core requirements** consisting of the following **sociology** courses:

- 10, Introduction to Sociology
- 210, Sociological Theory
- 220, Sociological Statistics
- 230, Research Methods
- 370, Selected Topics in Techniques of Applied Research

and **two** of the following **sociology** research practicum courses:

- 298, Practicum in Field and Laboratory Research
- 304, Survey Research Practicum
- 330, Field Research in Criminology
- 346, Demographic Techniques
- 380, Selected Topics in Social Policy

Practicum courses taken in other departments (e.g., Administration of Justice 395, Social Work 320, and Social Work 321) may be applied to the required six hours of practicum with the written consent of the student's adviser.

Five additional **sociology** courses (15 hours) are required, including a minimum of two courses (6 hours) at the 300 level (exclusive of 350, Special Study). The specific courses elected should be decided in conference with the student's adviser to assure continuity and applicability of courses and career objectives.

A minimum 2.0 average must be maintained for all sociology courses.

Also required are:

- Economics 40**, Introduction to the American Economy
- Psychology 3**, General Psychology

one of the following **philosophy** courses:

- 60, Logic and Language
- 282, Philosophy of Social Science

In addition candidates must take:

- Political Science 11**, Introduction to American Politics

and **one** of the following **political science** courses:

- 140, Public Administration
- 240, Bureaucratic Politics
- 245, Urban Administration
- 343, Studies of Policy Formation

Requirements for the Minor in Sociology

Students must apply for the minor in sociology. Candidates must complete at least **15** hours of course work in **sociology**, of which at least six hours must be at the 300-level (other than Sociology 350, Special Study).

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.

Graduate Studies

Curriculum

The curriculum is developed in continuity with the department's general orientation toward "Urban Problems and Social Change" and is guided by periodic reassessments of its history, faculty strengths, changing employment and developing career patterns in sociology, and by student needs. Based on a common core curriculum, the program offers four **Concentrations** designed to prepare students for a variety of career options: program evaluation and research; field or case work related to community issues; administrative roles in social agencies and planning organizations; and/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 permits persons currently in research or policy positions in service agencies or community organizations to further their career developments through appropriate selection among the alternative concentrations. The curriculum also invites students to take advantage of the University's urban setting through integrating, under faculty guidance, selected community agency or organization experiences with practicum courses and academic seminars.

Through the four career concentrations, grounded in studies of deviance (including criminology and law-and-society), urban sociology (including stratification and minority relations), and social psychology, the program aims to prepare students for professional activities that will contribute to community problem-solving as well as scholarly discourse.

Sociology

Admission Requirements

In addition to meeting the general admission requirements of the Graduate School, a student should have a baccalaureate degree with a minimum grade point average of 2.75 and at least 15 hours in the social sciences, of which 12 hours should be in upper-level courses.

A completed application shall include three letters of recommendation from persons qualified to judge the candidate's potential for success in the program, and a statement describing the applicant's interest in graduate study in sociology.

Students who do not meet these requirements may be admitted upon approval of the department and the dean of the Graduate School. 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 the Director of Graduate Studies, Department of Sociology, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121-4499.

Students admitted to the program are assigned a graduate adviser from whom they should obtain a copy of the *Graduate Student Handbook*, and with whom they should consult periodically on academic and career considerations.

Degree Requirements

Master of Arts in Sociology Candidates for the M.A. degree shall complete a minimum of 30 hours of approved study, 21 of which must be taken in courses offered by the department. The following requirements shall be fulfilled:

Core Curriculum

Sociology 400, Proseminar in Sociology

Sociology 402, Advanced Quantitative Techniques

Sociology 404, Advanced Methodology

Concentration Students are encouraged to plan their degree programs to reflect one of the following concentrations:

- 1) Advanced Sociological Perspectives
- 2) Conflict Intervention
- 3) Criminology
- 4) Methods of Applied Research

Exit Requirement A student's program must include one of the following exit projects: a six-hour internship (Sociology 480, Individual Study) or a six-hour preparatory sequence and an approved paper (Sociology 490, Supervised Research, and Sociology 495, Sociological Reporting). 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.

Plan of Study Each student shall prepare an adviser-approved course of study during the first semester of enrollment.

Interdisciplinary Studies

Minors in Interdisciplinary Studies

The College of Arts and Sciences offers a number of interdisciplinary programs leading to either 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 in order to focus on topics which 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.

These courses are listed and described in the companion volume to this book, the *University of Missouri-St. Louis Bulletin: Description of Courses*.

Minor in American Studies

American studies is an internationally recognized discipline and a minor is now available at the University of Missouri-St. Louis. The minor is primarily an organization of courses from several departments, which focuses on America and on American culture. Students interested in this minor should see 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 (excluding Interdisciplinary 295) may be taken on a satisfactory/unsatisfactory basis.

Requirements

The following **interdisciplinary courses** are required.

- 90**, The Foundations of American Culture
- 91**, American Culture in the Twentieth Century
- 295**, Issues in American Culture

Candidates must also select **three courses** from the following lists. No two courses can be in the same department. One course must be taken from the humanities list and one from the social sciences list. Two of the three courses must be taken at the 100 level or above.

Humanities courses applicable to the minor.

Art:

- 16**, North American Indian Art
- 176**, Women and the Visual Arts
- 258**, American Art
- 259**, Modern Architecture
- 356**, Nineteenth-Century Art
- 357**, Twentieth-Century Art

English:

- 70**, Afro-American Literature
- 171**, American Literature I
- 172**, American Literature II

- 373**, Selected Major American Writers I
- 374**, Selected Major American Writers II
- 375**, American Fiction to World War I
- 376**, Modern American Fiction

Music:

- 6**, America's Black Musical Heritage
- 7**, Introduction to Jazz

Philosophy:

- 107**, American Philosophy

Interdisciplinary:

- 65**, Photography and Society

Social Science courses applicable to the minor.

Administration of Justice:

- 70**, Criminal Law and Procedure
- 101**, Criminal Justice Processes and Institutions
- 325**, Criminal Law in Action

Anthropology:

- 122**, Indians of North America
- 132**, Archaeology of North America

Communication:

- 243**, Communications in American Politics
- 343**, The Rhetoric of Protest
- 350**, Mass Communication History and Criticism

Economics:

- 241**, American Economic Development

History:

- 105**, History of the Family in the United States
- 112**, United States Diplomatic History
- 120**, Black History in the United States
- 204**, The History of the American Labor Movement
- 301**, United States History: Colonial America to 1763
- 302**, United States History: Revolution and the New Nation 1763 to 1815
- 303**, United States History: Nationalism and Sectionalism 1815 to 1860
- 304**, United States History: 1860-1900
- 305**, United States History: 1900-1940
- 306**, United States History: 1940 to the Present
- 311**, Topics in American Constitutional History
- 313**, American Military History
- 314**, American Foreign Policy Since 1941
- 321**, History of Women in the United States
- 327**, History of the American South

Political Science:

- 121**, Civil Liberties
- 129**, Women and the Law
- 131**, Congressional Politics
- 135**, Introduction to Urban Politics
- 165**, American Political Thought
- 227**, Urban Law: Poverty and the Justice System
- 230**, The American Presidency
- 232**, Ethnic and Racial Politics
- 235**, Political Parties
- 320**, Introduction to American Constitutional Law
- 327**, Urban Judicial Systems
- 328**, The Federal Judicial System: Politics, Process and Behavior
- 331**, Legislative Processes

Social Work:

- 200**, Social Welfare as a Social Institution

Interdisciplinary Studies

Sociology:

- 40**, Social Problems
- 202**, Urban Sociology
- 360**, Sociology of Minority Groups

Interdisciplinary:

- 75**, Crime and Punishment

In addition, courses with variable topics such as Topics in ..., Studies in ..., and seminars may be taken when the topics are appropriate. See the coordinator of American studies.

Minor in Black Studies

This minor is designed to provide a focus for new and existing courses in the area of black and African studies. A faculty member from the department of art, history, or sociology is designated as coordinator. Students planning to pursue this minor should consult the coordinator for advisement.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on satisfactory/unsatisfactory may not be applied to the minor. Courses applied to the minor may not be counted for a major.

Special topics courses relevant to black studies may be included in the minor when approved by the coordinator of black studies.

Requirements

Students must take:

Interdisciplinary 40, The Black World

and a minimum of **two** courses from the following:

- Anthropology 124**, Cultures of Africa
- Art 17**, African Art
- English 70**, Afro-American Literature
- History 81**, African Civilization to 1800
- History 82**, African Civilization Since 1800
- History 120**, Black History in the United States
- Music 6**, America's Black Musical Heritage
- Sociology 105**, Group Prejudice and Minority Identity

and a minimum of **three** courses from the following:

- History 381**, West Africa Since 1800
- History 382**, Crisis in Southern Africa
- Political Science 232**, Black Americans and the Political System
- Sociology 360**, Sociology of Minority Groups

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, modern languages, and art.

The Classical World (Interdisciplinary 10), the only required course in the minor, is an introductory survey focusing on central issues and themes and major works from the entire period.

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:

Interdisciplinary 10, The Classical World

and **either**

Latin 1, Elementary Latin 1

Latin 2, Elementary Latin 2

or

Ancient Greek 1, Elementary Ancient Greek 1

Ancient Greek 2, Elementary Ancient Greek 2

and **two courses** from the following list.

Ancient Greek 101, Intermediate Ancient Greek

Art 215, Greek Art and Archaeology

Art 216, Roman Art and Archaeology

Art 316, Studies in Ancient Art

English 20, Classical Mythology

English 120, Classical Literature in Translation

History 130, Ancient Civilization

History 330b, The Ancient World: History of Greece to the End of the Hellenistic Period

History 330c, The Ancient World: Rome

Interdisciplinary 200, Special Topics in Classical Studies

Latin 101, Intermediate Latin

Philosophy 101, Ancient Philosophy

Philosophy 201, Plato

Philosophy 202, Aristotle

Minor in Legal Studies

A minor in Legal Studies requires **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.

Requirements

Candidates must take:

Interdisciplinary 20, Foundations of Law: An Introduction to Legal Studies

and **five courses** from the following list. At least **three** courses must be taken at the 200 level and above. No more than **two** courses from a single discipline may be included in the minor.

Interdisciplinary Studies

Administration of Justice 75, Crime and Punishment
Administration of Justice 101, Criminal Justice Processes and Institutions
Administration of Justice 201, The Criminal Justice System: Conflicting Perspectives I
Administration of Justice 202, The Criminal Justice System: Conflicting Perspectives II
Administration of Justice 227, Urban Law: Poverty and the Justice System
Administration of Justice 325, Criminal Law in Action
Communication 355, Media Law and Regulation
History 311, Topics in American Constitutional History
History 330f, Medieval England
Philosophy 287, Philosophy of Law
Political Science 20, Foundations of Law: An Introduction to Legal Studies
Political Science 121, Civil Liberties
Political Science 129, Women and the Law
Political Science 225, Jurisprudence
Political Science 227, Urban Law: Poverty and the Justice System
Political Science 320, Introduction to American Constitutional Law
Political Science 327, Urban Judicial Systems
Political Science 328, The Federal Judicial System: Politics, Process and Behavior
Political Science 385, International Law
Sociology 175, Women, Crime and Society
Sociology 278, 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 three 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. Nine hours in communication/English professional training:

English 214, News Writing or **Communication 116**, News Writing
English 218, Reporting or **Communication 212**, Broadcast Writing and Reporting
English 320, Independent Writing Project or **Communication 399**, Internship in Communication

B. Nine hours in Public Affairs at the 200 level or above:

1. Students earning a Writing Certificate or majoring in Communication with a Mass Communication emphasis must take 15 hours (at least nine of these at the 200 level or above) in economics, political science, or sociology.

2. Students majoring in Economics, Political Science, or Sociology must take nine hours (in addition to the required English/Communication courses) at the 200 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).

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 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 99, The City

and **five courses** selected from the following list, at least **three** courses at the 200 level or above. No more than **two** courses from a single discipline may be included in the minor.

Courses Applicable to the Minor

Administration of Justice 227, Urban Law: Poverty and the Justice System
Administration of Justice 260, Police-Community Relations
Administration of Justice 310, Community Approaches to the Prevention and Control of Crime and Delinquency
Anthropology 142, The Culture of Cities
Art 259, Modern Architecture
Economics 270, Urban and Regional Economics
Economics 301, The Urban Environment and Planning
Economics 317, Public Finance: State and Local
Geography 210, Urban Geography
Geography 211, Location Theory
History 300, Selected Topics in History (when urban or St. Louis history)
Interdisciplinary 99, The City
Political Science 135, Introduction to Urban Politics
Political Science 227, Urban Law: Poverty and the Justice System
Political Science 245, Urban Administration
Political Science 327, Urban Judicial Systems
Political Science 346, Urban Planning and Politics
Psychology 235, Community Psychology
Psychology 256, Environmental Psychology
Sociology 40, Social Problems
Sociology 202, Urban Sociology
Sociology 344, Problems of the Urban Community

Certificate Programs

Certificate programs are offered in biochemistry, biotechnology, photographic studies, studies in religions, women's studies, writing, and East Asian, Latin American, European, and international studies. These programs, which usually combine course offerings from different departments, make it possible for students to earn the equivalent of a minor in a given area in addition to their major.

Biochemistry Certificate

The University of Missouri-St. Louis offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization which may be earned by completing the core requirements and either a **chemistry track** or a **biology track**. All students complete the following **core requirements**:

Biology 10, Introductory Biology
Biology 210, Cell Structure and Function
Biology 224, Genetics
Chemistry 11, Introductory Chemistry I
Chemistry 12, Introductory Chemistry II
Chemistry 122, Quantitative Analysis
Chemistry 261, Structural Organic Chemistry
Chemistry 262, Organic Reactions
Chemistry 263, Techniques of Organic Chemistry

and **one** of the following **biology** courses:

216, Microbiology
235, Development
310, Cell Physiology
326, Molecular Biology

Students choosing to complete the certificate through the **biology track** must take these **additional courses**:

Biology 376, Topics in Biological Chemistry
Biology 378, Topics in Biological Chemistry Laboratory
Biology 389, Senior Seminar
Chemistry 230, Physical Chemistry/for the Life Sciences

Students choosing to complete the certificate through the **chemistry track** must take these **additional chemistry courses**:

231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry
289, Seminar
371, Biochemistry
372, Advanced Biochemistry
373, Biochemical Techniques

Certificate in Biotechnology

The Certificate in Biotechnology provides an opportunity for students to concentrate in the areas of molecular biology, microbial technology, and biotechnology. The Certificate should be of special interest to those considering a career in industrial and health science research laboratories or to gain admission to advanced academic or professional programs. A student may receive the Certificate in Biotechnology by completing a total of **18 hours** taken from the following:

Requirements

Students must take:

Biology 326, Molecular Biology
Biology 328, Methods in Biotechnology
Biology 338, Microbial Genetics
Chemistry 230, Physical Chemistry for the Life Sciences

The remaining hours can be taken from the following:

Biology 310, Cell Physiology
Biology 334, Virology
Biology 376, Topics in Biological Chemistry
Biology 378, Topics in Biological Chemistry Laboratory
Biology 417, Advanced Immunology
Biology 492, Topics in Molecular Biology/Genetics

Photographic Studies Certificate

UM-St. Louis students, graduates, and post-baccalaureate candidates may obtain a certificate in photographic studies by coordinating courses in and related to photography.

To be eligible for the certificate undergraduates must complete a degree in a chosen major field. A faculty member of the Interdisciplinary Photographic Studies Committee will act as adviser to all students and will consult with the faculty adviser in the student's major to plan appropriate credits.

The Photographic Studies Certificate is the only such program in the country and should be of special interest to those considering a career in the arts, history, science, business, advertising, or in photography itself. The program should also interest professional photographers, teachers, interested lay people, and graduates who are returning to school. This certificate is designed for all who have an intense interest in the myriad aesthetic and practical aspects of the medium.

Requirements

The following courses are required:

Art 60, Photography I
Art 160, Photography II
Art 265, History of Photography or **History 168**, Photohistory
Interdisciplinary 65/Art 65, Photography and Society
Interdisciplinary 390, Independent Studies in Photographic Studies or **Art 360**, Advanced Photography

Students must also take at least **one three-hour course** selected from the following departmental offerings: (New courses will be reviewed periodically for inclusion.)

Certificate Programs

Art 5, Introduction to Art
Art 260, Photography: Color Printing
Art 274, Printmaking: Photolithography
Art 360, Advanced Photography
Art 363, Photography Since 1945
Biology 360, Techniques in Electron Microscopy
English 214, News Writing
English 215, Feature Writing
History 168, Photohistory
Philosophy 274, Philosophy of Art
Physics 172, Light and Color
Physics 173, Applications of Light and Color
Psychology 213, Principles of Perception
Psychology 355, Psychology of Perception
Communication 50, Introduction to Mass Media
Communication 70, Introduction to Cinema
Communication 210, Television Production
Interdisciplinary 40, The Black World
Interdisciplinary 365, Seminar in Photographic Studies
Extension course, Professional Photography Seminar

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 twelve hours toward this certificate.

Requirements

Students must take:

Interdisciplinary 70, Introduction to the Study of Religion

and **15 hours** chosen from the following list in accordance with the guidelines above:

Anthropology 144, Religion, Magic and Science
***Art 225**, Medieval Art
***Art 325**, Early Christian Art and Archaeology
***Art 326**, Monasteries, Cathedrals, and Preaching Churches
***English 123**, Jewish Literature
***English 124**, Literature of the New Testament
***English 125**, Literature of the Old Testament
***History 144**, Christianity: Jesus to Martin Luther
***History 252**, The World of Islam
***History 330a**, The Ancient World: Israel
***History 330d**, History of the Church: Early Christianity
***History 330e**, History of the Church: The Middle Ages
Music 103, Music in Religion
Philosophy 85, Philosophy of Religion
Philosophy 102, Medieval Philosophy

Philosophy 120, Asian Philosophy
***Philosophy 124**, Philosophy of Judaism
Philosophy 285, Problems in Philosophical Theology
Political Science 165, American Political Thought
Political Science 261, Ancient and Medieval Political Thought
Sociology 264, The Sociology of Religion

Women's Studies Certificate

Faculty

Suzanna Rose, Director, Associate Professor of Psychology
Ph.D., University of Pittsburgh
Jayne Stake, Professor of Psychology
Ph.D., Arizona State University
Janet Berlo, Associate Professor of Art
Ph.D., Yale University
Sarah Boggs, Associate Professor of Sociology
Ph.D., Washington University
Rita Braito, Associate Professor of Sociology and Nursing
Ph.D., University of Minnesota
Zuleyma Halpin, Associate Professor of Biology
Ph.D., University of California-Berkeley
Michele Hoyman, Associate Professor of Political Science
Ph.D., University of Michigan
Joyce Mushaben, Associate Professor of Political Science
Ph.D., Indiana University
Stephanie Ross, Associate Professor of Philosophy
Ph.D., Harvard University
Victoria Sork, Associate Professor of Biology
Ph.D., University of Michigan
Diane Touliatos, Professor of Music
Ph.D., Ohio State University
Yael Even, Assistant Professor of Art
Ph.D., Columbia University
Dana Frank, Assistant Professor of History
Ph.D., Yale University
Kathy Gentile, Assistant Professor of English
Ph.D., University of Oregon
Barbara Kachur, Assistant Professor of Communication
Ph.D., Ohio State University
Kimberly Kempf, Assistant Professor of Administration of Justice
Ph.D., The Wharton School, University of Pennsylvania
Helan Page, Assistant Professor of Anthropology
Ph.D., Northwestern University
Lana Stein, Assistant Professor of Political Science
Ph.D., Michigan State University
Cathy Burack, Coordinator, Women's Center
M.A., Wichita State University
Linda Kick, Lecturer, Department of English
M.A., Southern Illinois University-Edwardsville

The Women's Studies Program at the University of Missouri-St. Louis draws upon feminist scholarship to create new ways of studying human experience that include women. The program seeks to correct the oversights and omissions of traditional education, which typically ignores the experiences and contributions of women in virtually all areas of society. Courses in Women's Studies look specifically at 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.

Certificate Programs

The faculty and students in Women's Studies believe in cooperative education. Women's Studies classes promote the exchange of knowledge among women and men of different classes, races, sexual orientations, and social conditions.

The Women's Studies Program offers a Certificate which is similar to a minor. A Certificate is meant to supplement a student's traditional academic major, to encourage a reassessment of women's roles in society, and to facilitate career goals that focus on women's 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 who want to earn one.

Women's Studies courses are open to all students, whether or not they are working toward a Certificate.

Candidates for the Certificate should register with the Women's Studies Program after they have taken one or two courses. To register, students should complete the Women's Studies Certificate form available from any Women's Studies faculty or from the Women's Studies office. Students interested in the program should contact the director of the program or any member of the Women's Studies faculty.

Requirements

A student must complete **18 hours** in Women's Studies courses, including:

Interdisciplinary 50, Interdisciplinary Perspectives on Women

and **either** a 300-level course in Women's Studies **or** an independent study (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 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 three hours may be taken on a satisfactory/unsatisfactory basis.

Interdisciplinary 350, Topics in Women's Studies (e.g., Women and Science, Women and Religion, Survival Strategies of Third World Women).

Interdisciplinary 351, Theories of Feminism

Art 176, Women and the Visual Arts

Biology/Psychology 140, Female Sexuality

Communication 395, Seminar in Communication (Women and Theater)

English 13, Topics in Literature (when appropriate topic)

English 280, Topics in Women and Literature (e.g., Black Women Writers, Women and Poetry)

History 101, History of Women in Comparative Cultures

History 300, Selected Topics in History (Topics in American History: Women and Work)

History 320, History of Feminism in Western Society

History 321, History of Women in the United States

Music 108, Women in Music

Nursing 365, Women's Issues in Health Care

Philosophy 153, Philosophy and Feminism

Political Science 129, Women and the Law

Political Science 247, Women, Power and Public Policy

Psychology 230, Psychology of Women

Social Work 312, Women's Social Issues

Sociology 100, Women in Contemporary Society

Sociology/Administration of Justice 175, Women, Crime and Society

Writing Certificate

The Writing Certificate provides an opportunity for students to obtain a focused specialty in writing in addition to their major. A student may earn a certificate in writing by completing a total of **18 hours** in writing courses, chosen from the following:

English 103, Poetry Writing

English 104, Short Story Writing

English 112, Topics in Writing

English 209, Practical Criticism: Writing About Literature

English 210, Advanced Expository Writing

English 211, Advanced Expository Writing for International Students

English 212, Business Writing

English 213, Technical Writing

English 214, News Writing or **Communication 116**, News Writing

English 215, Feature Writing

English 218, Reporting

English 300, Writing in the Professions

English 302, Writing Literary Criticism

English 303, Advanced Poetry Writing

English 304, Advanced Fiction Writing

English 305, Writing for Teachers

English 316, Gateway Writing Project

English 319, Editing

Communication 212, Broadcast Writing and Reporting

Communication 217, Script Writing for Business and Industry

Required: English 320, Independent Writing Project.

Students serve a supervised writing internship or work with the instructor to complete an extensive writing project.

English 313, Advanced Business and Technical Writing, may be substituted for English 320 as the required final course for students who wish to do their final projects in business or technical writing.

Courses taken to fulfill requirements for the Writing Certificate may not be taken on a satisfactory/unsatisfactory basis.

International Studies Certificates Undergraduate

Through the Center for International Studies, the College offers certificate programs in East Asian, Latin American, European, and International Studies. In the junior or senior year, students seeking certificates must take an independent study course (three hours) in which a research paper will be written focusing upon some aspect of the particular field or on one of the fields offered in the program.

Interested students should petition for one of these certificates through the Center for International Studies by the first semester of the senior year. For further information, contact the Center at 553-5753.

Certificate Programs

Requirements for Each Program

East Asian Studies Certificate

- 1) First- and second-year Chinese, Japanese, or other appropriate Asian language (20 hours taken in four semesters). Chinese and Japanese courses are available at Washington University for UM-St. Louis students.
- 2) **History 61** and **History 62**, East Asian Civilization
- 3) **One** course in **three** of the following four areas, a total of nine hours:

Area 1: Music

- 9**, Non-Western Music

Area 2: Philosophy

- 120**, Asian Philosophy

Area 3: Political Science

- 155**, Asian Comparative Politics
***359**, Studies in Comparative Politics
***388**, Studies in International Relations

***Note** Students should take Political Science 359 or Political Science 388 only when the specific topic is appropriate.

Area 4: History

- 361**, Modern Japan: 1850 to Present
362, Modern China: 1800 to Present
393, Senior Seminar

European Studies Certificate

- 1) Four semesters of college work or the equivalent in a modern European foreign language.
- 2) **History 32**, 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

- 235**, Renaissance Art
245, Baroque Art
255, Modern Art
335, Artists and Theories of the Renaissance
345, Age of Grandeur: Perspectives in Seventeenth- and Eighteenth-Century Art
356, Nineteenth-Century Art
357, Twentieth-Century Art

Area 2: Economics

- 238**, The World Economies of Today
239, The Soviet Economy
242, European Economic Development

Area 3: English

- 127**, Survey of European Literature from 1650 to the Second World War
128, The Contemporary World in Literature
132, English Literature II
323, Continental Fiction
346, Restoration and Eighteenth-Century Drama

- 364**, The Eighteenth-Century English Novel
365, The Nineteenth-Century English Novel
372, The Later Nineteenth Century
383, Modern British Fiction

Area 4: History

- 31**, Topics in European Civilization: Emergence of Western Europe to 1715
331a, The Age of the Renaissance
331b, The Age of Reformation
332d, The Rise of the Modern British State
332e, Europe from the French Revolution to World War I, 1789-1914
333a, Contemporary France: Since 1870
333b, Germany in the Modern Age
333c, History of Russia From 1917-Present
333d, Europe in the Twentieth Century
333e, Contemporary Europe, 1939-Present

Area 5: Modern Foreign Languages

FRENCH

- 110**, Modern French Literature in Translation
150, European Literature in Translation: Special Topics
211, Contemporary French Civilization
281, French Literature II: Nineteenth and Twentieth Centuries
341, Seventeenth-Century French Theatre
342, Seventeenth-Century French Prose and Poetry
353, Eighteenth-Century French Literature
354, Eighteenth-Century French Theatre and Novel
362, Nineteenth-Century French Novel
371, Twentieth-Century French Novel
375, Modern French Theatre

GERMAN

- 110**, Masterpieces of German Literature in Translation
150, European Literature in Translation: Special Topics
201, Masterpieces of German Literature
202, The German *Novelle* and Drama
210, German Culture and Civilization
315, German Classicism and Romanticism
320, German Realism and Naturalism
345, Modern German Literature
397, Survey of German Literature Part I
398, Survey of German Literature Part II
SPANISH
110, Spanish Literature in Translation
150, European Literature in Translation: Special Topics
310, Spanish Literature from 1898 to 1939
315, Spanish Literature from 1939 to the Present
320, Realism and Naturalism in the Nineteenth-Century Spanish Novel
321, Poetry and Drama of the Nineteenth Century
325, Poetry and Drama of the Golden Age

Area 6: Music

- 322**, Music of the Renaissance
323, Music of the Baroque
324, Music of the Classic Period
325, Music of the Romantic Period

Area 7: Philosophy

- 103**, Early Modern Philosophy
104, Kant and Nineteenth-Century Philosophy
105, Twentieth-Century Philosophy
205, The Rationalists
206, The British Empiricists

Certificate Programs

Area 8: Political Science

- 251, Comparative Politics of Europe
- 256, The Soviet Political System
- 284, European International Relations
- *351, Comparative Public Policy and Administration
- *359, Studies in Comparative Politics
- *388, Studies in International Relations

*Note Students should take Political Science 351, 359, or 388 only when the topic is appropriately European.

Latin American Studies Certificate

- 1) Thirteen credit hours or the equivalent in Spanish.
- 2) Either **History 71**, Latin American Civilization, or **Spanish 211**, Hispanic Culture and Civilization: Spanish America.
- 3) A total of **12 hours** from **at least three** of the following areas:

Area 1: Anthropology

- 121, Modern Aztec and Maya
- 134, The Inca, Aztec and Maya

Area 2: Economics

- 243, Latin American Economic Development

Area 3: History

- 371, History of Latin America: To 1808
- 372, History of Latin America: Since 1808

Area 4: Political Science

- 253, Political Systems of South America
- 254, Political Systems of Mexico, Central America and the Caribbean
- *359, Studies in Comparative Politics

*Note Students should take Political Science 359 only when the topic is appropriate to Latin America.

Area 5: Spanish

- 111, Spanish-American Literature in Translation
- 211, Hispanic Culture and Civilization: Spanish America
- 281, Introduction to Hispanic Literature: Spanish America
- 340, Spanish-American Literature of the Nineteenth Century
- 341, Modernismo
- 345, Spanish-American Literature of the Twentieth Century
- 351, Spanish-American Fiction in the Twentieth Century
- 360, Spanish-American Poetry from Modernismo to the Present

International Studies Certificate

- 1) Satisfactory completion of the language requirements for the degree program in which the student is enrolled.
- 2) **Political Science 180**, World Politics.
- 3) A total of **12 hours** from **at least three** of the following seven areas:

Area 1: Anthropology

- 201, Comparative Economic Behavior
- 202, Politics, Symbolism and Culture

Area 2: Biology

- 120, Environmental Biology

Area 3: Business Administration

- 380, International Business

Area 4: Economics

- 230, International Economic Analysis
- 238, The World Economies of Today
- 331, International Economic Analysis: Finance

Area 5: Geography

- 102, World Regions

Area 6: History

- 112, America in World Affairs
- 332e, Europe from the French Revolution to World War I, 1789-1914
- 333d, Europe in the Twentieth Century

Area 7: Political Science

- 80, Global Issues
- 282, United States Foreign Policy
- 285, International Institutions and Global Problem-Solving
- 289, Middle Eastern Politics
- 381, Comparative Foreign Policy
- 385, International Law
- 386, Studies in War and Peace
- 388, Studies in International Relations

International Studies Certificate Graduate

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, Modern 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. For further information, contact the Center for International Studies at 553-5753.

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**:

Business Administration

- 416, International Finance, Investment, and Commercial Relations
- 417, International Business Operations
- 443, International Accounting

Certificate Programs

Economics

- 430, International Trade
- 431, International Monetary Analysis

History

- 419, Readings in East Asian History
- 430, Readings in European History
- 460, Readings in Latin American History
- 470, Readings in African History

Political Science

- 450, Proseminar in Comparative Politics
- 451, Seminar in Comparative Politics
- 480, Proseminar in International Relations
- 481, Seminar in International Relations

Students may complete an additional six hours chosen from the following:

Administration of Justice

- 360, Comparative Justice Systems

Art

- 356, Nineteenth-Century Art
- 357, Twentieth-Century Art

Business Administration

- 380, International Business

Economics

- 331, International Economic Analysis: Finance
- 350, Special Readings

English

- 323, Continental Fiction

History

- 314, American Foreign Relations: Since 1941
- 320, History of Feminism in Western Society
- 332a, History of Spain
- 332b, Russian History to 1917
- 332c, Modern France: to 1870
- 332d, The Rise of the Modern British State
- 332e, Europe from the French Revolution to World War I, 1789-1914
- 333a, Contemporary France: Since 1870
- 333b, Germany in the Modern Age
- 333c, History of Russia from 1917-Present
- 333d, Europe in the Twentieth Century
- 333e, Contemporary Europe, 1939-Present
- 361, Modern Japan: 1850 to Present
- 362, Modern China: 1800 to Present
- 372, History of Latin America: Since 1808
- 381, West Africa: Since 1800
- 382, Crisis in Southern Africa
- 390, Special Readings

Modern Foreign Languages and Literatures

- French 382**, Nineteenth-Century French Novel
- French 365**, Modern French Poetry
- French 371**, Twentieth-Century French Novel
- French 375**, Modern French Theatre
- German 315**, German Classicism and Romanticism
- German 320**, German Realism and Naturalism
- German 345**, Modern German Literature
- German 398**, Survey of German Literature Part II
- Spanish 310**, Spanish Literature from 1898-1939
- Spanish 315**, Spanish Literature from 1939 to Present
- Spanish 320**, Realism and Naturalism in the Nineteenth-Century Spanish Novel
- Spanish 321**, Poetry and Drama of the Nineteenth Century
- Spanish 340**, Spanish-American Literature of the Nineteenth Century
- Spanish 341**, Modernismo
- Spanish 345**, Spanish-American Literature of the Twentieth Century
- Spanish 351**, Spanish-American Fiction in the Twentieth Century
- Spanish 360**, Spanish-American Poetry from Modernismo to the Present

Music

- 325, Music of the Romantic Period
- 326, Music of the Twentieth Century

Political Science

- 351, Comparative Public Policy and Administration
- 359, Studies in Comparative Politics
- 381, Comparative Foreign Policy
- 385, International Law
- 386, Studies in War and Peace
- 388, Studies in International Relations
- 485, Directed Readings and Research in International Relations

Sociology

- 342, Population Dynamics

Preprofessional Programs

Although the University of Missouri-St. Louis does not offer specific preprofessional majors in architecture, engineering, dentistry, journalism, law, medicine, optometry, or pharmacy, students may develop satisfactory preprofessional study programs from the University's academic offerings. 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 may select a major field of study and related area courses which provide strong undergraduate preparation for graduate professional study.

Students should seek preprofessional 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 preprofessional study at UM-St. Louis is provided to give students minimal guidelines and assistance in planning a program.

Pre-Architecture

The Department of Art sponsors the 3+4 Program for the School of Architecture at Washington University. A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate 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 a major and lacks only the total hours (electives) necessary for a degree.
- 2) A student who has not completed required courses for a degree must remedy the deficiency with courses taken at the University of Missouri-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 a major may, if the major department at UM-St. Louis agrees, 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.

Pre-Engineering

The pre-engineering program provides the student with a solid scientific base in mathematics, chemistry, physics, and communications. Jointly prepared transfer guides to UMC, UMR, Washington University, and SIU-Edwardsville are available from the pre-engineering adviser or the Admissions

Office. Curricula for all the engineering fields are listed in detail therein. Usually, transfer can be effected without loss of credit and with full standing as the curricula have been approved by the participating engineering schools and departments.

Students also may remain at UM-St. Louis to pursue B.S. degrees in pure science or in an applied area of physics, mathematics, or chemistry. The program's built-in flexibility allows students to explore various areas in engineering and applied science in order to discover the most appropriate and rewarding directions in which to aim their talents.

General Education Requirements

In addition to general admission requirements, prospective students must take a mathematics placement test, given at UM-St. Louis, the semester before enrollment.

Although there is no required pattern of high school units for admission to the program, students are urged to complete **at least three** units of mathematics, including units in algebra (excluding general mathematics) and trigonometry. Calculus, if available, is also recommended.

The following courses **are required** in the first two years for most of the engineering curricula that are part of the pre-engineering program.

Chemistry:
Chemistry 11, Introductory Chemistry I

English:
English 10, Freshman Composition

Computer Science:
Computer Science 122, Computers and Programming

Engineering:
Engineering 30, Engineering Graphics
Engineering 85, Statics and Elementary Strength of Materials
Engineering 185, Introduction to Dynamics

Humanities and Social Sciences:
Twelve hours of **electives**.

Mathematics:
Math 80, Analytic Geometry and Calculus I
Math 175, Analytic Geometry and Calculus II
Math 180, Analytic Geometry and Calculus III
Math 202, Linear Algebra and Differential Equations

Physics:
Physics 111, Physics: Mechanics and Heat
Physics 112, Physics: Electricity, Magnetism, and Optics
Physics 124, Circuit Analysis I

See the transfer guides for specific requirements at each of the participating universities.

Preprofessional Programs

Upper-Division Students

Students should be aware that there is a cooperative program between Rolla and St. Louis area employers which allows the student to alternate periods of study with periods of work in industry or business. Students may be interested in knowing there are about fifty St. Louis-area industries now cooperating in this program. Normally the cooperative program involves one semester of college study at Rolla, followed by one semester of work.

Specific inquiries about the pre-engineering program should be made to: Pre-engineering Program, 225 Benton, telephone 553-5931.

Prejournalism

Students wishing to pursue a journalism degree should review the entrance requirements of the schools they would like to attend for information on suggested prejournalism courses of study.

Students seeking a journalism 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 with a cumulative grade point average of 3.0 or higher at the University of Missouri or another accredited two- or four-year institution.

Required Courses

The following studies are required for admission to the School of Journalism:

- 1) English Composition:** Six credit hours. English 10, Freshman Composition, and English 210, Advanced Expository Writing, satisfy the requirement with a grade of B or better in English 210.
- 2) Foreign Language:** Thirteen credit hours are required unless the student has completed four or more high school units in a single foreign language.
- 3) Behavioral, Biological, Physical, and Mathematical Science:** Fourteen hours from four of six areas including anthropology, psychology, sociology, and biological, physical, and mathematical science. The fourteen hours must include at least one course with a lab (minimum four hours credit).
- 4) Social Science:** Three hours in each of these three areas: economics, history, and political science.
- 5) Humanistic Studies:** Eight hours in three of seven areas including appreciation or history of art or music; foreign civilizations; classics; literature; philosophy; speech and dramatic art; humanities sequence.

Non-transferable courses at the School of Journalism are basic military science, basic physical education, typing or shorthand, journalism or communication, and no more than three hours each of applied or performance music, dance, drama, or studio art.

Recommended, but not required, are courses in American history, general sociology, general psychology, introductory philosophy, principles of marketing, elementary accounting, statistics, and general anthropology.

For advisement and information, contact the Advising Office, College of Arts and Sciences, 303 Lucas, telephone 553-5300.

Prelaw

A "prelaw curriculum" is a myth, a mistaken notion based on an inexact analogy to premedical programs, which are quite specific and virtually obligatory for medical school candidates. While no single curricular path is the ideal preparation for law school, a broadly based undergraduate program that includes training in analytical reasoning and writing will serve the student well.

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 of value in understanding special legal subjects and the practice of law.

The University of Missouri has law schools at Columbia and Kansas City. University of Missouri-St. Louis students will find everything needed in planning an undergraduate program, preparing for the LSAT, and applying to law school in the office of the prelaw adviser, 303 Lucas, 553-5300. Students should contact the prelaw adviser early in their undergraduate career.

Premedical Sciences

Students wishing to enter medical, dental, optometry, or veterinary medicine schools should pursue the B.A. or B.S. degrees with majors in the disciplines of their choice, but they should take whatever additional courses may be necessary for admission to the professional school. Pre-veterinary students will have to obtain certain animal sciences courses not offered at the University of Missouri-St. Louis.

Since medical school 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) for the current year, available from the Association of American Medical Colleges, One Dupont Circle, N.W., Washington, D.C. 20036. The dean's office has a copy available for student use within the office.

Preprofessional Programs

Suggested Courses

Many medical schools recommend the following undergraduate courses:

Biology: **Biology 10**, Introductory Biology; **Biology 224**, Genetics; and additional courses in developmental biology and/or physiology.

Chemistry: **Chemistry 11**, Introductory Chemistry I; **Chemistry 12**, Introductory Chemistry II; **Chemistry 261**, Structural Organic Chemistry; **Chemistry 262**, Organic Reactions; **Chemistry 263**, Techniques of Organic Chemistry; and additional courses in organic chemistry and quantitative analysis.

Mathematics: Students should take courses at least through calculus, as appropriate for the major degree.

Physics: Eight credit hours or as appropriate for the degree chosen.

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, premedical students should take Chemistry 11 and 12, Introductory Chemistry I and II, during the freshman year.

Students also should take the required national standardized examination before or during the junior year; the Medical College Admission Test for premed students; the Veterinary Medical Aptitude Test for prevet students; the Dental Aptitude Test for pre-dental students; and the Optometry Admission Test for preoptometry students.

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. Pharmacy, nursing, and laboratory technology may be considered as alternative fields.

For further information, testing dates, or premedical advising, contact the premedical adviser, 303 Lucas Hall, telephone 553-5008.

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 School of Optometry. It is one of only 16 schools of optometry nationwide 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. Undergraduate students have access to the optometry school students, faculty, and staff for career and academic guidance.

For more information contact the Office of Student Affairs at the School of Optometry.

Preprofessional 3 + 4 Program

The Department of Biology sponsors a 3+4 Program for the UM-St. Louis School of Optometry. In this program students may be admitted to the School 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.

- 1) All general education requirements and all requirements for the 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 School of Optometry.
- 3) Up to six hours from the School of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology.
- 4) In order to qualify for the bachelor degree, students must be in good academic standing in or have graduated from the School of Optometry.

Prepharmacy

Admission to a school of pharmacy usually requires one to two years of college work in specified areas. Most colleges of pharmacy recommend the 1+4 plan which includes one year of college work followed by four years of professional courses in the college of pharmacy. In some cases the old 2+3 program is used. Since entrance requirements vary, students should consult the catalog of the college to which they intend to apply.

One-Year Prepharmacy Course Sequence. A typical one-year sequence for prepharmacy students which meets the admission requirements of the School of Pharmacy at the University of Missouri-Kansas City and also those of the St. Louis College of Pharmacy is as follows:

Freshman Year

First Semester (16 Hours)

Chemistry 11, Introductory Chemistry I

English 10, Freshman Composition

Mathematics 40, Pre-Calculus Mathematics

(At UMKC mathematics through survey calculus, Math 101, is preferred.)

Elective*: One three-hour course

*Courses in statistics, psychology, speech, economics, and accounting are most often recommended or required.

Preprofessional Programs

Second Semester (16 hours)

Biology 10, Introductory Biology

(At UMKC a physics course, Physics 11, is preferred to the biology course.)

Chemistry 12, Introductory Chemistry II

Literature: Any three-hour course

Elective*: One three-hour course

*Courses in statistics, psychology, speech, economics, and accounting are most often recommended or required.

Sophomore Year (for 2+3 programs)

First Semester (15 hours)

Biology: One biology elective

Chemistry 261, Structural Organic Chemistry

Literature: Any three-hour course

Physics 11, Basic Physics

Elective*: One three-hour course

*Courses in statistics, psychology, speech, economics, and accounting are most often recommended or required.

Second Semester (14 hours)

Biology: One biology elective

Chemistry 262, Organic Reactions

Chemistry 263, Techniques of Organic Chemistry

Physics 12, Basic Physics

Elective*: One three-hour course

*Courses in statistics, psychology, speech, economics, and accounting are most often recommended or required.

For additional information and prepharmacy advising, contact the chemistry department, 324 Benton Hall, telephone 553-5311.

School of Business Administration

Business Administration

Faculty

Donald H. Driemeier, Dean; Associate Professor*
D.B.A., Washington University

John J. Anderson, C.P.A., C.M.A., Associate Dean; Professor*
Ph.D., University of Wisconsin-Madison

David R. Ganz, Interim Associate Dean; Assistant Professor
M.S. in C., St. Louis University

James M. Krueger, C.P.A., Associate Dean (on leave);
Assistant Professor*
D.B.A., Indiana University

W. Franklin Spikes, III, Associate Dean for Continuing Education-
Extension; Associate Professor
Ed.D., Northern Illinois University

Albert P. Ameiss, Professor*
Ph.D., St. Louis University

Howard B. Baltz, Professor*
Ph.D., Oklahoma State University

William P. Dommermuth, Professor*
Ph.D., Northwestern University

Sioma Kagan, Professor Emeritus*
Diplom-Ingenieur, Ph.D., Columbia University

Frederick E. May, Professor*
Ph.D., University of Michigan

Robert M. Nauss, Professor*; Coordinator in
Management Science and Information Systems
Ph.D., University of California-Los Angeles

L. Douglas Smith, Professor*; Director, Center
for Business and Industrial Studies
Ph.D., University of Minnesota

Robert S. Stich, Professor*
Ph.D., New York University

Fred J. Thumin, Professor*
Ph.D., Washington University

Nasser Arshadi, Associate Professor*
Ph.D., University of Nebraska

James A. Breaugh, Associate Professor*; Coordinator in
Management
Ph.D., Ohio State University

Dennis L. Dossett, Associate Professor*
Ph.D., University of Washington

David P. Gustafson, Associate Professor*
Ph.D., Stanford University

Marius A. Janson, Associate Professor*
Ph.D., University of Minnesota

Charles R. Kuehl, Associate Professor*; Director of Graduate
Studies in Business
Ph.D., University of Iowa

Donald R. Kummer, Associate Professor*; Coordinator in Finance
Ph.D., University of Oregon

Edward C. Lawrence, Associate Professor*
Ph.D., Pennsylvania State University

Silvia A. Madeo, C.P.A., Associate Professor*
Ph.D., North Texas State University

Joseph S. Martinich, Associate Professor*
Ph.D., Northwestern University

R. Frank Page, C.P.A., Associate Professor*
Ph.D., University of Illinois

David Ronen, Associate Professor*
Ph.D., Ohio State University

Vicki L. Sauter, Associate Professor*
Ph.D., Northwestern University

Robert A. Schuchardt, Associate Professor*
D.B.A., Washington University

James P. Tushaus, Associate Professor*; Coordinator in Marketing
Ph.D., University of Illinois

George C. Witteried, Associate Professor Emeritus*
M.B.A., J.D., Northwestern University

James F. Campbell, Assistant Professor*
Ph.D., University of California-Berkeley

Peter H. DePaulo, Assistant Professor*
Ph.D., Bryn Mawr College

Thomas H. Eysell, Assistant Professor*
Ph.D., Texas A & M

Timothy A. Farmer, C.P.A., Assistant Professor*
Ph.D., Ohio State University

Joseph P. Giljum, C.P.A., Assistant Professor
L.L.M., New York University

D'Anne G. Hancock, Assistant Professor*
Ph.D., University of New Orleans

Michael M. Harris, Assistant Professor*
Ph.D., University of Illinois-Chicago

Kailash Joshi, Assistant Professor*
Ph.D., Indiana University

Laurence A. Madeo, Assistant Professor*
Ph.D., University of Michigan

Mary D. Zalesny, Assistant Professor*
Ph.D., University of Illinois

David A. Bird, Instructor
M.S., Washington University

Lindell P. Chew, Instructor
M.B.A., University of Missouri-Columbia

Marilyn M. Clarkson, C.P.A., Lecturer
M.B.A., Auburn University

John E. Cox, C.P.A., Instructor; Coordinator in Accounting
M.A., University of Missouri-Columbia

Robert W. Dempsey, Lecturer
M.B.A., University of Missouri-St. Louis

William P. Heinbecker, Lecturer
M.S., Washington University

Terry C. Killian, C.P.A., Lecturer
University of Missouri-St. Louis

Peggy A. Lambing, Lecturer
M.B.A., University of Missouri-St. Louis

William R. Link, C.P.A., Instructor
M.B.A., University of Missouri-Columbia

Beryl Lycan, Instructor; Director, University System-Extension
M.A., Central Missouri State University

Donald C. Malm, Lecturer
M.B.A., University of Missouri-St. Louis

Diane R. Robson, Lecturer; Assistant Director of Graduate Studies
in Business
M.B.A., University of Missouri-St. Louis

Ottilia N. Voegtli, Instructor
M.B.A., University of Missouri-St. Louis

Wayne W. Winter, Instructor; Assistant Coordinator in
Legal Environment
L.L.M., Washington University

*members of Graduate Faculty

The School of Business Administration faculty has distinguished itself in the areas of teaching, research, and service. Of the current faculty, four members have been cited as outstanding teachers by the UM-St. Louis Alumni Association, three members have received the AMOCO Foundation Award for excellence in teaching, and one faculty member was the recipient of the Burlington Northern Foundation Faculty Achievement Award. The School of Business Administration also has a strong research orientation. Eleven articles have been accepted for publication in the 1988-89 academic year; 27 articles have been prepared for publication and are currently pending review; and 23 papers were presented at professional meetings.

Business Administration

Undergraduate Studies

Degrees and Emphasis Areas

The School of Business Administration offers work leading to the bachelor of science degree in business administration (BSBA). The program is accredited by the American Assembly of Collegiate Schools of Business, the authorized professional accrediting body in collegiate business education.

The BSBA program represents a concentrated professional education in business. Professional credit requirements have been kept to a minimum to allow for a balanced liberal arts-professional program. Students have ample opportunity to develop a professional emphasis area in accounting, finance, management and organizational behavior, management information systems, management science, or marketing. Specific information with respect to the emphasis area requirements may be obtained from the School of Business Administration's Office of Undergraduate Academic Advising.

Minor in Business Administration

The School also offers a minor in business administration for students pursuing other degree programs.

Minor in Employee Training and Development

The School of Business Administration and the Evening College offer a minor in employee training and development. Information on this minor can be found in the Evening College section of this book.

Business Development Center (BDC)

The Business Development Center is a part of the School of Business Administration and the University of Missouri Extension Division. The BDC is a unique vehicle that mobilizes students, faculty, and other professional resources for small business and community economic development.

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 business students an opportunity to gain practical experience and earn a substantial income while attending school. Co-ops and internships are administered through the Career Planning and Placement Office.

Admission to the School of Business Administration

The school offers a two-year, junior-senior level program. Admission prerequisites are:

- 1) At least a 2.0 overall grade point average for all work attempted within the University of Missouri system.
- 2) A minimum of 60 total credit hours. Normally, the following introductory business administration courses are included within the 60 hours:

Business Administration 103, Computers and Information Systems

Business Administration 131, Elementary Statistics

Business Administration 140, Fundamentals of Financial Accounting

Business Administration 145, Managerial Accounting

Business Administration 156, Legal Environment of Business

Economics 51, Principles of Microeconomics

Economics 52, Principles of Macroeconomics

Transfer Students

Transfer students must meet all admission requirements; students failing to do so may be accepted for admission to the University but not directly to the School of Business Administration. Students transferring to UM-St. Louis are expected to take most of their specific business work during their junior and senior years. A student may transfer up to 15 hours of credit in business taken at the freshman or sophomore level, exclusive of economics. Business courses which are offered at the freshman or sophomore level and which are transferred in lieu of those offered at UM-St. Louis at the 200 level or above must be validated. Validation is determined by the appropriate discipline and may include:

1) Passing an approved 200-level or above course in that area with a grade of C or better

or

2) Passing a proficiency examination.

Business students transferring from other institutions must complete at least 21 hours in business at UM-St. Louis on a regular graded basis and meet both the University's and the School's residency requirements.

Degree Requirements

General Education Requirements

All undergraduate business administration majors must complete the general education requirements of both the University and the School of Business Administration. The School's general education requirements are in keeping with those of the University. Many of the courses needed to complete the School's degree requirements, as outlined below, may be taken to fulfill the University's general education requirements.

General Degree Requirements

All undergraduate business administration majors must complete the specific non-business courses which are business degree requirements. To satisfy the BSBA general degree requirements, the following **boldface** pre-business administration requirements must be met:

- 1) Demonstration of basic skills in written communication by a minimum grade of C in English 10, English Composition or a satisfactory score on the English placement test. For more information refer to the University General Education Requirements.

Business Administration

2) Effective since the Fall Semester, 1985, students wishing to complete a degree at UM-St. Louis must complete a junior-level English requirement with a grade of C or better.

3) Three courses in the humanities, to be chosen from art history or art appreciation (applied art and applied music courses do not count); literature; music history, literature, theory or appreciation; philosophy and logic; theatre appreciation, theory, and history.

4) Five courses in social science, to include: **Economics 51, Principles of Microeconomics** and **Economics 52, Principles of Macroeconomics**; one course which meets the state requirement (see the University General Education Requirements); and **two courses in the behavioral sciences, chosen from anthropology, psychology, or sociology.**

5) Three courses in mathematics and science which must include: a minimum proficiency in **Mathematics 102, Finite Mathematics**; (Note **Mathematics 30, College Algebra** or **Mathematics 40, Pre-Calculus Mathematics** is a prerequisite to **Mathematics 102**) and at least **one lecture course** in either a biological or physical science.

6) **One course in non-Euro-American studies**, as outlined in the College of Arts and Sciences General Information.

Language and Mathematics Option

In addition to the above, degree candidates must complete **one** of the following options:

1) **Thirteen hours in one foreign language.** (These are counted as free electives since they do not meet any specific general education requirements.)

or

2) **A minimum of Mathematics 101, Survey Calculus, or Mathematics 80, Analytic Geometry and Calculus I.** (Students planning to pursue any further calculus should take **Mathematics 80.**) Also required is **one** quantitative course from the following:

Business Administration 308, Production and Operations Management

Business Administration 329, Business Forecasting

Business Administration 331, Multivariate Analysis

Business Administration 375, Operations Research

Economics 365, Economic Statistics and Econometrics

School of Business Administration Core Degree Requirements

Bachelor of Science Degree in Business Administration

Candidates for the BSBA degree must complete the following **business administration core** courses:

103, Computers and Information Systems

131, Elementary Statistics

140, Fundamentals of Financial Accounting

145, Managerial Accounting

156, Legal Environment of Business

202, Fundamentals of Production

204, Financial Management

206, Basic Marketing

210, Management as a Behavioral Science I

391, Business Policy and Administration (seminar)

Business Electives

Effective since the Fall Semester, 1987, a minimum of 18 hours must be taken in business electives which go beyond the business administration core courses listed above, i.e., 18 hours must be taken in those courses which have as their prerequisites required business administration core courses.

Free Electives

In addition to the above, there are approximately 30 free elective hours. Up to 12 of these may be taken in the School of Business Administration; the remaining must be earned outside the School. A minimum of 60 hours must be taken in non-business administration course work.

Graduation Requirements

The degree program requires a minimum of 48 hours in business administration courses and a **total of 120 hours.** The student must earn a minimum grade point average of 2.0 overall and a minimum grade point average of 2.0 for all business courses. All grades from within the University of Missouri system are computed in the GPA.

School of Business Administration Residency Requirement

Effective since the Fall Semester, 1987, business administration students must take their last 30 hours at the University of Missouri-St. Louis. Exceptions to this residency requirement would have to be approved by the School's Undergraduate Studies Committee.

Limitation on Discipline Concentration

While a certain level of concentration in one of the various business fields is desirable, students should not concentrate their course selection to the extent of limiting their career flexibility. Therefore, no more than 15 hours beyond required core courses are allowed in any discipline, with the exception of management information systems and accounting, in which 18 hours and 24 hours, respectively, beyond the required core courses are allowed. The combined hours in business and economics courses may not exceed 78 within the 120-hour program.

Satisfactory/Unsatisfactory Option

Business students in good standing may take up to 18 hours on a satisfactory/unsatisfactory basis. Exempt from this option are specific degree requirements, including such courses as Economics 51, Economics 52, mathematics courses, English 10, and junior-level English courses; courses fulfilling the mathematics-language option; and the required business administration core courses. Up to nine of the allowed 18 hours of work taken on a satisfactory/unsatisfactory basis may, however, be in business electives. Students should consult the School of Business Administration's regulations on this option regarding particular emphasis area courses.

Business Administration

A student may take no more than 30 hours of business courses without formal admission to the School of Business Administration or formal declaration of Business Administration as a major in the Evening College.

The School of Business Administration faculty is currently considering the implementation of a higher GPA requirement for admission and graduation. This will be no more than 2.5 and may be imposed in the future on all students entering the School.

Requirements for the Minor in Business Administration

In order to obtain an academic minor in business administration, a student must satisfy the following requirements:

Pre-Business General Education Requirements A student must complete the following **economics** courses:

- 51, Principles of Microeconomics
- 52, Principles of Macroeconomics

Statistics Requirement A student must take **one** of the following **statistics** courses:

- Business Administration 131**, Elementary Statistics (Prerequisite: Mathematics 102)
- Economics 365**, Economic Statistics and Econometrics (Prerequisite: Economics 51 and Economics 52 and Mathematics 31 or 132 or Business Administration 131 and Mathematics 80 or 101)
- Mathematics 232**, Applied Statistics II (Prerequisite: Mathematics 31 or Mathematics 132 or equivalent)
- Psychology 101**, Psychological Statistics (Prerequisites: Psychology 3 and Mathematics 30 or equivalent)

Business Course Requirements A student must complete a **minimum of 24 hours** in business. The following **six business administration** courses must be taken:

- 103, Computers and Information Systems
- 140, Fundamentals of Financial Accounting (Prerequisite: 27 credit hours)
- 145, Managerial Accounting (Prerequisite: Business Administration 140 or equivalent)
- 204, Financial Management (Prerequisites: Business Administration 140, Economics 52, and Statistics Requirement)
- 206, Basic Marketing (Prerequisites: Economics 51 and junior standing)
- 210, Management as a Behavioral Science I (Prerequisites: three hours in anthropology, psychology, or sociology, and junior standing)

and any **two additional business** courses other than those listed under Statistics and Business Course Requirements.

In addition to completing the above courses, the following requirements for a minor in business administration must also be met:

- 1) A student may not take more than 30 hours of business courses within the 120 hours required for the degree program.
- 2) A student must earn an average of C or better in all business courses taken.
- 3) No course taken on a satisfactory/unsatisfactory basis may be applied toward fulfilling the minor requirements.
- 4) At least **12** credits of the business course requirements must be taken in residence at UM-St. Louis.

Graduate Studies

The School of Business Administration offers three graduate degrees: the Master of Business Administration (MBA), the Master of Science in Management Information Systems (MS in MIS), and the Master of Accounting (MAcc).

Admission Requirements

The admissions decision is based on a combination of factors. Consideration is given to a candidate's academic record, GMAT scores, work and leadership experience, a personal narrative on the application form, and recommendations.

Applicants are required to take the Graduate Management Admissions Test (GMAT). This test is given four times each year. This three and one-half hour aptitude test is designed to measure certain mental capabilities important in graduate business studies. The examination tests ability to read, understand, and reason logically with both verbal and quantitative material. The test is not a measure of achievement or knowledge of business administration curriculum. Applications for the examination may be made directly to the Graduate Management Admissions Test, Educational Testing Service, CN6103, Princeton, New Jersey 08541. Information concerning the GMAT may also be obtained from the admissions advisers or the Office of Graduate Studies in Business.

Master of Business Administration Program (MBA)

The MBA program is fully accredited by the American Assembly of Collegiate Schools of Business, the authorized professional accrediting body in collegiate business education, and is designed to prepare students for administrative positions. It also provides an appropriate foundation for students contemplating doctoral work and eventual careers in college teaching or in research. The program is designed for students who have bachelor degrees from accredited institutions, including those with undergraduate backgrounds in the sciences, engineering, humanities, or arts. Students with undergraduate degrees in business administration or economics may pursue modified degree programs.

Business Administration

A 60-hour or two-year program, the MBA curriculum provides training in the fundamental areas of 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 interactive 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, and production disciplines.
- the growing importance of dynamic, quantitative management decision-making models in today's business environment in the context of current management information systems.

The total degree program is integrated by a course in policy formulation and administration 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.

MBA Program Degree Requirements

Students must take at least 39 hours of graduate work within a six-year period, 30 hours of which must be taken while enrolled as MBA candidates at UM-St. Louis.

Candidates must take at least **one** course, required or elective, in each of the following areas: accounting, finance, marketing, management, and quantitative management science.

Students are **also required** to have completed the equivalent of Economics 351, Quantitative Methods for Economics and Business Analysis, with a grade of C or better by the end of their first semester. Graduate credit is not given for this course.

Students who have not completed Economics 52, Principles of Macroeconomics, or its equivalent with a grade of B or better, within five years preceding entry into the program, will be required to take Business Administration 411, Analysis of National Economic Environment. Graduate credit is awarded for this course and may be included as elective credit.

Required Basic Courses

The following courses or their equivalents are required of all degree candidates:

- Business Administration 405**, Managerial Communication
- Business Administration 410**, Managerial Economic Analysis
- Business Administration 412**, Public Policies Toward Business
- Accounting 440**, Financial Accounting: Theory and Practice
- Finance 450**, Financial Management
- Management 460**, Organizational Behavior and Administrative Processes
- Marketing 470**, Contemporary Marketing Concepts

- Quantitative Management Science 480**, Introduction to Computer Programming with Managerial Applications
- Quantitative Management Science 481**, Statistical Analysis for Management Decisions
- Quantitative Management Science 482**, Operations Research Methods
- Business Administration 490**, Policy Formulation and Administration

Required Second-Level Courses

At least **three** of the following courses are also required:

- Accounting 441**, Concepts in Management Accounting
- Finance 451**, Advanced Financial Management
- Management 461**, Managing Human Resources
- Marketing 471**, Marketing Planning and Strategy
- Quantitative Management Science 483**, Production and Operations Management

Electives

The 18 hours of electives allow students to tailor the degree program according to individual interests. Up to nine hours of electives may be selected from any one area. A maximum of six hours of electives may be taken at the 300 level. Nine elective hours may be taken outside the School of Business Administration if the student has approval in advance from a graduate adviser for the specific courses desired.

Previous Education

Students with previous education in business or economics may waive certain courses. Depending upon the student's transcripts and the applicability of the course work, students with an undergraduate background in business may waive up to 21 hours of the 60-hour program. At least 39 hours must be taken to earn the degree regardless of the number of courses waived.

Master of Science in Management Information Systems (MS in MIS)

The MS in MIS program is designed to provide students with a foundation in both the functional business areas and in various managerial and analytical skill areas required in modern organizations. A specialized program in computer-based management information systems is then built on this foundation. The overall objective of the program is to offer the student sufficient technical and managerial knowledge and skills to operate successfully in a computer-oriented environment. The program is designed for students who have bachelor degrees from accredited institutions, and is not restricted to any single undergraduate major.

MS in MIS Program Degree Requirements

The curriculum involves a 60-hour or two-year program including a 30-hour core curriculum that is identical to that of the MBA program. Students with the appropriate academic background may waive some or all of this core curriculum. The second 30 hours involves a specialized curriculum oriented around computer-based management information systems.

Business Administration

Students are required to have completed the equivalent of **Economics 351**, Quantitative Methods for Economics and Business Analysis, with a grade of C or better by the end of the first semester. Graduate credit is not given for this course. Candidates are also required to complete a course in macroeconomics either before beginning the program or as one of their electives.

Required Basic Courses

The following courses or their equivalents are required of all degree candidates:

- Business Administration 405**, Managerial Communication
- Business Administration 410**, Managerial Economic Analysis
- Business Administration 412**, Public Policies Toward Business
- Accounting 440**, Financial Accounting: Theory and Practice
- Finance 450**, Financial Management
- Management 460**, Organizational Behavior and Administrative Processes
- Marketing 470**, Contemporary Marketing Concepts
- Quantitative Management Science 480**, Introduction to Computer Programming with Managerial Applications
- Quantitative Management Science 481**, Statistical Analysis for Management Decisions
- Quantitative Management Science 482**, Operations Research Methods

Required Specialization Courses

The following courses are required:

- Quantitative Management Science 484**, Business Information Systems
- Quantitative Management Science 485**, Computer-Based Information Systems: Theory and Practice
- Quantitative Management Science 488**, Information System Design
- Quantitative Management Science 489**, Data Base Management Systems
- Business Administration 490**, Policy Formulation and Administration

At least three of the following courses are also required:

- Quantitative Management Science 486**, Advanced Statistical Methods for Management Decisions
- Quantitative Management Science 487**, Advanced Operations Research Applications
- Quantitative Management Science 491**, Computer Systems Concepts
- Quantitative Management Science 492**, Information System Management
- Quantitative Management Science 493**, Simulation for Managerial Decision Making
- Business Administration 424**, Seminar in Current MIS Topics
- Accounting 449**, Systems Auditing

Electives

Two courses may be taken either from the above courses not selected previously or from other approved (in advance) courses within the School of Business Administration or outside the School. These may be either 300- or 400-level courses. The six hours in this group of electives may also be met by the completion of a thesis.

Master of Accounting Program (MAcc)

The MAcc program is intended for students preparing to enter the accounting profession or furthering existing accounting careers. Designed to accommodate both undergraduate students with undergraduate accounting majors and students with other backgrounds, the program permits students to specialize in either corporate or not-for-profit accounting or income taxation. It may require as few as 30 credit hours for students with undergraduate accounting majors or as many as 66 credit hours for students with no business background.

MAcc Program Degree Requirements

All students must meet course requirements in mathematics, general business, and accounting. At least 21 credits must be in advanced 400-level courses not used to meet the mathematics or general business requirements.

Math Background Requirement

Students are required to have completed by the end of their first semester in the program the equivalent of **Economics 351**, Quantitative Methods for Economics and Business Analysis, with a grade of C or better. Graduate credit is not given for this course.

General Business Requirements

Students must complete the equivalent of one three-credit-hour course in each of the following subject areas: macroeconomics, microeconomics, statistics, financial accounting, managerial accounting, marketing, production, finance, business law, management, business policy, and management information systems. These requirements may be met with graduate-level courses (numbered 400 or above) or with courses taken as an undergraduate.

Accounting Requirements

Students must complete at least 30 credit hours in accounting courses prior to graduation. Accounting courses taken prior to entry into the program (other than introductory financial and managerial accounting) may be included in the 30 hours. At least 15 credit hours must be in 400-level accounting courses. These courses must include:

- 1) **Accounting 448**, Seminar in Advanced Theory and Contemporary Issues in Accountancy
- 2) One of the following advanced seminars:
 - Accounting 421**, Seminar in Corporate Accounting
 - Accounting 422**, Seminar in Governmental and Nonprofit Accounting
 - Accounting 439**, Seminar in Taxation

- (3) At least **one** course in **each** of the following areas:

Financial Accounting—e.g.,

- Business Administration 341**, Intermediate Accounting II
- Accounting 445**, Financial Accounting: Advanced Theory and Analysis

Business Administration

Cost/Managerial Accounting—e.g.,

Business Administration 345, Cost Accounting
Accounting 441, Concepts in Management Accounting

Auditing—e.g.,

Business Administration 348, Auditing
Accounting 446, Topics in Professional Accounting

Income Taxation—e.g.,

Business Administration 347, Income Taxes

Management Information Systems—e.g.,

Business Administration 310, Information Systems Design
Business Administration 344, Computer Applications in Accounting
Accounting 449, Systems Auditing

Other currently offered 400-level courses in accounting from which students may choose include:

Business Administration 418, Governmental Budgeting and Financial Control
Accounting 431, Tax Research
Accounting 432, Taxation of Estates, Gifts and Trusts
Accounting 433, Taxation of Corporations and Shareholders
Accounting 434, Taxation of Partnerships and Partners
Accounting 435, Tax Practice and Procedure
Accounting 436, Advanced Topics in Taxation
Accounting 443, International Accounting
Accounting 447, Accounting Systems for Management Planning and Control

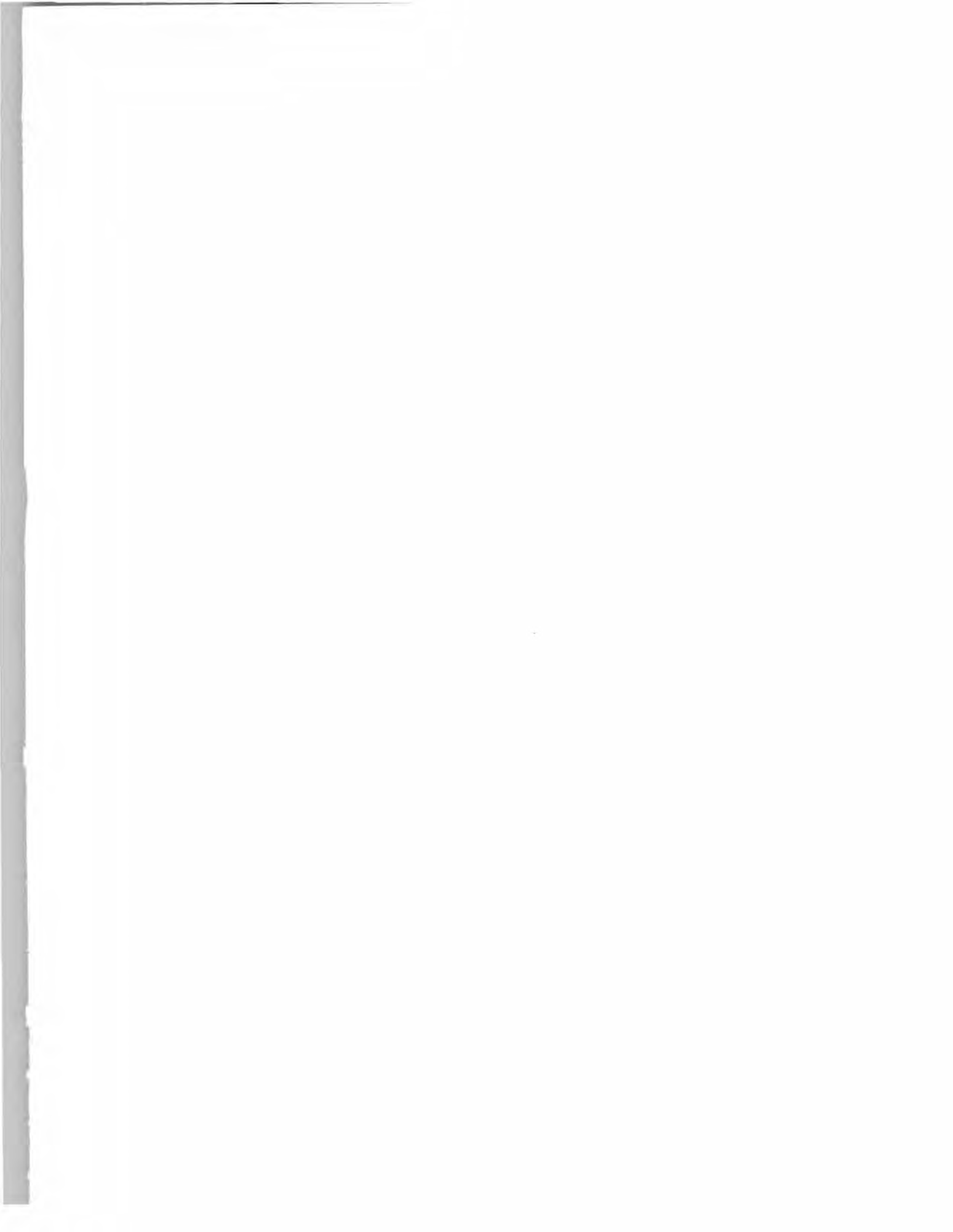
Special Interdisciplinary Degree

The School of Business Administration also cooperates with the departments of economics and political science in the College of Arts and Sciences in offering a master's degree in public policy administration (MPPA). For information on the MPPA degree program, see the Inter-School Studies section of this *Bulletin*.

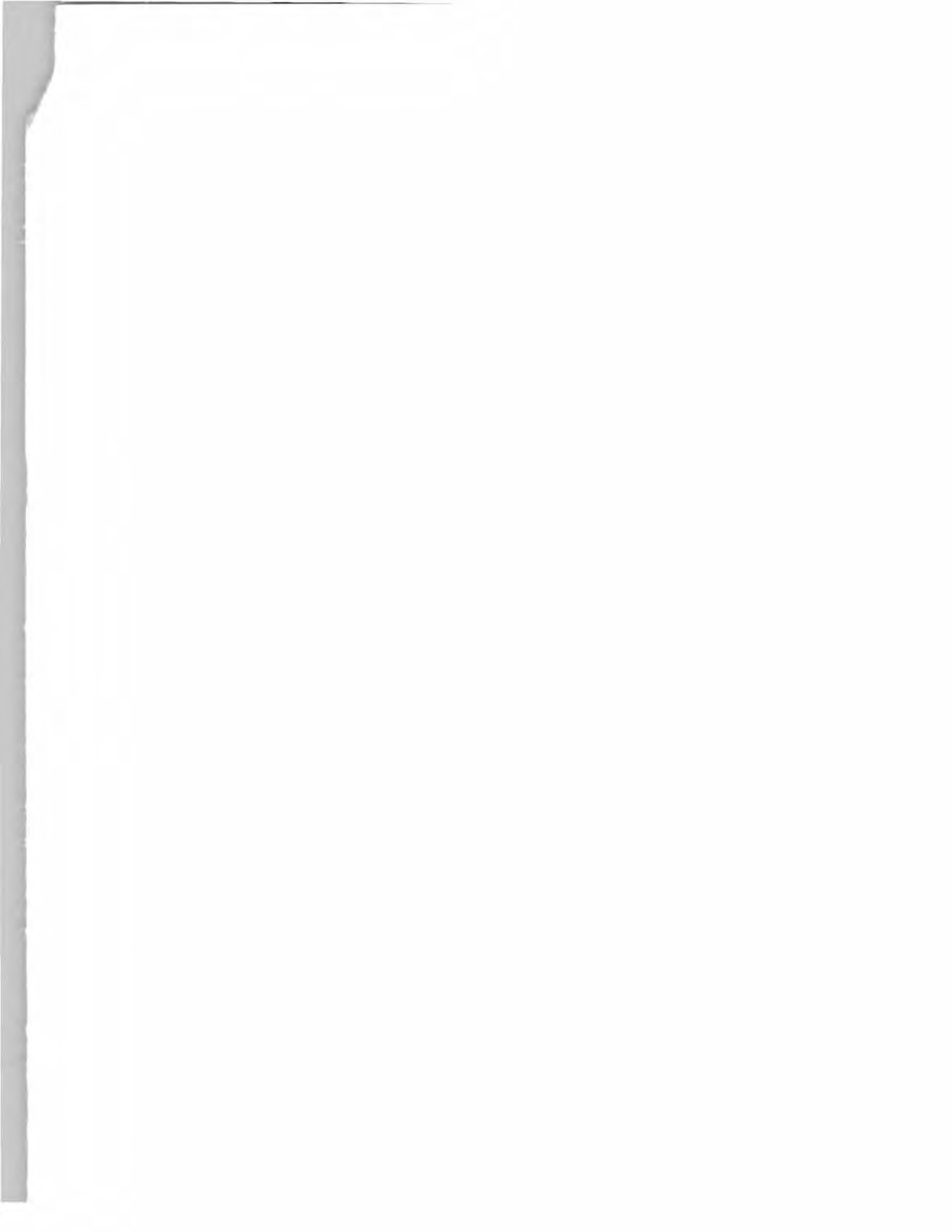
Career Outlook

The current economic climate appears to favor students with business training. Business school graduates with the BSBA degree usually obtain entry-level positions in areas requiring accounting, finance, management, management information systems, marketing, and quantitative backgrounds. Recent graduates of the School of Business Administration hold positions with a variety of local and national firms as accountants, internal auditors, sales representatives, cost, budget, and systems analysts, executive trainees, merchandisers, systems programmers, and purchasing agents.

Many graduates of the University's graduate business programs are employed in staff-level positions in local and national businesses, and opportunities for managerial posts are promising for the graduate with a master's degree in business administration. Additionally, several graduates have chosen to pursue careers in college teaching.



School of Education



Undergraduate Studies in Education

Accreditation

The University of Missouri-St. Louis, through the School of Education, is accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary and secondary school teachers and school service personnel.

Undergraduate Studies

Degrees and Areas of Concentration

The School of Education offers work leading to the B.S. in Education with specialization in any of the following: early childhood education, elementary education, special education, and secondary education. Courses are also available for those seeking certification for middle school/junior high teaching. In cooperation with other schools and colleges of the University, the School provides a program for students pursuing other degrees but planning on a teaching career in secondary education. The School is divided into four departments: Behavioral Studies; Educational Studies; Elementary and Early Childhood Education; and Physical Education. Each offers course work toward one or more of the above areas.

Course Designations in the School of Education

The following abbreviations are used to indicate instructional areas in the course listings and descriptions in the School of Education. The page numbers refer to the *University of Missouri-St. Louis Bulletin: Description of Courses*, a separate booklet.

Adult Education Courses (**ADU ED**), p. 106
 Counselor Education Courses (**CNS ED**), p. 101
 Early Childhood Education Courses (**ECH ED**), p. 113
 Educational Administration Courses (**ED ADM**), p. 107
 Educational Foundations Courses (**ED FND**), p. 108
 Educational Psychology Courses (**ED PSY**), p. 102
 Educational Research and Evaluation Methods (**ED REM**), p. 103
 (formerly designated **ED S&R** and **EVL MS**)
 Educational Technology Courses (**ED TEC**), p. 109
 Elementary Education Courses (**ELE ED**), p. 114
 Physical Education Courses (**PHY ED**), p. 117
 School-wide Education Courses (**EDUC**), p. 99
 Secondary Education Courses (**SEC ED**), p. 110
 Special Education Courses (**SPC ED**), p. 104

General Education Requirements

Students in the School of Education must meet University and departmental general education requirements specified for their degrees.

Admission Policies

Types of Admission Students who wish to become teachers must be aware of two types of admission that pertain to them. One is admission to the School of Education, the other is admission to the Teacher Education Program. These serve completely different purposes and are separate procedures handled by different offices.

Admission to the School of Education After completing two years of college work at an accredited institution, students intending to teach in elementary, early childhood, middle school/junior high, secondary, special education, business education, or physical education settings must apply for admission to the School of Education. Students intending to teach in secondary-school classrooms other than specified above may elect to pursue the B.S. in Education or to receive degrees from other University colleges and schools and also meet teacher certification requirements. Students admitted to the School must also be admitted to the teacher education program.

Application to the School of Education

Application to the School is processed through the Admissions Office. Eligibility is based upon the following criteria:

- 1) Satisfactory completion of two years of college work, with a minimum of 60 semester hours with a grade point average of 2.0 or above.
- 2) Having no more than nine hours of deficiencies in general education.
- 3) Completion of the specific prerequisites and/or other special requirements of the curriculum areas for which students are applying.

Admission to the Teacher Education Program

All students who wish to become teachers must be admitted to the Teacher Education Program regardless of the College or School in which they are enrolled. The admission program requires student action at the following two levels.

Level I Application to the Teacher Education Program

Applications to the Teacher Education Program are processed through the Office of Undergraduate Studies in Education. Eligibility is based upon fulfillment of the following requirements:

Effective September 1, 1988

Students not previously admitted to the Teacher Education Program (acceptance of 60-hour form) must submit qualifying scores on the College Basic Academic Subjects Evaluation (C-BASE) in the areas of English, Writing, Mathematics, Science, and Social Studies as mandated by the Missouri Excellence in Education Act of 1985. Consult the Office of Undergraduate Studies in Education, School 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.

Effective July 1, 1984

- 1) Scored either 18 on the ACT Composite or 800 on the SAT (verbal plus math)*.
- 2) Completed 60 hours of college or university courses (at UM-St. Louis or another accredited school).
- 3) Accumulated a grade point average of 2.2.

Undergraduate Studies in Education

- 4) Completed ELE ED, PHY ED, or SPC ED 101, Introduction to Classroom Teaching, or the equivalent, with a grade of C or better. (Not applicable for secondary education or early childhood education majors).
- 5) Completed ED FND 111, The School in Contemporary Society, or the equivalent, with a grade of C or better.
- 6) Received screening test in hearing (at no cost at the UM-St. Louis Health Center or off campus at personal expense).
- 7) Received screening test in vision (at no cost at UM-St. Louis Optometry Clinic or off campus at personal expense).
- 8) Agreed to adhere to ethical codes which have particular pertinence during clinical experiences. (These codes are available in the Office of Undergraduate Studies in Education, School of Education.)
- 9) Agreed to subscribe to a standard of preprofessional behavior which will enhance greater self-awareness if social or emotional difficulties arise which may affect future teacher effectiveness. (This standard is available in the Office of Undergraduate Studies in Education.)
- 10) Submitted an Affidavit of Moral Character, notarized by a Notary Public.

*Policy for Students Scoring Below ACT and SAT Qualifying Requirements

Students who do not achieve satisfactory scores of 18 on the ACT or 800 on the SAT may re-take the test(s) until the requirement is met. Students who initially score below the required ACT score of 18 or SAT score of 800 may petition the Dean of Education to attest that basic educational competencies are met if their grade point average from 60 hours of college or university courses is at least 2.20 and they have performed satisfactorily on a norm-referenced achievement test other than ACT or SAT. The Form to Record Alternate Basic Education Competencies is available in the Office of Undergraduate Studies in Education, Room 155, Marillac Hall. Students must produce evidence that the ACT or SAT was initially completed and a score recorded.

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 School 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 services:

Center for Academic Development	Women's Center
Counseling Service	Veterans Affairs Office
Discovery Program	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 Undergraduate Studies in Education.

Level II Application to the Student Teaching Program

Students must make formal application to student teaching at least **one full semester** (excluding summer session) prior to the semester in which they plan to do their student teaching. Students must attend a meeting during the first two weeks of

the semester. Dates and time will be posted on the bulletin board in the lobby of Marillac Hall. Applications must be filed during the first four weeks of the semester in the Office of Undergraduate Studies in Education, 155 Marillac Hall.

Health Certificate

A Missouri School Personnel Health certificate signed by a licensed physician and valid for the year in which students do their student teaching must accompany the application forms. Missouri School Personnel Health Certificates are available in the Office of Undergraduate Studies in Education.

Upon receipt, formal applications are checked to ensure students have met the following requirements:

- 1) Full admission to the teacher education program.
- 2) Completion of 90 hours of approved course work at the time of application.
- 3) A cumulative grade point average of 2.5 or above by the semester prior to 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.
- 4) Completion of English 210, Advanced Expository Writing, with a grade of C or better.
- 5) Completion of Speech 40, Introduction to Public Speaking, with a grade of C or better.
- 6) Completion of general education requirements and near completion of course requirements in the teaching major.
- 7) A grade of C or better in all professional education courses so designated. Lists of these courses are available in the Office of Undergraduate Studies in Education and from advisers.
- 8) Satisfactory recommendations by students' teaching area representatives in the teacher education program.
- 9) Completion at UM-St. Louis of no less than 12 hours of approved course work.
- 10) Grade point average of 2.2 in the teaching field (secondary education students only).
- 11) Completion of prerequisite courses in professional education and psychology.

Student Teaching

The student teaching experience in the Early Childhood, Elementary Education, Middle School/Junior High, Physical Education, and Special Education certification programs has been strengthened by providing assignments in two different school settings and appropriately increasing the amount of time devoted to it. Students in the "7-1-7" program teach full days for seven weeks. They are off for one week and then teach seven weeks in a different district and at a different grade level.

Student teaching, which must be done in residence is not offered during the summer or in the evening. Secondary student teaching in science education, mathematics education, and foreign language education is offered **only** during the Winter semester. Secondary education majors (excluding business education) student teach for 16 weeks for half days. Business education student teachers teach for eight weeks, full days.

Undergraduate Studies in Education

While enrolled in student teaching, students may not carry more than 15 credit hours. When students are admitted to student teaching, the Office of Undergraduate Studies in Education arranges assignments with appropriate school district officials. **Students should not contact school officials or teachers about possible student teaching assignments.** Failure to observe this request is grounds for removal from student teaching.

Upon special request student teachers may be placed in outlying areas provided there are three to five students located in approximately the same geographic area. Individual requests cannot be honored.

Students who withdraw from student teaching at any time after being admitted for a given semester must formally re-apply during the designated application period for the subsequent semester in which they plan to do their student teaching. This must be done in person in the Office of Undergraduate Studies in Education. Students who withdraw in this way three times must wait a minimum of one calendar year after the third such withdrawal before they may re-apply for student teaching. At the time of re-application they must present evidence that the circumstances which prevented them from continuing in student teaching during their last admission no longer pertain. In all instances of re-application, students must meet the requirements in effect for the semester during which they plan to do their student teaching.

Student teachers who fail the course or are allowed to withdraw because they are failing to meet minimum requirements must wait at least one full semester and fulfill the remedial requirements established at the time of the failure or withdrawal before they may re-apply for admission to student teaching. The remedial requirements will be determined by the Office of Undergraduate Studies in Education after consultation with the cooperating teachers, University supervisors, and student teachers involved. The students must provide appropriate evidence that the remedial requirements have been met at the time they re-apply for admission to student teaching. It is understood that meeting the remedial requirements does not guarantee success in the subsequent student teaching experience.

For further information regarding certification, contact the Office of Undergraduate Studies in Education, 155 Marillac Hall.

Application for Degree and/or Certificate

Bachelor of Science in Education Candidates for the B.S. Ed. degree must complete degree and certificate application forms in the Office of Undergraduate Studies in Education when they apply for admission to student teaching or during the semester before the one in which they expect to finish degree requirements.

Bachelor of Arts Students seeking the B.A. degree with teacher certification must complete a state certification form with the Office of Undergraduate Studies in Education during the last month of the semester in which their requirements will be completed.

Certification

In cooperation with the Missouri State Department of Elementary and Secondary Education, the School of Education is responsible for issuing teaching certificates to 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, advising, and recommending for certification those postdegree students who meet requirements.

By completion of specified undergraduate courses at the University of Missouri-St. Louis, certification may be obtained in the following fields: elementary education, early childhood education, middle school/junior high, music education, physical education, special education: behavioral disorders (BD), educable mentally handicapped (EMH), learning disabilities (LD), as well as the secondary education areas of biology, business, chemistry, English, foreign languages (French, German, Spanish), mathematics, physics, and social studies. Graduate programs leading to certification in counseling, reading, psychological examiner, school administration (elementary and secondary principal, school superintendent), and special education: behavioral disorders (BD), learning disabilities (LD), educable mentally handicapped (EMH), and early childhood special education (ECSE) are also available; see Graduate Studies sections for each department of the School of Education.

State Certification Requirements

NOTE The General Assembly enacted a law during 1984 eliminating Life Teaching Certificates after September 1, 1988. The State Board of Education is authorized to develop new standards for one or more renewable professional certificates, based on specific requirements for training and experience.

Students who intend to become certified to teach in Missouri need to be aware that the Department of Elementary and Secondary Education has revised and passed new state certification requirements in all teaching fields. The effective dates for these new requirements are as follows: Elementary Education—September 1, 1982; Secondary Education—September 1, 1984; Special Education—September 1, 1986. In order to ensure that all new requirements will be met, students should consult advisers in the Office of Undergraduate Studies in Education to determine how these changes will effect their programs.

Graduate Studies in Education

Graduate Studies

Degrees and Areas of Emphasis

M.Ed. programs are offered in counseling, educational administration, elementary education, secondary education, and special education. Within the counseling program are the emphasis areas of elementary, secondary, and general counseling. Within the Educational Administration program are the emphasis areas of community education, elementary administration, and secondary administration. Within the Elementary Education program is the emphasis area of reading. Within the Secondary Education program are the emphasis areas of adult education, 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 early childhood education, educational technology, physical education, and severe handicaps.

Advanced certification studies (60-hour concentrations) are offered in elementary and secondary educational administration.

Programs leading to the Ed.D. degree are offered in two broad interdisciplinary emphasis areas: learning-instructional processes and behavioral-developmental processes.

Master of Education Degree

Admission and General Requirements The School of Education follows Graduate School policies relating to admissions, academic standards, residency, transfer credit, time limitations, and thesis options (see Graduate Studies in this *Bulletin*). The minimum number of hours required for the M.Ed. degree is 32 except for the general counseling emphasis which requires 48 hours, effective fall semester, 1988. The school has adopted a flexible policy on exit requirements which are determined departmentally.

Advisement and Program Planning After acceptance, each student completes a graduate advisory form, available in the School of Education's Office of Graduate Studies, 158A Marillac Hall. An 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 Undergraduate Studies in Education, 155 Marillac Hall, during the semester in which those requirements will be completed.

Doctor of Education Degree

The Ed.D. degree is designed primarily for the field practitioner, and is, therefore, a comparatively broad-based interdisciplinary degree. The two emphasis areas, learning-instructional processes and behavioral-developmental processes, embrace two general categories of professional activities.

Learning-instructional processes place primary emphasis on the teaching-learning relationship as well as on general planning and development of organizational programs to carry on this relationship successfully. Traditional programs that tend to fall under this heading are school administration, elementary and secondary teaching, supervision/curriculum, and reading instruction.

Behavioral-developmental processes place primary emphasis on the nature of individuals. Doctoral studies focus on such elements as learners' behavioral and developmental characteristics, typical and atypical development within varied environments, motivation, strategies of behavioral change, and counseling processes. Traditional programs that tend to fall under this heading are counseling, special education, educational psychology, and measurement.

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. 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 School of Education's Office of Graduate Studies by June 15 for the fall semester; November 15 for the winter semester; and April 15 for the summer session. These documents should be filed in the Office of Admissions at least two weeks prior to these dates. In addition, applicants are urged to request transcripts and letters of recommendation two weeks before submitting their papers. Consideration of applications cannot be undertaken until all materials are available.

Graduate Studies in Education

Degree Requirements

1) Core Studies

General Foundations, 12 hours from:

Philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction, and supervision.

Research Methods, 12 hours from:

Statistics
Research design
Computer applications
Nonquantitative research
Tests, measurements, and evaluation

Common doctoral seminars, 6 hours

2) Role Specialization, 48 hours from:

Emphasis area doctoral seminars (6-12)
Emphasis area electives (15-17)
Related area (12-18)
Internship (3-9)

3) Dissertation, 12 hours

Support Services

The School 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 Undergraduate Studies in Education – 155 MH

This office supplies advisement services for undergraduate teacher education and certification students. It coordinates the clinical experiences of the School of Education and directs the student teaching program.

Office of Graduate Studies in Education – 158A MH

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, and related topics, and maintains student records.

Teacher Education Resource Center – 304 SSB

The Center has four components: the instructional media laboratory, the instructional television laboratory, the teaching skills laboratory, and the computer terminal facility. The Center, through these components, provides direct instructional support to School of Education courses.

Human Services Unit – B23A ED LIB

The Human Services Unit is a training facility for graduate students supervised by faculty in the Department of Behavioral Studies. 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 pre-service and in-service 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.

Midwest Community Education

Development Center – 313 Marillac Hall.

Graduate students interested in community and continuing education may receive assistance from the Center in the form of information, materials, and training programs. The Center serves Missouri in the promotion and development of community schools and continuing education. It is a cooperative venture of the School of Education and Continuing Education-Extension.

Behavioral Studies

Faculty

- Arthur E. Smith**, Professor*; Chairperson
Ph.D., St. Louis University
- William L. Franzen**, Professor*; Dean Emeritus
Ph.D., University of Wisconsin
- Rickey L. George**, Professor*
Ph.D., Northwestern University
- Patricia A. Jakubowski**, Professor*
Ed.D., University of Illinois
- Thomas E. Jordan**, Professor*; Interim Executive Director,
Parents as Teachers National Center
Ed.D., Indiana University
- George E. Mowrer**, Professor Emeritus
Ed.D., University of Missouri-Columbia
- Donald W. Robinson**, Professor*; Dean
Ph.D., Bradley University
- W. Ray Rhine**, Professor*
Ph.D., University of Texas
- Harold W. Richey**, Professor*
Ph.D., University of Kansas City
- Walter J. Cegelka**, Associate Professor*
Ed.D., Syracuse University
- Margaret W. Cohen**, Associate Professor*
Ph.D., Washington University
- R. Rocco Cottone**, Associate Professor*
Ph.D., St. Louis University
- Theresa A. Cristiani**, Associate Professor*
Ed.D., Indiana University
- Lowe S. (Sandy) MacLean**, Adjunct Associate Professor*;
Vice Chancellor for Student Affairs
Ed.D., Indiana University-Bloomington
- Steven D. Spaner**, Associate Professor*
Ph.D., Southern Illinois University-Carbondale
- Gaylen R. Wallace**, Associate Professor*
Ed.D., Oklahoma State University
- W. Glenn White**, Associate Professor*
Ph.D., University of Missouri-Columbia
- George J. Yard**, Associate Professor*
Ph.D., St. Louis University
- Peggy S. Filer**, Assistant Professor*
Ed.D., Oklahoma State University
- Gary D. House**, Assistant Professor*
Ed.D., University of Missouri-St. Louis
- Toni Shinn-Strieker**, Assistant Professor*
Ph.D., Southern Illinois University-Carbondale

*members of Graduate Faculty

General Information

The Department of Behavioral Studies is housed on the fourth floor of Marillac Hall. Information about offerings and related matters may be obtained in the departmental office, 469 Marillac Hall.

At the undergraduate level the department coordinates work in educational psychology, counseling, special education, and related areas. Offerings leading to the B.S. in Education degree are available in special education.

The Special Education program prepares students to teach educable mentally retarded, severely handicapped, emotionally disturbed, or learning disabled children. Students also receive certification as regular elementary school teachers

upon completion of the curriculum. New Missouri certification standards require a student teaching experience in each area of special education. It is possible for students to become certificated as secondary school teachers with appropriate advising.

Note The General Assembly enacted a law during 1984 eliminating Life Teaching Certificates after September 1, 1988. The State Board of Education is authorized to develop new standards for one or more renewable professional certificates, based on specific requirements for training and experience. Details regarding these newly developing standards are available in the Office of Undergraduate Studies in Education.

At the graduate level the Department of Behavioral Studies offers work leading to the M.Ed. and requisite course work for state certification in Elementary and Secondary Guidance and Counseling, Special Education, and as School Psychological Examiner. Non-certification degree work is available in General Counseling.

Areas of emphasis in the Counseling degree program are Elementary School, Secondary School, or General Counseling. Areas of emphasis in the Special Education program are Behavioral Disorders, Learning Disabilities, Educable Mentally Handicapped, and Early Childhood-Special Education. Courses concentrating in the area of the Severely Handicapped are also offered.

Students wishing to receive Missouri certification in Elementary School Counseling or Secondary School Counseling must complete all required courses in addition to holding teaching certificates valid in Missouri. The General Counseling area, for which there are no certification requirements, is only appropriate for the practice of counseling in non-school settings.

All degree students should consult with their advisers about the requirement of a scholarly paper.

Undergraduate Studies

Bachelor of Science in Education: Special Education

General Education Requirements (46 hours required):

English and Communication (6 hours)

English 10, Composition
Communication, 3 hours

Note: Students who enter UM-St. Louis with 89 or fewer hours which are applicable to a degree at UM-St. Louis must satisfactorily complete English 210, Advanced Expository Writing, or its equivalent. See University General Education Requirements.

Mathematics (6 hours)

Math 50, Structure of Mathematical Systems I

No credit toward graduation is granted for **Math 15**, Mathematics: Ideas and Structures, unless **Math 50** is completed.

Behavioral Studies

Science (8 hours)

Biology (3)

Physical Science (3)

Science Lab (2)

Humanities (8 hours)

Music 177, An Introduction to Music for the Elementary School Teacher

plus two courses from art, music, philosophy, or literature

Social Science (18 hours)

Geography 101, Introduction to Geography

History 3, American Civilization or

History 4, American Civilization

Political Science 11, Introduction to American Politics

Psychology 3, General Psychology

Psychology 270, Child Psychology

Economics 306, Microeconomics for the School Curriculum or

Economics 40, Introduction to the American Economy

Related Area Requirements (12 hours)

PHY ED 130, Elements of Health Education

PHY ED 261, Physical Activity of the Exceptional Learner

Program Requirements (24 hours)

SPC ED 101, Introduction to Classroom Teaching

ED FND 111, The School in Contemporary Society

ED PSY 312, Psychology of Teaching and Learning

and these **Elementary Education (ELE ED)** courses:

230, Children's Literature and Reading

246, Teaching Mathematics in the Elementary School

336, Teaching Language Arts and Reading, N-9

342, Teaching Remedial Mathematics

385, Teaching Reading in the Elementary School

Postdegree certification students may take ED FND 330, History of American Education in lieu of ED FND 111.

Special Education Requirements (33 hours)

The following courses are required:

SPC ED 290 Student Teaching in Special Education I

SPC ED 291 Student Teaching in Special Education II

Note: SPC ED 290 and SPC ED 291 must be taken during the same semester.

EVL MS 310, Interpretation of Educational Tests and Measurements

SPC ED 313, The Psychology and Education of Exceptional Individuals

SPC ED 315, Speech and Language Problems of Exceptional Children

SPC ED 320, Behavior Management

CNS ED 331, Counseling the Handicapped

ELE ED 389, The Analysis and Correction of Reading Problems in the Classroom

and at least two of the following **Special Education (SPC ED)** courses. (It is important that an adviser be consulted.)

330, Introduction to Mental Retardation and Severe Handicaps

332, Education of the Mentally Retarded

345, Introduction to Emotional Disturbance and Learning Disabilities

347, Teaching in the Learning Disabilities Classroom

350, Instructional Techniques for the Emotionally Disturbed Student

371, Methods and Curricula for the Severely Handicapped

372, Screening and Diagnosis of the Developmentally Delayed

Electives may be taken from among the following (strongly recommended): **9 hours**

SPC ED 322, Teaching Mainstreamed Students

ELE ED 241, Teaching of Science in the Elementary School

ELE ED 253, Teaching of Social Studies in the Elementary School

Total: 120 hours

Graduate Studies

Master of Education: Emphasis in Elementary School Counseling

The courses listed below meet both M.Ed. degree and certification requirements for those who have **completed** their work prior to September, 1988. Those who did not receive certification by that date should consult their adviser now for the new requirements. At this time the degree may be completed without obtaining certification providing:

CNS ED 327, Personal and Professional Development in Counseling

ED PSY 411, Psychology of Learning Processes

CNS ED 411, Theories of Counseling

CNS ED 420, Group Procedures in Counseling

CNS ED 493, Guidance Practicum I

CNS ED 494, Guidance Practicum II

are included in the program. Students should check with their advisers about teaching and non-educational work experience requirements for certification as well as course prerequisites and sequencing.

Area of Specialization

In addition to the above, the following **Counselor Education (CNS ED)** courses are required for certification in elementary school counseling:

327 Personal and Professional Development in Counseling

411, Theories of Counseling

414, Individual Inventory

420, Group Procedures in Counseling

431, Foundations of School Guidance

493, Guidance Practicum I

494, Guidance Practicum II

Also required:

ELE ED 389, The Analysis and Correction of Reading Problems in the Classroom or **ELE ED 486**, Clinical Diagnosis and Treatment of Reading Disabilities

Psychological Foundations and Human Development

ED PSY 411, Psychology of Learning Processes

ED PSY 413, Personality Development and Adjustment

ED PSY 417, Psychology of the Elementary School Child

***SPC ED 412**, Psychology of Exceptional Children or **SPC ED 313**, The Psychology and Education of Exceptional Individuals

*SPC ED 313 or SPC ED 412 is required for certification if it has not been taken previously at the undergraduate or graduate level. It is not a degree requirement.

Behavioral Studies

Evaluation and Measurement

- 422, Individual Intelligence Testing
- 432, Educational and Psychological Measurement

Master of Education: Emphasis in General Counseling

The General Counseling emphasis area allows flexibility for developing counseling programs appropriate to particular non-school settings. Students must have their adviser's approval before taking other than required courses.

Students should consult advisers about the requirements for licensure as a professional counselor.

Core Curriculum

The following courses in **Counselor Education (CNS ED)** are required:

- 327, Personal and Professional Development in Counseling
- 411, Theories of Counseling
- 414, Individual Inventory
- 420, Group Procedures in Counseling
- 443, Career Development
- 490, Internship
- 493, Guidance Practicum I
- 494, Guidance Practicum II

Psychological Foundations and Human Development

At least one course from the following **Educational Psychology (ED PSY)** courses:

- 411, The Psychology of Learning Processes
- 413, Personality Development and Adjustment
- 417, Psychology of the Elementary School Child
- 418, The Psychology of Adolescence

Evaluation and Measurement

The following courses are required:

- ED S&R 427, Educational Statistics
- EVL MS 432, Educational and Psychological Measurement

Area of Specialization (15 hours)

Course work in the area of specialization is to be selected in consultation with advisers.

Master of Education: Emphasis in Secondary School Counseling

The courses listed below meet both M.Ed. degree and certification requirements for those who have **completed** their work prior to September, 1988. Those who did not receive certification by that date should consult their adviser now for the new requirements. At this time the degree may be completed without obtaining certification providing:

- CNS ED 327, Personal and Professional Development in Counseling
- ED PSY 411, Psychology of Learning Processes
- CNS ED 411, Theories of Counseling
- CNS ED 420, Group Procedures in Counseling

- CNS ED 493, Guidance Practicum I
- CNS ED 494, Guidance Practicum II

are included in the program. Students should check with their advisers about teaching and non-educational work experience requirements for certification as well as course prerequisites and sequencing.

Area of Specialization

The following **Counselor Education (CNS ED)** courses are required for certification in secondary school counseling:

- 327, Personal and Professional Development in Counseling
- 411, Theories of Counseling
- 414, Individual Inventory
- 420, Group Procedures in Counseling
- 431, Foundations of School Guidance
- 442, Career Information/or 443, Career Development
- 493, Guidance Practicum I
- 494, Guidance Practicum II

Psychological Foundations and Human Development

At least **one** of the following:

- ED PSY 411, Psychology of Learning Processes
- ED PSY 413, Personality Development and Adjustment

*SPC ED 313 or SPC ED 412 is required for certification if it has not been taken previously at the undergraduate or graduate level. It is not a degree requirement.

Evaluation and Measurement

- EVL MS 422, Individual Intelligence Testing
- EVL MS 432, Educational and Psychological Measurement

Master of Education: Program in Special Education

Graduate students should understand that completion of the M.Ed. program in Special Education does not assure teaching certification. Students seeking the degree and certification should consult with their advisers.

Following is the recommended curriculum for students enrolled in the Learning Disabilities, Mental Retardation, Behavioral Disorders, or Early Childhood-Special Education options.

Area of Specialization Students are required to complete 9-18 hours from the following areas:

Knowledge Base (3-6 hours)

- ELE ED 497, Problems
- SPC ED 431, Problems in Mental Retardation
- SPC ED 443, Learning Disabilities
- SPC ED 450, Introduction to Behavioral Disorders
- SPC ED 462, Introduction to Early Childhood-Special Education

Behavioral Studies

Curriculum (3-6 hours)

- SEC ED 415**, The Secondary School Curriculum
- SEC ED 416**, Curriculum Construction for Secondary Schools
- ELE ED 410**, Current Research in the Elementary School Curriculum
- SPC ED 413**, Organizational Foundations for Special Education
- SPC ED 421**, Prescriptive Teaching of Exceptional Children
- SPC ED 430**, Education of the Mentally Retarded
- SPC ED 444**, Education of Children with Learning Disabilities
- SPC ED 452**, Education of Behaviorally Disordered Children

Practicum (3-6 hours)

At least three hours must be taken in SPC ED 492, Practicum in Special Education.

Psychological Foundations and Human Development (3-6 hours)

- ED PSY 411**, Psychology of Learning Processes
- ED PSY 417**, Psychology of the Elementary School Child
- ED PSY 418**, The Psychology of Adolescence
- SPC ED 412**, Psychology of Exceptional Children
- SPC ED 416**, Current Research in Psychology of Exceptional Children

Evaluation and Measurement (3-6 hours)

- ED S&R 427**, Educational Statistics
- EVL MS 422**, Individual Intelligence Testing
- EVL MS 431**, Classroom Measurement and Evaluation II
- EVL MS 432**, Educational and Psychological Measurement

Electives may be chosen from the courses listed here and from other courses with approval of the adviser and department chairperson.

Career Outlook

Elementary and Secondary School Counselors

Future growth in the employment of school counselors may depend on the amount of funds that the federal government provides to the states. The most recent survey in Missouri shows that the supply and demand for counselors is about average for educational personnel. Many teachers who do not intend to leave the classroom pursue this program in order 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 General Counseling. With little additional work the school counselor may qualify for certification as a school psychological examiner.

General 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, business and industry positions, especially in training and personnel areas. Others have moved into roles calling for research and evaluation skills.

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.

Special Education

The employment outlook for special education teachers continues to be favorable, especially in certain positions. In addition to special classroom teaching, graduates of the area have been employed as resource-room teachers, clinical-diagnostic personnel, itinerant teachers, educational-resource teachers, consultants, educational therapists, sheltered-workshop evaluators and in various supervisory and administrative positions in agencies and schools.

In combination with counseling, educational psychology, physical education, or other areas, careers can be planned in such occupations as vocational evaluator, counselor for special-needs individuals, and special physical educators.

Educational Studies

Faculty

John A. Henschke, Chairperson, Associate Professor*, Continuing Education Specialist, University Extension-East Central Region
Ed.D., Boston University

Walter Ehrlich, Professor*
Ph.D., Washington University

Charles Granger, Professor*
Ph.D., University of Iowa

Blanche Touhill, Professor*, Vice Chancellor for Academic Affairs
Ph.D., St. Louis University

Paul D. Travers, Professor*
Ed.D., George Peabody College

Harold E. Turner, Professor Emeritus*
Ed.D., George Peabody College

Henry R. Weinstock, Professor*
Ed.D., University of Georgia

Joy E. Whitener, Professor*, Dean Emeritus
Ed.D., Washington University

Fred Willman, Professor*
Ph.D., University of North Dakota

Charles J. Fazzaro, Associate Professor*
Ed.D., West Virginia University

Richard J. Friedlander, Associate Professor*
Ph.D., University of California-Los Angeles

Donald R. Greer, Associate Professor*, Director of Instructional Technology Center
Ph.D., University of Missouri-Columbia

Everette E. Nance, Associate Professor*, Director, Midwest Community Education Development Center
Ed.D., Western Michigan University

Angelo H. Puricelli, Associate Professor*, Associate Dean for Continuing Education-Extension
Ph.D., St. Louis University

James E. Walter, Associate Professor*
Ph.D., University of Wisconsin-Madison

Edith M. Young, Associate Professor*
Ed.D., University of Missouri-Columbia

Jane Z. Flinn, Assistant Professor*
Ed.D., University of Missouri-St. Louis

Jane A. Miller, Assistant Professor*
Ph.D., Tulane University

Carole P. Mitchener, Assistant Professor*
Ph.D., University of Denver

Dennis K. Smeltzer, Assistant Professor*
Ed.D., Northern Illinois University

Wendell L. Smith, Assistant Professor*, Associate Vice Chancellor for Academic Affairs, Dean of Continuing Education-Extension
Ph.D., Ohio State University

Gregory Fox, Assistant Professor
Ph.D., University of Illinois-Champaign/Urbana

Mimi J. LaMarca, Lecturer; Director of Admission
M.Ed., University of Missouri-St. Louis

*members of Graduate Faculty

General Information

The faculty of the Department of Educational Studies are housed on the second floor of Marillac Hall. Answers to questions about the department and its offerings may be obtained from the department office, 269 Marillac Hall.

The department coordinates programs that prepare students for teaching these subjects in secondary schools (grades 7-12) and middle schools: biology, chemistry, English, French, German, history, mathematics, music, physics, psychology, social studies, speech, and Spanish. A special feature of these programs is the close interdisciplinary cooperation between the professional school and other University departments. The business education major is offered within the School of Education.

Students may choose to pursue the bachelor's degree in the College of Arts and Sciences plus certification, or the Bachelor of Science in Education degree (BSEd) which includes Missouri certification. Business education students have only the latter option.

NOTE The General Assembly enacted a law during 1984 eliminating Life Teaching Certificates after September 1, 1988. The State Board of Education is authorized to develop new standards for one or more renewable professional certificates, based on specific requirements for training and experience. Details regarding these newly developing standards are available in the Office of Undergraduate Studies in Education.

At the graduate level the department provides a program leading to the M.Ed. in secondary education, secondary education with emphasis in adult education, certification studies with Adult Basic Education, secondary education with emphasis in reading, and secondary education and certification. It offers master's degree work and advanced certification studies in elementary and secondary school administration.

Community education is an additional emphasis offered in the educational administration program. Work in educational technology and adult education is also available.

Undergraduate Studies

Degree Requirements

Interdisciplinary Program: Bachelor of Science in Education in Secondary Education or Bachelor's Degree in the College of Arts and Sciences

General Education Requirements Bachelor's degree candidates in secondary education must complete the University General Education Requirements and must meet the new Missouri secondary teacher certification general education standards as follows:

Humanities

Three courses required from the following fields: music (excluding applied music), art, foreign language, Western and non-Western cultures, philosophy, literature, classical studies, and theatre and drama.

Educational Studies

Communication Skills

At least **two** courses in English composition and **one** in oral communications.

Social Studies

Courses in American history and American government, and **one** additional course selected from the following areas: geography, sociology, economics, anthropology, psychology.

Natural Science

One course in a physical or earth science; **one** course in a biological science. At least one of these courses must have a laboratory component.

Mathematics

One college-level mathematics course.

Note All of the courses above must be a minimum of two semester hours.

Program Requirements

28 hours required

The following education and psychology courses meet the state professional education standards:

- ED FND 111**, The School in Contemporary Society
- Psychology 271**, Adolescent Psychology
- ED PSY 312**, Psychology of Teaching and Learning
- SEC ED 213**, Techniques of Secondary School Teaching and Field Experience
- SEC ED 290**, Secondary School Student Teaching
- SPC ED 313**, The Psychology and Education of Exceptional Individuals
- SEC ED 385**, Problems of Teaching Reading in Secondary Schools

and the appropriate course entitled Curriculum and Methods of Teaching _____.

Note Music education students take the following courses instead of SEC ED 290: SEC ED 293, Student Teaching in Music Education K-6, and SEC ED 294, Student Teaching in Music Education 7-12. These two courses must be taken during the same semester.

Area of Concentration: Teaching Fields

Degree candidates must complete 30 to 40 hours of specific subject requirements in one of the following fields: English, foreign language (French, German, Spanish), mathematics, music, science (biology, chemistry, physics), or social studies education.

Social studies students must complete a major in one of the following disciplines: anthropology, economics, geography, history, political science, psychology, or sociology; and meet these minimum social science requirements: American history, 12 hours; European or world history, 9 hours; United

States and/or state government, 6 hours; economics, 3 hours; behavioral science (sociology, anthropology, or psychology), 6 hours; geography, 3 hours; and 2 hours of elective social studies credit.

Total: 120 hours

Bachelor of Science in Education: Secondary Education with Emphasis in Business Education

General Education Requirements Business education majors must complete the University General Education Requirements, Missouri certification requirements, and the following education and psychology courses:

Program Requirements

28 hours required

- ED FND 111**, The School in Contemporary Society
- Psychology 271**, Adolescent Psychology
- ED PSY 312**, Psychology of Teaching and Learning
- SEC ED 213**, Techniques of Secondary School Teaching and Field Experience
- SEC ED 267**, Curriculum and Methods of Teaching Business Subjects
- SEC ED 290**, Secondary School Student Teaching
- SPC ED 313**, The Psychology of Education of Exceptional Individuals
- SEC ED 385**, Problems of Teaching Reading in Secondary Schools

Academic Major

33 hours required

These **Secondary Education (SEC ED)** courses:

- 261**, Methods of Teaching Typewriting
- 262**, Methods of Teaching Shorthand
- 263**, Methods of Teaching Accounting and Data Processing
- 264**, Methods of Teaching Social Business Subjects
- 265**, Secretarial Practice
- 292**, Field Experience and Seminar in Secretarial Practice

plus these **Business Administration** courses

- 206**, Basic Marketing
- 140**, Fundamentals of Financial Accounting
- 156**, Legal Environment of Business or **256**, Business Law
- 340**, Intermediate Accounting

and

- Economics 51**, Principles of Microeconomics

Note Grades of C or better are required in all courses in the academic major in SEC ED 267 and SEC ED 290.

Electives

Electives are to be selected only after consulting with an adviser.

Total: 120 hours

Educational Studies

Graduate Studies

Master of Education: Secondary Education

The M.Ed. program in secondary education is flexibly designed to allow for the special interests of teachers, department chairpersons, curriculum workers, instructional supervisors, reading specialists, and those working in adult education. Programs must be planned with advisers and meet the approval of the department, School, and Graduate School.

Degree Requirements for All Secondary Education Majors

The minimum 32-hour program for all secondary education majors includes the following requirements:

Core Requirements (9 hours)

SEC ED 415, The Secondary School Curriculum
SEC ED 420, The Improvement of Secondary School Teaching
ED FND 421, Philosophy of Education

Exit Requirement (3 hours)

One of the following courses must be taken as part of the last nine hours in the M.Ed. program in secondary education:

ED FND 422, Analysis of Education Issues
SEC ED 416, Curriculum Construction for Secondary Schools

In addition to the above courses, the following is a third exit course option, limited solely to those in the Adult Education Emphasis or Business Education teaching field:

ADU ED 490, Internship (in Adult Education)

Any of the above courses, when **not** used to meet the exit requirement, may be included as an elective in the program.

Master of Education: Secondary Education with Emphasis in Curriculum and Instruction

The M.Ed. with an emphasis in curriculum and instruction is designed to enable candidates to further their competencies as teachers or curriculum/instructional leaders.

Degree Requirements (32 hours)

1) Core Requirements (9 hours as specified above)

2) Curriculum/Instruction Core (8 hours)

Courses are to be selected in consultation with an adviser in the curriculum/instruction field from among the following:

EDUC 415, Seminar II, Curricular Issues and Problems
SEC ED 385, Problems of Teaching Reading in Secondary Schools
SEC ED 414, Teaching the Gifted and Talented in Secondary Schools
SEC ED 416, Curriculum Construction for Secondary Schools
SEC ED 418, The Junior High/Middle School
SEC ED 422, Individualizing Instruction in Secondary Schools
PHY ED 462, The Physical Education Curriculum

3) Teaching Field Core (8 hours)

Courses approved by the Graduate School for M.Ed. programs are to be selected in consultation with an adviser in secondary education.

4) Electives

Additional courses may be taken in the School of Education and/or curriculum and instruction areas to provide a consistent program upon the recommendation of the adviser.

Master of Education: Secondary Education with Emphasis in Adult Education

The M.Ed. with an emphasis in adult education is designed to enable candidates to further their competencies as teachers, administrators, and program planners in various adult education settings through the study of core courses in adult education plus a minimum of eight hours of elective work appropriate to the candidates's particular needs. Adult Basic Education practitioners can complete course requirements for the Life Teaching Certificate within the scope of or independent from the master's degree program.

Degree Requirements (32 hours)

1) Core Requirements (9 hours as specified above)

2) Adult Education Core (8 hours)

Courses are to be selected in consultation with an adviser in the adult education teaching field from among the following courses:

***ADU ED 412**, Foundations of Adult Education
***ADU ED 413**, Improvement of Instruction in Adult Education
***ADU ED 414**, Curriculum Theory and Development in Adult Education
***ED ADM 480**, Administration of Adult and Community Education
ADU ED 490, Internship or **ADU ED 497**, Problems in Adult Education

3) Electives

Additional courses may be taken in the School of Education and/or teaching field to provide a consistent program upon the recommendation of the adviser.

Adult Basic Education Certification

***ADU ED 311**, Teaching Basic Reading Skills to Adults
***ELE ED 445**, Problems of Teaching Arithmetic in the Elementary School or **ELE ED 346**, Advanced Methods in Elementary School Mathematics

*These six courses, plus three hours of Adult Education electives, in addition to either SPC ED 313, The Psychology and Education of Exceptional Individuals or SPC ED 412, Psychology of Exceptional Children, are required for life certification from the Missouri State Department of Education.

Educational Studies

Adult Basic Education (ABE) Certification The state of Missouri has established ABE teacher certification standards at three levels—life, five-year, and one-year. The requirements for these levels, including approved UM-St. Louis courses, are the following:

- 1) Life Teacher's Certification ABE
 - a) Bachelor's degree accredited for teaching plus regular Missouri life teacher's certificate.
 - b) Completion of the eight courses indicated above.
- 2) Five-Year Teacher's Certification ABE
 - a) Bachelor's degree accredited for teaching plus regular Missouri life teacher's certificate.
 - b) Minimum of eight hours of credit from the group of adult education courses asterisked above (renewable upon completion of an additional eight hours from the same group).
 - c) Recommendation by local superintendent or ABE director to Missouri Director of Teacher Certification.
- 3) One-Year Teacher's Certification ABE
 - a) Bachelor's degree accredited for teaching.
 - b) Minimum of one hour of college credit from an ABE teacher training workshop.
 - c) Recommendation by local superintendent or ABE director to Missouri Director of Teacher Certification.

Master of Education: Secondary Education with Emphasis in Reading

The M.Ed. with an emphasis in secondary reading is designed to enable candidates to further their competencies as teachers of reading and to prepare for positions as reading specialists, reading consultants, and/or further graduate study.

Degree requirements (32 hours)

1) **Core Requirements** (9 hours as specified above)

2) Reading Core

Required courses in reading should be taken in the following sequence:

- SEC ED 385, Problems of Teaching Reading in Secondary Schools
- ELE ED 486, Clinical Diagnosis and Treatment of Reading Disabilities
- EVL MS 422, Individual Intelligence Testing
- ELE ED 493, Clinical Methods in Child Study I
- ELE ED 494, Clinical Methods in Child Study II
- ELE ED 482, Problems and Research in Teaching Elementary School Reading

To complete Missouri reading certification for grades K-12, the following must be taken or have been completed at undergraduate level. Students should see an adviser.

- SPC ED 315, Speech and Language Problems of Exceptional Children or ECH ED 331, Language Acquisition and Development in Early Childhood
- SPC ED 320, Behavior Management
- CNS ED 411, Counseling Methods
- ED PSY 417, Psychology of the Elementary School Child
- ED PSY 418, The Psychology of Adolescence

3) The same exit requirement exists as outlined above for all students in the Master of Education degree program in Secondary Education.

Master of Education: Secondary Education and Certification

The M.Ed. in secondary education requires a minimum of 32 hours of graduate credit. Certification requires 28 hours of undergraduate course work, making a total of 60 hours of graduate and undergraduate work. Under the combined program up to 12 hours of graduate courses may be substituted for the same number of undergraduate courses.

Degree Requirements

Required and Recommended Courses

1) Professional Requirements

- SEC ED 2XX, Curriculum and Methods of Teaching_____.
- SEC ED 213, Techniques of Secondary School Teaching and Field Experience
- SEC ED 290, Secondary School Student Teaching

2) Certification and M.Ed. Requirements

- ED PSY 312, The Psychology of Teaching and Learning
- SEC ED 385, Problems of Teaching Reading in Secondary Schools
- ED PSY 418, The Psychology of Adolescence
- SPC ED 412, Psychology of Exceptional Children
- ED FND 421, Philosophy of Education
- SEC ED 415, The Secondary School Curriculum

Electives

Selected graduate courses, including at least eight hours in the teaching specialty or in curriculum/instruction.

Educational Administration Options

The options in educational administration, elementary administration, and secondary administration are part of a continuous two-phase, NCATE-approved program. In the first phase, students earn the M.Ed. The second phase leads to the completion of a two-year course of study in educational administration and is designated the Advanced Certification Studies (ACS) program. Both phases are correlated with current Missouri requirements for certification as either a principal or director of elementary or secondary education in Missouri schools.

The options in educational administration are more than simply lists of courses. Each is an organized curricular offering.

Responsibility for developing appropriate individual programs rests primarily with students. They are, therefore, encouraged to take full advantage of the program planning assistance provided by advisers, especially during the early phase of the program(s).

Educational Studies

Master of Education: Educational Administration; Advanced Certification Studies (ACS)

The recommended curriculum for the M.Ed. in Educational Administration is 33 credit hours. The curriculum for Advanced Certification Studies is 60 credit hours.

Requirements

1) Educational Core (Required for M.Ed. and ACS)

ED FND 421, Philosophy of Education
ED FND 435, History of Western Education or **ED FND 330**, History of American Education
ED ADM 411, Organizational Theory & Analysis in Education
ED ADM 416, Policymaking in Education

2) Research Core (Required for both M.Ed. and ACS)

ED S&R 427, Educational Statistics

3) Educational Administration Core (Required for both M.Ed. and ACS)

ED ADM 414, Foundations of Educational Administration
***ED ADM 435**, Educational Administration Policy Research
ED ADM 460, School Law
ED ADM 471, School Staff Development & Supervision

4) School Administration Specialization (Required for both M.Ed. and ACS)**

For Elementary School Administration

ED ADM 441, Elementary School Administration
ELE ED 411, Curricular Issues in the Elementary School

or For Secondary School Administration

ED ADM 451, Secondary School Administration
SEC ED 415, Secondary School Curriculum or **SEC ED 416**, Curriculum Construction for Secondary Schools

5) Internship (Required for state certification, but not for M.Ed.)

ED ADM 490, Internship

6) Technical Aspects of Educational Administration (Electives, 12 hours for ACS)

ED ADM 425, The Administration of Organizational Change Strategies in Schools
ED ADM 429, The Department Head
ED ADM 465, State and Federal Financing of Public Education
ED ADM 466, Principles of Public School Finance in Missouri
ED ADM 475, School Buildings and Sites
ED ADM 480, Administration of Adult and Community Education
ED ADM 481, Programming in Community Education and Adult Education
ED ADM 485, Financing of Community Education
ELE ED 410, Current Research in the Elementary School Curriculum
ELE ED 411, Curricular Issues in the Elementary School
ELE ED 422, Curriculum Construction in the Elementary School
ELE ED 423, Curricular Implementation in the Elementary School
SEC ED 415, The Secondary School Curriculum
SEC ED 416, Curriculum Construction for Secondary Schools
SEC ED 418, The Junior High/Middle School
SEC ED 420, The Improvement of Secondary School Teaching

SEC ED 422, Individualizing Instruction in Secondary Schools
ED TEC 433, Educational Technology Systems Management
EVL MS 432, Classroom Measurement and Evaluation II

7) Human Aspects of Educational Administration (Electives 12 hours for ACS)

ED ADM 422, Leadership in Educational Administration
ED ADM 432, Problems in School Public Relations
ED ADM 456, Extracurricular Activities
ED ADM 470, School Personnel Administration
ED ADM 473, Collective Negotiations in Educational Organizations
ED FND 422, Analysis of Educational Issues
ELE ED 425, Elementary School Supervision
SEC ED 425, Secondary School Supervision
CNS ED 431, Principles and Procedures of Student Personnel Work

*Exit Requirement for M.Ed. – this course must be taken within the last nine (9) semester hours before the completion of the program.

Students choose **either the sequence for elementary school administration **or** the sequence for secondary school administration.

Master of Education: Educational Administration with Emphasis in Community Education

This is a 32-credit hour program for those students interested in community education.

Degree Requirements

1) Common Educational Foundations (9 hours required)

ED FND 421, Philosophy of Education
***SPC ED 412**, Psychology of Exceptional Children or **SPC ED 313**, the Psychology of Education of Exceptional Individuals
EVL MS 431, Classroom Measurement and Evaluation II or
ED S&R 430, Research Design for Educators or
ED S&R 427, Educational Statistics

*Students who have already had a graduate or undergraduate course related to Psychology of Exceptional Children **need not** take **SPC ED 412** or **SPC ED 313**.

2) Administrative Foundations (12 hours required)

ED ADM 411, Theory and Organizational Development in Educational Administration

For elementary administration community education

ED ADM 441, Elementary School Administration
ELE ED 425, Elementary School Supervision
ELE ED 410, Current Research in the Elementary School Curriculum

For secondary administration community education

ED ADM 451, Secondary School Administration
SEC ED 425, Secondary School Supervision
SEC ED 415, The Secondary School Curriculum or **SEC ED 416**, Curriculum Construction for Secondary Schools

Educational Studies

3) Community Education Emphasis Area (9 hours required)

- ED ADM 480.** Administration of Community and Adult Education
- ED ADM 481.** Programming in Community and Adult Education
- ED ADM 490.** Internship

4) Recommended Electives

- ED ADM 485.** Financing of Community Education
- ED ADM 432.** Problems in School Public Relations
- ED ADM 460.** Legal Aspects of Educational Administration
- ED ADM 465.** State and Federal Financing of Public Education
- ED ADM 414.** Foundations of School Administration

5) Minor Area of Concentration (6 hours required for ACS)

Students are expected to demonstrate competence in at least one other field. Other fields may include sociology, political science, business administration (industrial-labor relations or other area), economics, educational research, and other approved fields. Competence may be shown by successful completion of at least six hours in one of these fields.

6) Internship of Field Study (Required ACS only)

- ED ADM 490.** Internship

Career Outlook

Secondary school teaching positions are more plentiful than in the recent past. Most certificated teachers can find jobs if they are willing to go where there are openings.

Teachers of mathematics and the sciences are in extremely high demand. The fields of humanities and social sciences have somewhat better immediate prospects than in the past. The preparation that teacher education graduates receive enables them to do well in service and sales positions. Job opportunities in the educational and training facets of these fields are good.

People with preparation in secondary education, educational technology, adult education, and educational administration find positions in education/training units in businesses, industries, health care organizations, governmental units, community agencies, and service institutions.

School administration opportunities are available to qualified individuals, particularly those who have completed advanced graduate programs. Community education is an expanding field and will need increasing numbers of people with preparation in that specialty.

Elementary and Early Childhood Education

Faculty

Thomas R. Schnell, Associate Professor*, Chairperson
Ph.D., Southern Illinois University-Carbondale

Richard W. Burnett, Professor*, Director of Reading Clinic,
Associate Dean, School of Education
Ed.D., Indiana University

Wallace Z. Ramsey, Professor*
Ed.D., University of Missouri-Columbia

Doris A. Trojcek, Professor*, Coordinator of Graduate Studies in
Education
Ed.D., Indiana University

Huber M. Walsh, Professor*
Ed.D., University of California-Los Angeles

Doris M. Klosterman, Associate Professor*
Ph.D., St. Louis University

Lloyd I. Richardson, Jr., Associate Professor*
Ph.D., George Peabody College

Leo V. Rodenborn, Associate Professor*
Ed.D., Oklahoma State University

Lori A. Geismar-Ryan, Assistant Professor
Ph.D., State University of New York at Buffalo

Anne D. Lally, Instructor
M.Ed., University of Missouri-St. Louis

Jeri Levesque, Lecturer
M.S., Central Connecticut University

*members of Graduate Faculty

General Information

The faculty of the Department of Elementary and Early Childhood Education have their offices on the third floor of Marillac Hall. Questions about departmental matters should be directed to 369 Marillac Hall.

The department coordinates programs leading to the B.S. in Education degree in early childhood education and elementary education. The B.S.Ed. in elementary education may also be tailored to the middle school/junior high teaching certificate. A special feature of these programs is their many opportunities to work with children in schools as part of the professional course work.

NOTE The General Assembly enacted a law during 1984 eliminating Life Teaching Certificates after September 1, 1988. The State Board of Education is authorized to develop new standards for one or more renewable professional certificates, based on specific requirements for training and experience. Details regarding these newly developing standards are available in the Office of Undergraduate Studies in Education.

For graduate students, the Department of Elementary and Early Childhood Education offers three programs leading to the M.Ed. in elementary education: generalized or specialized elementary education; elementary education with certification in reading; and elementary education with teaching certification.

Undergraduate Studies

General Education Requirements

Elementary Education (1-8)

English and Communication (9 hours)

English 10, Composition

English 210, Advanced Expository Writing

Communication: 3 hours

Mathematics (6 hours)

Mathematics 50, Structure of Mathematical Systems I
and

Mathematics 151, Structure of Mathematical Systems II

Science (8 hours)

Biological Science: 3 hours

Physical Science: 3 hours

and two hours of a science laboratory

Humanities (8 hours)

Three courses from two of the following fields: art, music, philosophy, and literature.

Social Science (21 hours)

Psychology 3, General Psychology

Psychology 270, Child Psychology

Political Science 11, Introduction to American Politics or equivalent

and one of the following history courses:

History 3, American Civilization

History 4, American Civilization

and the following courses:

one geography course

Economics 40, Introduction to the American Economy or

Economics 305, Macroeconomics for the School Curriculum or

Economics 306, Microeconomics for the School Curriculum

Sociology 10, Introduction to Sociology or

any anthropology course

Early Childhood Education (P-3)

General education requirements are the same as for Elementary Education except that Mathematics 151, geography, and economics are **not** required.

Middle School/Junior High (4-9)

General education requirements are the same as for Elementary Education except that Psychology 271, Adolescent Psychology is taken in lieu of Psychology 270, Child Psychology.

Degree Requirements

Bachelor of Science in Education: Early Childhood Education

The early childhood program is designed for students wishing to teach and direct programs for children from pre-kindergarten through grade three. Students electing this program will work directly with young children as a part of their professional courses.

Elementary and Early Childhood Education

General Education Requirements

Students are required to take the general education requirements as indicated for Early Childhood Education above.

Program Requirements

ED FND 111, The School in Contemporary Society
ED PSY 312, Psychology of Teaching and Learning
SPC ED 313, The Psychology and Education of Exceptional Individuals

and these **Elementary Education (ELE ED)** courses:

230, Children's Literature and Reading
336, Teaching Language Arts and Reading, N-9
385, Teaching Reading in the Elementary School
389, The Analysis and Correction of Reading Problems in the Classroom

plus these **Early Childhood Education (ECH ED)** courses:

290, Student Teaching in Early Childhood Education I
291, Student Teaching in Early Childhood Education II
Note ECH ED 290 and ECH ED 291 must be taken during the same semester.
312, Principles of Early Childhood Education
314, Curriculum, Methods, and Materials for Early Childhood Education
317, Assessing Individual Needs for Early Childhood
321, Parent and Community Resources in Early Childhood Education
331, Language Acquisition and Development in Early Childhood
333, Creative Experiences for Young Children
346, The Acquisition of Mathematical Concepts

Related Area Requirement

PHY ED 130, Elements of Health Education
PHY ED 282, Physical Growth and Motor Development

Postdegree certification students may take ED FND 330, History of American Education, or ED FND 421, Philosophy of Education, in lieu of ED FND 111.

Total: 120 hours

Bachelor of Science in Education: Elementary Education

The elementary education program prepares students to teach in grades kindergarten through six, non-departmentalized grades, seven and eight, and in departmentalized social studies (4-8).

Related Area Requirements

PHY ED 130, Elements of Health Education
PHY ED 165, Physical Education Activities for the Elementary School
ELE ED 177, Elementary School Music
ELE ED 179, (Art 139), Art Activities for Elementary School

Program Requirements

ELE ED 101, Introduction to Classroom Teaching
ED FND 111, The School in Contemporary Society
ED PSY 312, Psychology of Teaching and Learning
SPC ED 313, The Psychology and Education of Exceptional Individuals

and these **Elementary Education (ELE ED)** courses:

230, Children's Literature and Reading
246, Teaching Mathematics in the Elementary School
253, Teaching of Social Studies in the Elementary School
***290**, Elementary School Student Teaching I
***291**, Elementary School Student Teaching II
336, Teaching Language Arts and Reading, N-9
341, Teaching of Science in the Elementary School
385, Teaching Reading in the Elementary School
389, The Analysis and Correction of Reading Problems in the Classroom

***Note** ELE ED 290 and ELE ED 291 must be taken during the same semester.

Postdegree certification students may take ED FND 330, History of American Education, or ED FND 421, Philosophy of Education, in lieu of ED FND 111.

Total: 120 hours

Bachelor of Science in Education: Elementary Education (Middle School/Junior High Certification)

This area of specialization in elementary education prepares students to teach in middle school/junior high school, grades 4-8 or 7-9.

Related Area Requirement

PHY ED 132, Personal Health

Program Requirements

ELE ED 101, Introduction to Classroom Teaching
ED FND 111, The School in Contemporary Society
ED PSY 312, Psychology of Teaching and Learning
SPC ED 313, The Psychology and Education of Exceptional Individuals

and these **Elementary Education (ELE ED)** courses:

230, Children's Literature and Reading
246, Teaching Mathematics in the Elementary School
253, Teaching of Social Studies in the Elementary School
290, Elementary School Student Teaching I
291, Elementary School Student Teaching II
336, Teaching Language Arts and Reading, N-9
341, Teaching of Science in the Elementary School

Note ELE ED 290 and ELE ED 291 must be taken during the same semester.

plus these **Secondary Education (SEC ED)** courses:

222, Middle School/Junior High School Organization, Philosophy and Curriculum
385, Problems of Teaching Reading in Secondary Schools

Elementary and Early Childhood Education

Area of Concentration for State Certification Junior high 7-9 requirements as listed by the State Department of Education.

Postdegree certification students may take ED FND 421, Philosophy of Education, in lieu of ED FND 111.

Total: 120 hours

Graduate Studies

Master of Education: Elementary Education

General Curricular Program or Specialization in Selected Curricular Areas

The M.Ed. student in elementary education may elect either of these programs. Please note, however, that in either case the degree is the Master of Education in Elementary Education. Diplomas and transcripts do not show areas of specialization nor are special certificates awarded.

1) Core Competencies (12 hours)

To include ELE ED 410, Current Research in the Elementary School Curriculum; ELE ED 411, Curricular Issues in the Elementary School; and six hours selected, in consultation with advisers, from among cognate fields or professional education.

2) Content Competencies (12 hours)

Students desiring to specialize through a sequence of courses should select at least nine hours in one of the following areas: Children's Literature, Early Childhood, Language Arts, Mathematics Education, Reading, Science Education, Social Studies Education, or Special Education (ELE ED 425, Elementary School Supervision is also recommended for specialist sequence). Students who elect a general sequence should take no more than six hours in any one area.

3) Curricular Applications Competencies (9 hours)

Students must select, in consultation with their advisers, a measurement course, and complete the following: ELE ED 422, Curriculum Construction in Elementary Schools, and ELE ED 423, Curriculum Implementation in the Elementary School.

Upon completion of ELE ED 410 and ELE ED 411 in phase one, each candidate selects a curricular area or areas, identifies an adviser from the elementary and early childhood education faculty, and plans appropriate course sequences. A candidate enrolling in the specialist program should select an adviser in the area of specialization.

The sequence of courses, ELE ED 410 and ELE ED 411 should be taken at the beginning of the program; ELE ED 422 and ELE ED 423 constitute the final two program courses.

Electives should be selected according to candidates' needs and/or interests.

Emphasis in Reading

The M.Ed. program with emphasis in reading is designed to enable candidates to further their competencies as reading teachers and prepares them for positions as remedial reading specialists, reading consultants, and/or for further graduate study. The minimum required and recommended courses are as follows:

1) Core Requirements

At least one graduate-level course in each of the following areas: learning psychology; research, statistics, and measurements; and elementary curriculum.

2) Courses in Reading

The following required courses in reading should be taken in sequence. **Courses denoted by asterisks are required for certification in remedial reading by Missouri teacher certification regulations.** Students, with their advisers' permission, may substitute other courses for any requirement if they have had a recent upper-class undergraduate course covering the same material. Required are:

- *ELE ED 385, Teaching Reading in the Elementary School
- *SEC ED 385, Problems of Teaching Reading in the Secondary School

these **Elementary Education (ELE ED)** courses:

- *486, Clinical Diagnosis and Treatment of Reading Disabilities
- *493, Clinical Methods in Child Study I
- *494, Clinical Methods in Child Study II

and also:

- ELE ED 482, Problems and Research in Teaching Elementary School Reading
- *EVL MS 422, Individual Intelligence Testing
- *SPC ED 315, Speech and Language Problems or ECH ED 331, Language Acquisition and Development
- *SPC ED 320, Behavioral Management
- *CNS ED 327, Personal and Professional Development in Counseling
- *ED PSY 417, Psychology of the Elementary School Child
- *ED PSY 418, Psychology of Adolescence

Note SPC ED 412, Psychology of Exceptional Children, is required for certification if it has not been taken previously at the undergraduate or graduate level. It is not a degree requirement.

Elementary and Early Childhood Education

3) Electives

Following is a list of possible elective courses. Other courses may be selected from cognate fields after conferring with an adviser in reading.

English 220, Development of the English Language

ED FND 421, Philosophy of Education

ADU ED 311, Teaching Basic Reading Skills to Adults

ELE ED 484, Developmental Reading (K-13)

ELE ED 488, Supervision of School Reading Programs

Certification Options

A combined M.Ed. and certification option exists. Options include Elementary Education (1-8), Early Childhood Education (P-3), and Middle School/Junior High (4-9). Students should consult certification advisers. Graduate credit will not be given for courses at the 100 or 200 level.

Career Outlook

Undergraduate and graduate degrees in Early Childhood Education and Elementary Education are most directly applicable to teaching at the level appropriate to the program emphasis. Increasing specialization of teaching assignments and downward extensions of "ages of schooling" continue to open employment opportunities. As in the past, early childhood and elementary education graduates at all degree levels also continue to be attractive candidates for employment in many positions which require (or are well suited to) training in social and behavioral sciences. Positions in constant contact with and service to the general public such as sales, service, public relations, and general business are most common examples. Future expansions of opportunities in schools are tied to population growth, increased specialization of services, and reduction in ratios between professional staff and children served. Many presently employed teachers will retire within the next 5-10 years; consequently, a shortage of teachers is anticipated.

Physical Education

Faculty

Bruce A. Clark, Chairperson, Associate Professor*
Ph.D., University of Illinois

Kathleen M. Haywood, Associate Professor*
Ph.D., University of Illinois-Urbana-Champaign

Thomas J. Loughrey, Associate Professor*
Ph.D., University of Iowa

Charles G. Smith, Associate Professor*, Director of Athletics
M.S., Washington University

Jerri Wilson, Lecturer
M.S., University of Oregon

Joy Kiger, Assistant Professor
Ph.D., Michigan State University

*members of Graduate Faculty

General Information

The Department of Physical Education is housed on the second floor of the Mark Twain Building. Information about offerings and related matters may be obtained in the departmental office, 225 Mark Twain.

The department coordinates work in physical education. At the undergraduate level this work leads to the B.S. in Education degree with emphasis in either elementary or secondary physical education.

NOTE The General Assembly enacted a law during 1984 eliminating Life Teaching Certificates after September 1, 1988. The State Board of Education is authorized to develop new standards for one or more renewable professional certificates, based on specific requirements for training and experience. Details regarding these newly developing standards are available in the Office of Undergraduate Studies in Education.

The master of education degree in elementary and secondary education provides courses for graduate students who choose physical education as their teaching field. Graduate students should consult their advisers about the requirements.

Undergraduate Studies

Bachelor of Science in Education: Physical Education

General Education Requirements (42 hours required):

Humanities

At least one course from two of the following fields: music (excluding applied music), art, foreign language, Western and non-Western cultures, philosophy, literature, classical studies, and theatre and drama.

Communication Skills

At least two courses in English composition and one in oral communications.

Social Studies

Courses in American history and American government, and one additional course selected from the following areas: geography, sociology, economics, anthropology, and psychology.

Natural Science

One course in a physical or earth science; one course in a biological science. At least one of these courses must have a laboratory component.

Mathematics

One college-level mathematics course.

NOTE All of the courses above must be a minimum of two semester hours.

Electives 11-14 hours

Program Requirements

Students must pass Proficiencies in first aid, cardio-pulmonary resuscitation, personal physical fitness, and life saving. The proficiency evaluations are regularly scheduled each semester. Contact the department for further information. Students are urged to complete these requirements as early in the program as possible. **Successful completion is required prior to student teaching.** No credit hours are granted for satisfying this requirement.

Elementary School Emphasis

Students are required to take **12 hours** of analysis and teaching courses in **Physical Education (PHY ED)**:

121, Analysis and Teaching of Physical Activities I

122, Analysis and Teaching of Physical Activities II

123, Analysis and Teaching of Physical Activities Laboratory

The following is a list of laboratories for PHY ED 123:

Offered Fall Semester Only

Golf, Bowling, and Archery
Ballroom, Folk, and Square Dancing
Racquet Sports
Gymnastics and Tumbling
Football, Wrestling, and Personal Defense

Offered Winter Semester Only

Soccer/Basketball
Rhythmic Activities and Modern Dance
Track and Field
Aquatics
Baseball/Softball/Volleyball

The following theory of **Physical Education (PHY ED)** courses are required (**38 hours**):

130, Elements of Health Education

165, Physical Education Activities in the Elementary School

Physical Education

- 232, Sports Medicine
- 261, Physical Activity for the Exceptional Learner
- 275, Psychology of Sport
- 276, Sociocultural Foundations of Sport and Physical Education
- 280, Human Anatomy and Physiology or **BIO 113**, Human Physiology and Anatomy I
- 282, Physical Growth and Motor Development
- 283, Kinesiology
- 284, Physiology of Human Exercise

The following **Professional Education** courses are required (**28 hours**):

- PHY ED 101**, Introduction to Classroom Teaching
- ED FND 111**, The School in Contemporary Society
- Psychology 270**, Child Psychology
- ED PSY 312**, Psychology of Teaching and Learning
- SPC ED 313**, The Psychology and Education of Exceptional Individuals
- SEC ED 385**, Problems of Teaching Reading in Secondary Schools
- PHY ED 268**, The Curriculum and Methods of Teaching Physical Education
- PHY ED 290**, Student Teaching in Physical Education I
- PHY ED 291**, Student Teaching in Physical Education II

Total: 120 hours

Secondary School Emphasis

Students are required to take **12 hours** of analysis and teaching courses in **Physical Education (PHY ED)**:

- 121, Analysis and Teaching of Physical Activities I
- 122, Analysis and Teaching of Physical Activities II
- 123, Analysis and Teaching of Physical Activities Laboratory

The following is a list of laboratories for PHY ED 123:

Offered Fall Semester Only.

- Golf, Bowling, and Archery
- Ballroom, Folk, and Square Dancing
- Racquet Sports
- Gymnastics and Tumbling
- Football, Wrestling, and Personal Defense

Offered Winter Semester Only.

- Soccer/Basketball
- Rhythmic Activities and Modern Dance
- Track and Field
- Aquatics
- Baseball/Softball/Volleyball

The following theory of **Physical Education** courses are required (**32 hours**):

- 165, Physical Education Activities in the Elementary School
- 232, Sports Medicine
- 261, Physical Activity for the Exceptional Learner
- 275, Psychology of Sport
- 276, Sociocultural Foundations of Sport and Physical Education
- 280, Human Anatomy and Physiology or **BIO 113**, Human Physiology and Anatomy I
- 282, Physical Growth and Motor Development
- 283, Kinesiology
- 284, Physiology of Human Exercise

The following **Professional Education** courses are required (**31 hours**):

- ED FND 111**, The School in Contemporary Society
- SEC ED 213**, Techniques of Secondary School Teaching and Field Experience
- Psychology 271**, Adolescent Psychology
- ED PSY 312**, Psychology of Teaching and Learning
- SPC ED 313**, The Psychology and Education of Exceptional Individuals
- SEC ED 385**, Problems of Teaching Reading in Secondary Schools
- PHY ED 268**, The Curriculum and Methods of Teaching Physical Education
- PHY ED 290**, Student Teaching in Physical Education I
- PHY ED 291**, Student Teaching in Physical Education II

Total: 120 hours

Athletic Coaching Minor

An Athletic Coaching Minor is available (minimum of 20 hours). The following courses are required:

- PHY ED 280**, Human Anatomy and Physiology (this course is a prerequisite to PHY ED 232, PHY ED 283, and PHY ED 284)
- PHY ED 232**, Sports Medicine
- PHY ED 275**, Psychology of Sports
- PHY ED 283**, Kinesiology
- PHY ED 284**, Physiology of Human Exercise
- PHY ED 121**, Analysis and Teaching of Physical Activities I
- PHY ED 123**, Analysis and Teaching of Physical Activities Labs
- PHY ED 312**, Management of Sports Programs

All courses apply to, but do not complete, teaching certification in Missouri.

Graduate Studies

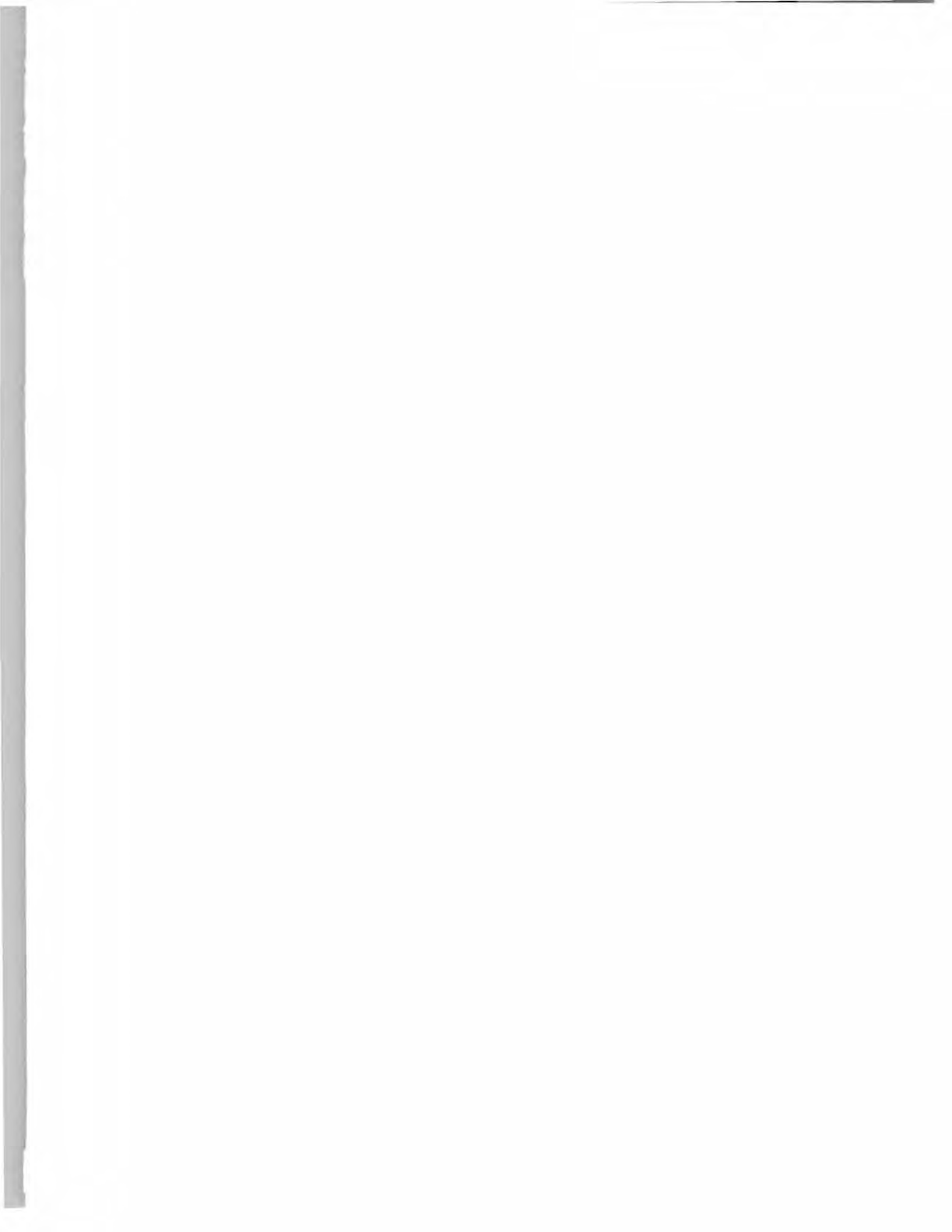
Master of Education: Elementary or Secondary Education with Physical Education as Teaching Field

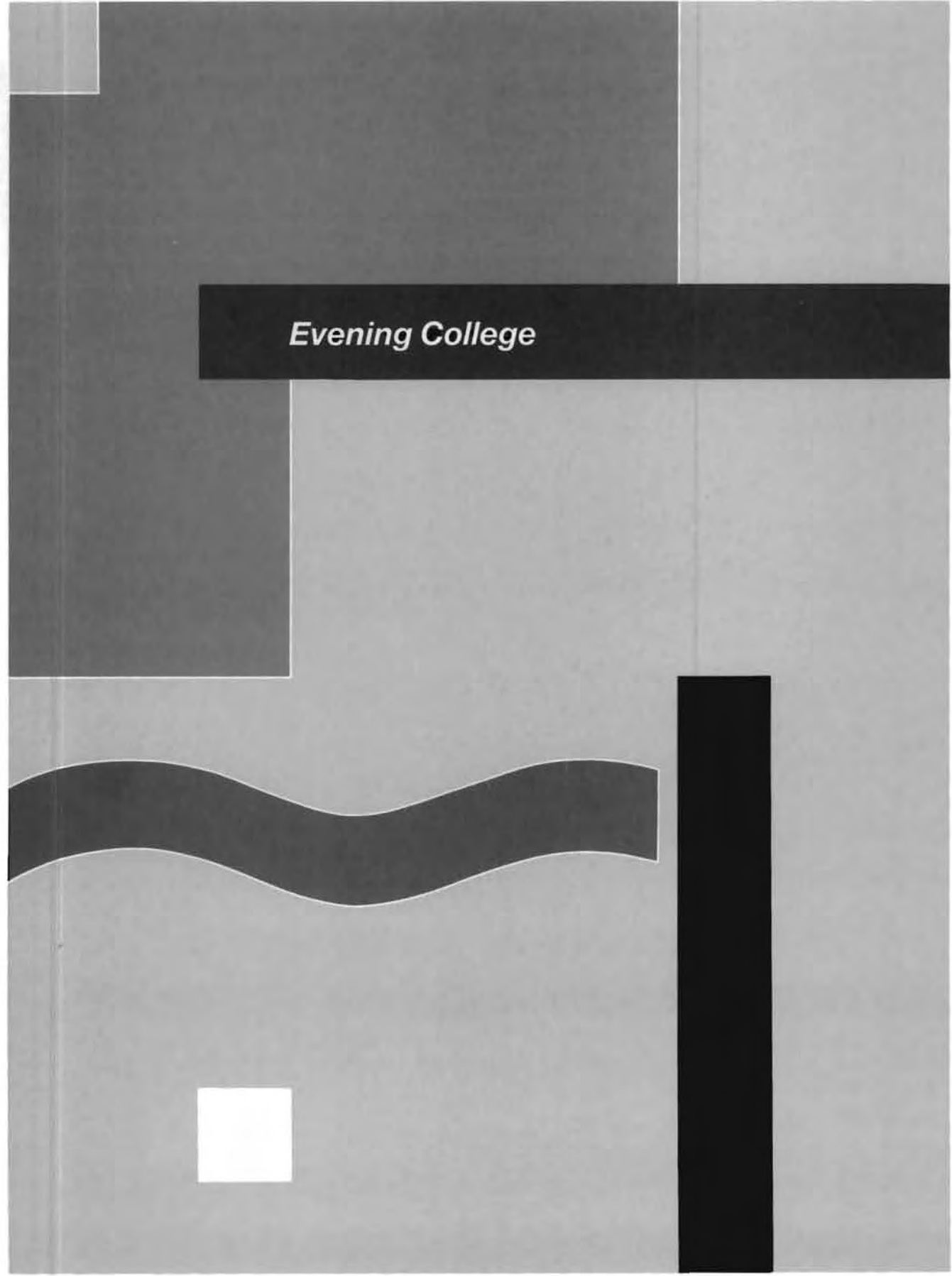
Students in elementary or secondary education master's degree programs may elect Physical Education as their teaching field. For further information about this option, consult an adviser or faculty from the Department of Physical Education.

Career Outlook

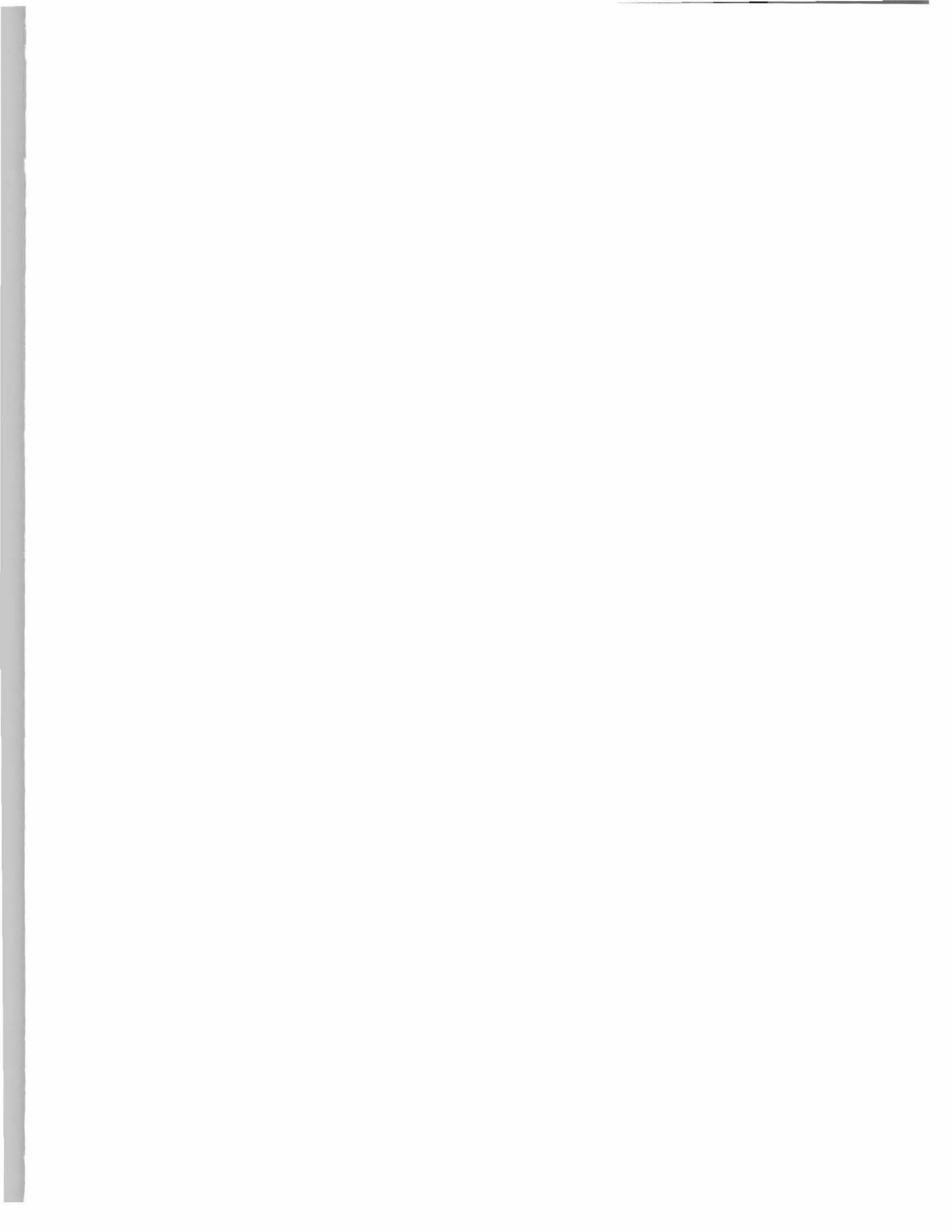
The employment outlook for physical educators has been improving, especially at the elementary school level. In addition to elementary or secondary physical education teaching, graduates may want to consider coaching, athletic training, dance, research, and gerontological careers. Graduates have been employed as specialists in recreation and physical fitness organizations, as special physical educators and coaches.

Students are urged to consult with their advisers in order to broaden the career options available by combining physical education with other specialties for positions in community agencies, business, and industry.



The image features a complex abstract composition of overlapping geometric shapes. A large, dark grey rectangle occupies the top-left portion. A solid black horizontal bar is positioned across the upper-middle section, containing the text 'Evening College'. Below this bar, a light grey rectangular area is partially obscured by a dark grey L-shaped block on the left. A prominent, dark grey wavy horizontal band stretches across the lower-middle part of the image. In the bottom-left corner, there is a small white square. On the right side, a solid black vertical bar is partially visible. The overall aesthetic is minimalist and modern, using a palette of greys, blacks, and whites.

Evening College



Evening College

Administration

Anita McDonald, Dean

Ph.D., St. Louis University

Harry Gaffney, Assistant Dean

Ph.D., St. Louis University

Nancy Shields, Acting Assistant Dean

Ph.D., Southern Illinois University-Carbondale

General Information

The Evening College provides undergraduate degree programs for students who, for various reasons, choose to attend day classes. In addition, persons who want to maintain their professional competence or broaden their educational background without pursuing degree work will find a broad array of courses which may be taken for credit or on an audit basis.

Recognizing the value of continuing education and career advancement, many St. Louis institutions, businesses, and industries encourage their employees to avail themselves of the educational opportunities offered by the Evening College. The Veterans Administration has approved either full-time or part-time study for educational benefits.

Since most Evening College students are employed full time, they normally carry less than a full academic load. To enable students to carry as many courses as they wish, the Evening College schedules classes between 5:30 and 9:35 pm. Classes and degree programs are conducted according to the same standards as the day program.

Academic Advising and Program Planning New students are encouraged to consult with an academic adviser to help develop programs appropriate to their needs. Appointments may be made by calling the Evening College, 553-5162.

Transfer students or students with 40 or more credit hours who wish to be assigned advisers and to graduate from the Evening College must file a Declaration-of-Major form.

Facilities The facilities of the University of Missouri-St. Louis, including the computer center, library, laboratories, cafeteria, bookstore, health service, placement service, and admissions office, are open in the evening. Evening College students are also eligible to participate in any of the University sports programs that interest them. The athletic facilities of the Mark Twain Building are available. For information on hours, contact the athletics office at 553-5641.

Alpha Sigma Lambda The Beta Epsilon Chapter of Alpha Sigma Lambda is a national honorary scholastic society for Evening College students. To be eligible for membership, a student must have completed at least four semesters of college or university work, completed a minimum of 30 semester hours in the Evening College, have a cumulative

grade point average of 3.2, and be enrolled in the Evening College. Individuals already in possession of a college degree are not eligible for membership.

Degree Programs

General Education Requirements All candidates for a degree through the Evening College must meet the University general education requirements.

Bachelor of Arts Majors available for the B.A. degree are biology, chemistry, communication, economics, English, history, mathematics, physics, political science, psychology, and sociology. For further information, consult the appropriate departmental section of the College of Arts and Sciences portion of this *Bulletin*.

Bachelor of Science The B.S. degree is available in applied mathematics, biology, chemistry, computer science, economics, physics, public administration, and sociology. For further information, consult the appropriate departmental section of the College of Arts and Sciences portion of this *Bulletin*.

Specialized Bachelor's Degrees Also available are the specialized Bachelor of Science in Administration of Justice (B.S.A.J.), the Bachelor of Science in Business Administration (B.S.B.A.), and the Bachelor of Science in Education (B.S.Ed.). The B.S. in education offers specialization in any of the following: early childhood education, elementary education, middle school/junior high school, special education, and secondary education (in 11 teaching areas). Students should consult the appropriate departmental section of the College of Arts and Sciences portion of this *Bulletin* or the sections for the School of Business Administration or the School of Education.

Bachelor of Social Work The B.S.W. degree program is designed to prepare persons for employment in social welfare agencies, schools, hospitals, correctional institutions, or day care, geriatric, or rehabilitation centers. Individuals currently working in social welfare settings can improve their skills or increase their opportunities for job advancement. For further information, consult the Social Work section of this *Bulletin*.

Bachelor of General Studies Degree

The Bachelor of General Studies degree (B.G.S.) is also offered through the Evening College. It is designed to provide mature students with a meaningful alternative to traditional degree programs. It appeals to a variety of students whose circumstances, goals, and aspirations are different from those of the "typical" college student. The B.G.S. program provides the flexibility needed to enable students, with careful advisement, to develop individualized programs of study.

Evening College

Admission Requirements for the B.G.S. Program

Candidates for the B.G.S. degree must be admitted to the Evening College and must complete an application for admission to the program. Applications must be approved by the General Studies Committee and the Evening College dean. The criteria for admission are:

- 1) Students must be mature and their programs of study reasonable.
- 2) Students should have a broad education and must have demonstrated the equivalent of academic proficiency required for any other undergraduate degree at UM-St. Louis.
- 3) Study programs should be structured to meet students' unique educational goals and should not be readily available under any other UM-St. Louis degree program.
- 4) That the degree will better qualify the recipients to deal with their life goals than if they had some other degree.

Degree Requirements for the B.G.S. Program

Personal Emphasis Area In consultation with an adviser, students shall develop a personal emphasis area of at least 30 advanced semester hours of graded credit that meets their educational goals. Graded credit consists of degree credit courses in which the student received a letter grade of A, B, C, or D. Regardless of the focus, theme, or purpose, the personal emphasis area should result from self-examination and contribute to self-realization and an advanced level of academic competence and achievement. The study program must be approved by the faculty adviser, dean, and General Studies Committee. Students and advisers periodically review the progress toward attaining the goal or objective and make appropriate modifications where necessary, subject to the dean's approval.

Hour and Grade Requirements The degree requires completion of 120 semester hours with a 2.0 grade point average overall and in the personal emphasis area. No more than 30 hours may be taken in any one department without written consent of the departmental chairperson. At least 45 hours must be earned in courses beyond the introductory level. A minimum of 24 hours of graded credit must be completed in residence at UM-St. Louis, of which 15 hours must be in the personal emphasis area. No more than 18 hours may be taken on a satisfactory/unsatisfactory basis. Each candidate must be in residence for 24 of the last 30 hours of graded credit (exclusive of courses taken on a satisfactory/unsatisfactory basis).

Credit for Experience, Special Projects, Examinations, and Non-Traditional Forms of Study Credit may be earned through the College Level Examination Program in accordance with University policy or through examinations proposed or approved by University departments. Credit may also be earned through correspondence study, supervised independent research study, and college-level courses offered by television or similar education media. Students are responsible for obtaining approval for credit applied under this option.

Students may also receive credit for vocational experience, community service projects, or cultural activities after they have completed 24 hours of course work in residence.

Vocational Experience Credit may be granted for vocational experience when related to the personal emphasis area. Credit cannot exceed three semester hours for each year of experience with a maximum of 12 hours allowed only in exceptional circumstances. Petitions for vocational experience credit must be accompanied by a job description verified by the employer or similar appropriate evidence. Credit may be granted only upon recommendation of the adviser and approvals of the dean and the General Studies Committee.

Community Service Projects/Cultural Activities Credit not exceeding six hours may be earned for participation in approved community service projects or cultural activities. The projects or activities must be formulated by the student and carried out under the supervision of a faculty member with the approval of the adviser, dean, and General Studies Committee. Students must submit a written report approved by the supervisor upon completion of the projects or activities.

Credit for vocational experience or community service/cultural activities may be applied toward the credits required for the degree but may not be used to complete the personal emphasis area or general education requirements. Students must file a degree application form in the Evening College at least one year before the expected graduation date.

Minors

Minor in Employee Training and Development The Evening College and the School of Business Administration offer a minor in employee training and development. The requirements are:

Business Administration 318, or Psychology 318, Industrial Psychology
Business Administration 319, Employee Training and Development
ED PSY 312, Psychology of Teaching and Learning
ED TEC 340, Selection and Utilization of Educational Media
Psychology 219, Research Methods

One additional course selected from these approved electives:

Business Administration 309, Personnel Management
Communication 141, Business and Professional Speaking
Sociology 354, Occupations and Their Work Settings

Students should consult with an adviser when planning their programs. A 2.0 grade point average is required for the minor. No courses may be taken on a satisfactory/unsatisfactory basis. At least 12 credits of those required must be completed in residence at UM-St. Louis.

Evening College

This minor is designed for personnel managers in small companies and training managers or personnel specialists in larger companies. The required 18 hours, including the approved elective course, enable the student to be exposed to different skills essential for the occupational area.

Other Minors

Minors are also available in administration of justice, biology, business administration, chemistry, communication, computer science, economics, English, history, mathematics, political science, psychology, and sociology. For currently offered minors, consult your adviser.

Certificates

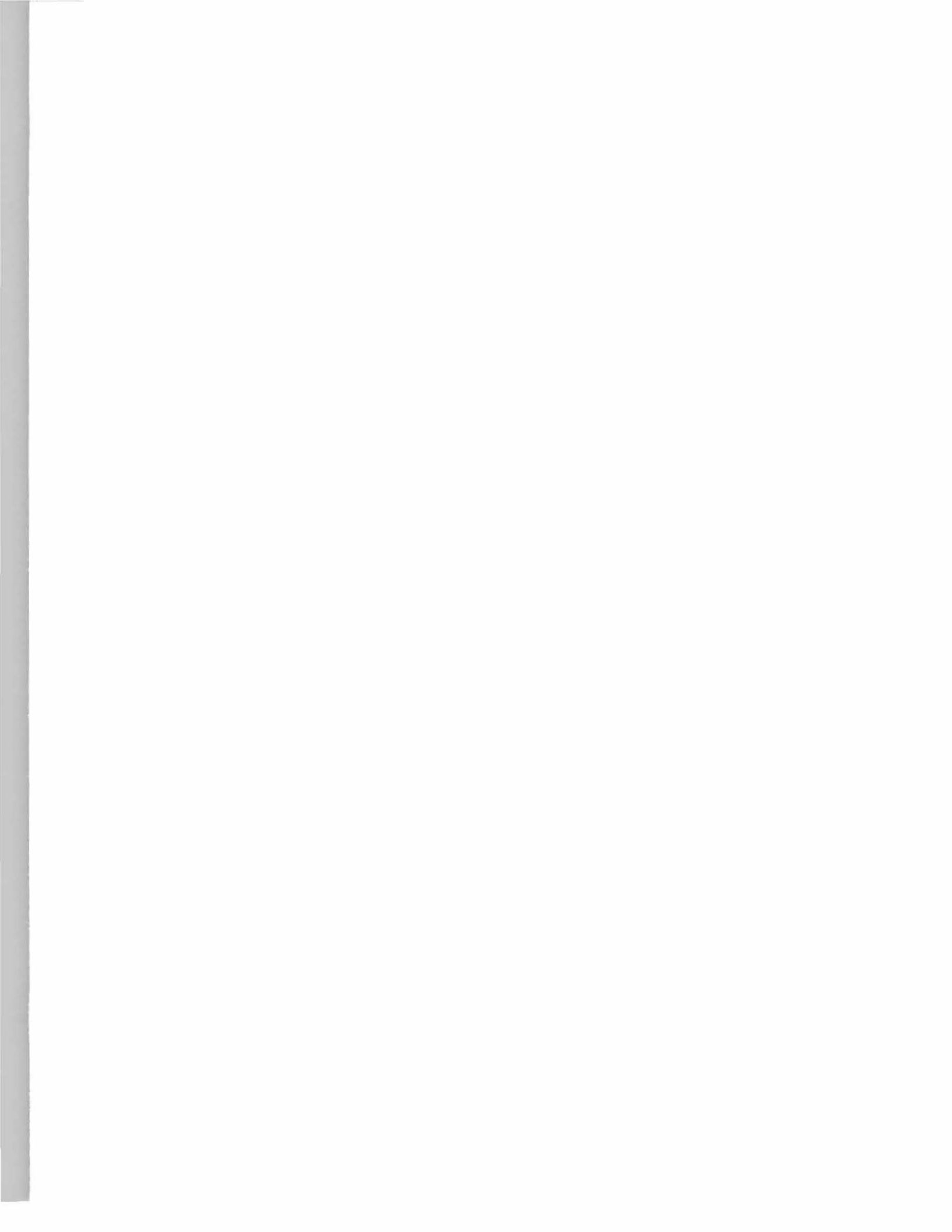
Certificate programs are available in women's studies and writing. For more information consult the Certificate Programs section of this *Bulletin*.

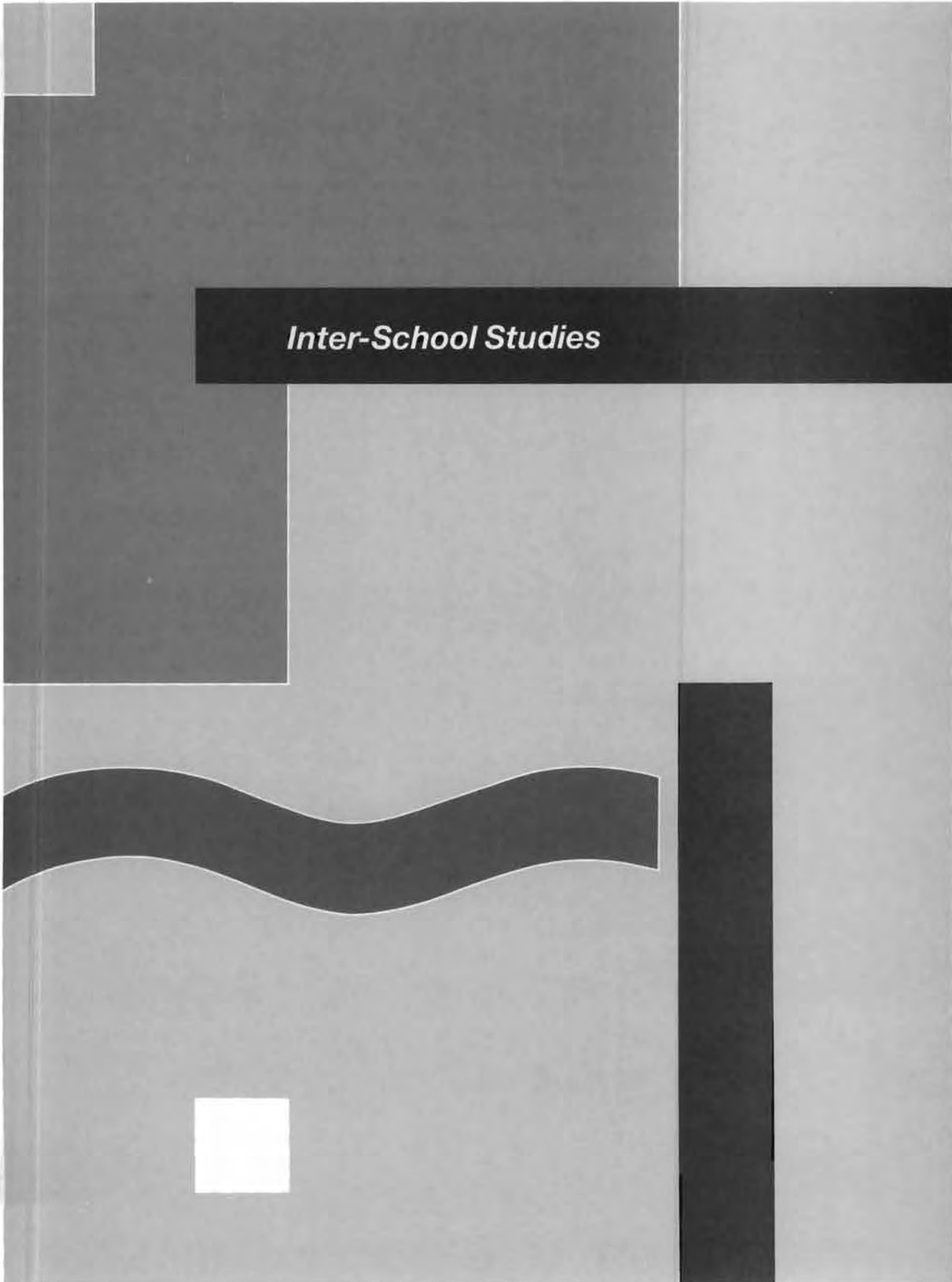
Course Areas

The Evening College offers courses in 26 academic areas: administration of justice, anthropology, art, astronomy, biology, business administration, chemistry, communication, computer science, economics, education, English, French, geography, geology, German, history, mathematics, music, philosophy, physics, political science, psychology, sociology, social work, and Spanish.

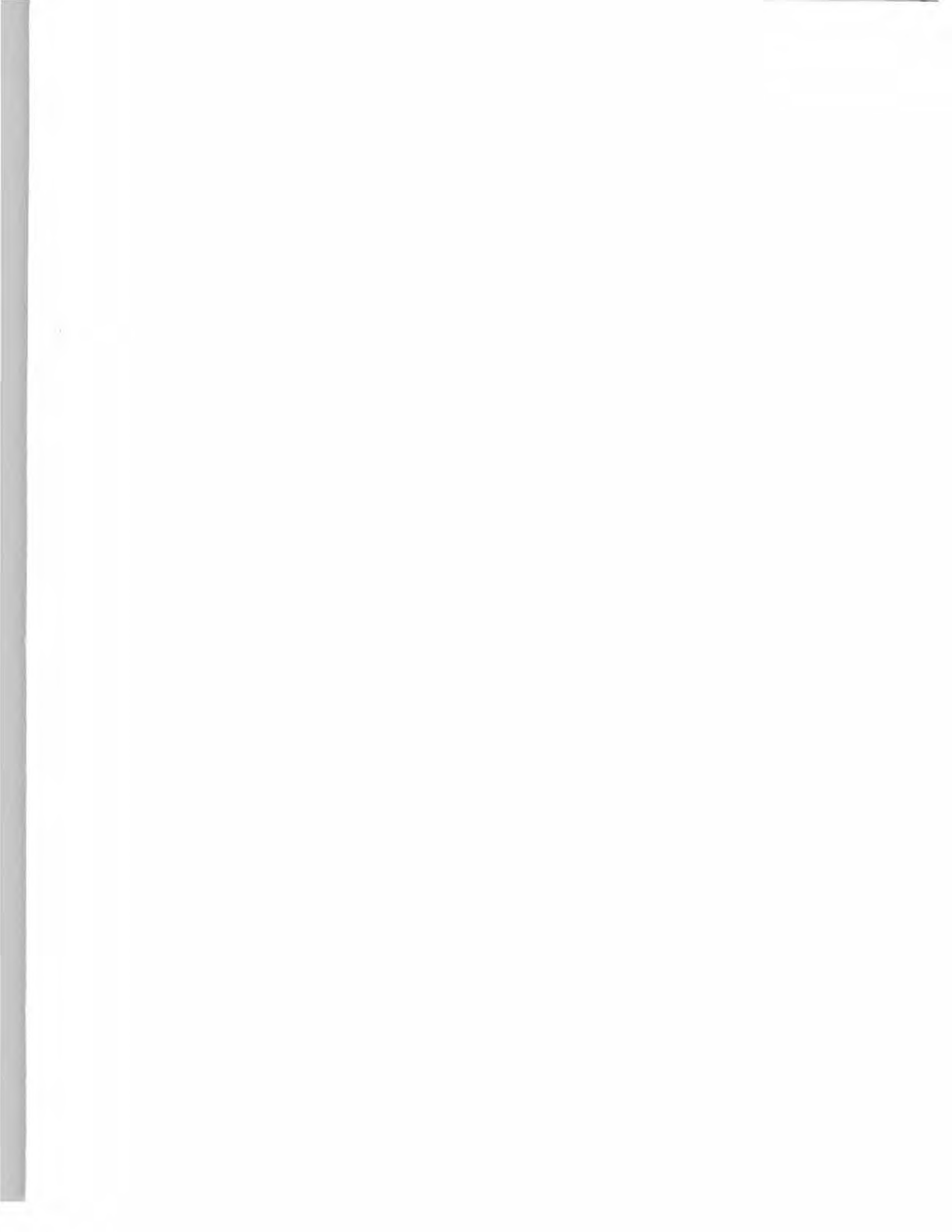
Career Outlook

Many graduates of the Evening College have found their careers advanced upon obtaining their degree. Some have entered new careers in mid-life and others have found personal satisfaction in the acquisition of knowledge for its own sake. The Evening College has advisers with extensive experience concerning adult students' needs. In addition, a psychological counselor is available to assist students with career planning and personal problems. For an appointment, call the Evening College office.



The image features a complex abstract graphic design. It consists of several overlapping rectangular blocks in shades of gray and black. A prominent horizontal black bar is positioned in the upper-middle section, containing the text 'Inter-School Studies'. Below this bar, a large, dark gray rectangular area is partially obscured by a white square on the left and a thick, black, wavy horizontal band that spans across the lower-middle portion of the page. To the right of the wavy band, a vertical black bar extends downwards. The overall composition is minimalist and modern, using geometric forms and a limited color palette.

Inter-School Studies



Public Policy Administration Graduate Degree Program

Faculty

Andrew D. Glassberg, Director of MPPA Program; Associate Professor of Public Policy Administration and Political Science*
Ph.D., Yale University

E. Terrence Jones, Professor of Public Policy Administration and Political Science*; Dean, College of Arts and Sciences
Ph.D., Georgetown University

George J. McCall, Professor of Public Policy Administration and Sociology*; Acting Director, James T. Bush, Sr. Center for Law, Social Change, and Conflict Resolution
Ph.D., Harvard University

Eugene J. Meehan, Curators' Professor of Public Policy Administration and Political Science*
Ph.D., London School of Economics

Donald Phares, Professor of Public Policy Administration and Economics*; Special Assistant to the Chancellor for Budgeting and Planning
Ph.D., Syracuse University

Dennis L. Dossett, Associate Professor of Public Policy Administration and Management*
Ph.D., University of Washington

J. Frederick Springer, Associate Professor of Public Policy Administration and Political Science*
Ph.D., University of California-Davis

James M. Krueger, C.P.A., Assistant Professor of Public Policy Administration and Accounting*
D.B.A., Indiana University

Steven P. Wallace, Assistant Professor of Public Policy Administration, Sociology and Gerontology*
Ph.D., University of California-San Francisco

Anne E. Winkler, Assistant Professor of Public Policy Administration and Economics
Ph.D., University of Illinois

Elizabeth W. Sale, Lecturer in Public Policy Administration and Political Science
M.A., St. Louis University

*members of Graduate Faculty

The Master's program in Public Policy Administration (MPPA) is an interdisciplinary program designed to prepare students for managerial positions in the public sector or in agencies having substantial interaction with the public sector. The program is a unit of the Graduate School and is accredited by the National Association of Schools of Public Affairs and Administration. Faculty are on joint appointment in public policy administration and in either economics, political science, sociology, or business administration. The program includes courses in policy analysis, public administration, management, accounting, and economics in the basic curriculum.

The MPPA program at the University of Missouri-St. Louis differs from existing programs available in the Missouri-Illinois region in its interdisciplinary nature and emphasis on the development of analytic and administrative skills. It is designed to meet the needs of prospective full-time students as well as those who wish to earn a degree in the evening while continuing to work.

In addition to the distinguished doctoral-level faculty in public policy administration, students have access to courses and faculty in other social sciences, in the Center for Metropolitan Studies, and in the Center for International Studies. The MPPA Program, together with similar programs at UM-Columbia and UM-Kansas City, is responsible for the editorship of the *American Review of Public Administration*. The full facilities of the office of Computing and Telecommunications, including the urban data program, are available. UM-St. Louis is also a member of the Inter-University Consortium for Political and Social Research.

Admission Requirements

Applicants to the MPPA program must meet the general requirements for admission to Graduate School as explained in the Graduate Study section of this *Bulletin*. Students entering the MPPA program may be required to take up to 9 hours of prerequisites in mathematics, accounting, and social science. Up to three hours of graduate-level work at UM-St. Louis, taken to meet prerequisite requirements, may be applied to the 43 hours required for the MPPA degree.

Degree Requirements

The program includes 43 hours, 28 in the core curriculum sequence and 15 in a special field chosen by students in consultation with their advisers.

Core Curriculum

All candidates for the MPPA degree must complete 28 hours in the core curriculum sequence composed of the following **public policy administration** courses:

Administration

- 460**, Organizational Behavior and Administrative Processes
- 440**, Proseminar in Public Policy Administration

Accounting and Budgeting

- 418**, Governmental Budgeting and Financial Control

Economics

- 421**, Public Sector Microeconomics

Computer Programming

- 480**, Introduction to Computer Programming with Management Applications

Policy Analysis

- 410**, Introduction to Policy Analysis
- 419**, Cases in Public Policy Analysis

Statistics and Applications

- 401**, Introduction to Policy Research
- 365**, Economic Statistics and Econometrics or **475**, Introduction to Evaluation Research Methods

Exit Project

- 499**, Exit Project Research

Public Policy Administration Graduate Degree Program

A full range of graduate-level offerings in the social science departments and the School of Business Administration are available for specialized training. Among the possible fields are urban transportation, local finance and budgeting, housing, administration of justice, planning, community development, and international administration.

A thesis is not required, but students must complete written analyses as part of their course work and/or internships. There is also an exit project examining a problem in public policy administration in the final semester.

Internships

There currently exists a need for well-trained policy administrators and analysts. Frequent contact is maintained with public practitioners and public officials in the St. Louis metropolitan area, providing valuable input for program development, creation of a wide variety of internship assignments, and assistance with a vigorous placement program for MPPA graduates. Interns may be placed in assignments in planning agencies, city managers' offices, administrative departments, and budgeting offices.

Up to six hours may be earned through an internship. MPPA students employed in public agencies may receive up to six hours of credit for internships in those agencies. To do so, students must develop, in consultation with their advisers, special research projects outside the scope of their regular employment duties. Credit is granted after successful completion of the project and a written paper at the end of the semester.

Typical MPPA Program Full-time students who have completed all prerequisites could complete the program in four semesters by taking the following **public policy administration** courses in this sequence:

First Semester—12 hours

- 410, Introduction to Policy Analysis
- 440, Proseminar in Public Policy Administration
- 460, Organizational Behavior and Administrative Processes
- 480, Introduction to Computer Programming with Management Application

Second Semester—12 hours

- 401, Introduction to Policy Research
- 418, Governmental Budgeting and Financial Control
- 421, Public Sector Microeconomics
- and three hours of special field electives or internship

Third Semester (Summer)—6 hours

- six hours of special field electives or internship

Fourth Semester—13 hours

- 419, Cases in Public Policy Analysis
- 475, Introduction to Evaluation Research Methods
- 499, Exit Project Research
- and six hours of special field electives or internship

Career Outlook

The current outlook for graduates of the interdisciplinary Master's Degree in Public Policy Administration program is quite promising. Recent graduates of this program have found careers as budget analysts, personnel analysts, transportation planners, and human resources planners with local, regional, state, and federal agencies.

Gerontology

Faculty

Robert J. Calsyn, Director; Associate Professor* of Psychology
Ph.D., Northwestern University

Edward Bennett, Assistant Professor* of Optometry
O.D., Indiana University

Anna Biggs, Assistant Professor* of Nursing
Ph.D., University of Colorado Health Sciences Center

Robert Bolla, Associate Professor* of Biology
Ph.D., University of Massachusetts (Amherst)

Rita Braito, Associate Professor* of Sociology and Nursing
Ph.D., University of Minnesota

Bruce Clark, Assistant Professor* of Physical Education
Ph.D., University of Illinois

Norman Flax, Associate Professor* of Social Work
Ph.D., St. Louis University

Joan Hashimi, Associate Professor* of Social Work
Ph.D., Washington University

Linda Rosenman, Associate Professor* of Social Work
Ph.D., Washington University

Steven Wallace, Assistant Professor* of Public Policy Administration
and Sociology
Ph.D., University of California-San Francisco

*members of Graduate Faculty

Faculty from ten departments and schools are involved in the undergraduate and graduate programs in gerontology.

Master of Science in Gerontology

The master of science degree in gerontology program is a multidisciplinary program designed to prepare students for management or direct service positions working with the aged. The program of study includes courses from a variety of departments including biology, nursing, psychology, sociology, social work, physical education, English, and counseling education. Courses are offered primarily in the evening to accommodate part-time as well as full-time students.

Admission Requirements

Program applicants must have the following:

1. Baccalaureate degree
2. 3.0 or (B) average (students with exceptions should contact the Director of the Gerontology Program)
3. Official transcripts of all previous undergraduate/graduate work
4. Three letters of recommendation
5. Graduate Record Aptitude (GRE) test within one year after admission

In addition students must meet the other general requirements for admission to the Graduate School as explained in the Graduate Study section of the *Bulletin*.

Degree Requirements

The students are required to complete 45 credit hours including 24 hours in gerontology courses, a three-hour research methods course, and an 18-hour specialization that is individually tailored to the students' career goals. Depending on the students' prior course work in gerontology, up to fifteen hours of credit may be waived. The required courses are listed below.

Biology 311, Physiology of Aging

Psychology 373, Aging in Contemporary Society

Sociology 361, Social Gerontology

Nursing 401, Health and Wellness in the Elderly

Political Science 444, Public Policy and the Aged

Psychology 494, Integrative Research in Gerontology

Psychology 495, Practicum in Gerontology

Gerontology Electives (6 credit hours)

Specialization

Each student must have an 18-hour specialization area within the administrative or direct service track, which will be individually developed by the student and faculty adviser.

Research Methods

Students are required to take a three-hour research methods course.

Graduate Certificate in Gerontology

Requirements

The Graduate Certificate in Gerontology is designed for those students who wish to receive post-baccalaureate training in the core areas of gerontology. The Graduate Certificate in Gerontology can be taken by itself or in conjunction with pursuit of a graduate degree in another field. Eighteen credit hours are required.

Admission Requirements

Program applicants must have the following:

1. Baccalaureate degree
2. 2.75 Grade Point Average (students with exceptions should contact the director of the Gerontology Program)
3. Official transcripts of all previous undergraduate/graduate work
4. Three letters of recommendation

Gerontology

Required Courses

Biology 311, Physiology of Aging
Psychology 373, Aging in Contemporary Society
Nursing 401, Health and Wellness in the Elderly
Political Science 444, Public Policy and the Aged
Sociology 361, Social Gerontology
Four to five hours of Gerontology electives at the 400 level

Certificate in Gerontological Studies

A Certificate in Gerontological Studies, a multi-disciplinary course of study, is available at the University of Missouri-St. Louis. This program provides an opportunity for students to obtain a focused speciality in gerontology in addition to their majors. It utilizes offerings in the College of Arts and Sciences and the Schools of Business Administration, Nursing and Education. It is appropriate for students in the College of Arts and Sciences or any of the Schools of the University.

Certificate Requirements

A student may earn the Certificate in Gerontological Studies by completing a total of fifteen hours. These fifteen hours must be chosen from at least three of the six topic areas listed below. Examples of courses are given for each of the topic areas.

Topic Areas

1) Natural Sciences

Biology 111, Issues in Geriatric Health Care (same as Nursing 111)
Biology 311, Physiology of Aging

2) Social and Policy Issues

Sociology 361, Social Gerontology

3) Business and Management

Business Administration 395, Business Administration Seminar: Aging in the Work Place

4) Psychology and Counseling

CNS ED 404, Seminar Counseling the Older Adult
Psychology 272, Adult Development and Aging
Psychology 280, The Psychology of Death and Dying
Psychology 373, Aging in Contemporary Society
Social Work 316, Clinical Gerontology

5) Physical and Health Education

PHY ED 190, Clinical Experience in Physical Gerontology
PHY ED 292, Internship in Physical Gerontology
PHY ED 330, Prescribing Physical Activity

6) Humanities

Philosophy 156, Medical Ethics
English 13, Topics in Literature: Images of age in literature

No more than three credit hours from Research/Practicum Experience courses may be applied. The Research/Practicum must have the approval of the director of the Gerontology Program. Courses taken to fulfill requirements for the Certificate in Gerontological Studies may not be taken on a satisfactory/unsatisfactory basis. For more information, contact the director.

Career Outlook

The increasing number of elderly in the population has greatly expanded job opportunities in gerontology in the last decade, and job prospects for the future are equally bright. Career possibilities include nursing home administration, administration and planning of community-based programs for the elderly, recreational programming, and counseling of the elderly.

School of Nursing



School of Nursing

Faculty

Shirley A. Martin, Dean, Professor*
R.N., Ph.D., St. Louis University
Mary Reardon Castles, Professor*
R.N., Ph.D., St. Louis University
Rita Braitto, Associate Professor*†
R.N., Ph.D., University of Minnesota
Anna J. Biggs, Assistant Professor*
R.N., Ph.D., University of Colorado
Ruth L. Jenkins, Associate Professor*
R.N., Ph.D., St. Louis University
Janice A. Spikes, Project Director
R.N., Ph.D., University of Texas-Austin
Linda L. Steele, Assistant Professor*
R.N., Ph.D., University of Texas-Austin
Susan Williams
R.N., Ph.D., Texas Women's University

*members of graduate faculty

†joint appointment with Sociology Department

General Information

About the Faculty The School of Nursing faculty includes accomplished leaders in professional nursing and research. The dean serves as a leader in both state and national professional organizations. Faculty members are clinical specialists in the various areas of nursing practice and research. Research interests include developmental disabilities, stress management, assertiveness, nursing management, death and dying, sex-role behavior, aging, self care, health seeking behaviors, adolescent pregnancy, and professional socialization.

The School of Nursing A national movement in the nursing profession encourages preparation for entry into professional nursing practice to begin at the baccalaureate level. The majority of practicing registered nurses today have earned either a diploma in nursing from a hospital school of nursing or an associate degree in nursing. The UM-St. Louis School of Nursing offers a baccalaureate program for registered nurses in the St. Louis area. The program is designed so that studies may be pursued on either a full- or part-time basis. Qualified students are admitted each semester. The UM-St. Louis School of Nursing is located on the South Campus Complex. The Schools of Nursing at the University of Missouri-Kansas City and the University of Missouri-St. Louis also offer a Cooperative Graduate Nursing Program on the St. Louis campus.

Undergraduate Studies

Bachelor of Science in Nursing Degree The bachelor of science in nursing program is designed to provide the registered nurse with the opportunity to continue nursing education at the baccalaureate level. The curriculum builds on the student's knowledge and skills acquired through diploma or associate degree education as well as nursing practice experience. The expansion of nursing practice into a variety

of settings will provide opportunities to apply knowledge from nursing and related disciplines. Recent employment in clinical nursing is recommended.

Assumptions The bachelor of science in nursing degree (B.S.N.) is designed to build on the student's previous education and experience and is based on the following assumptions:

- 1) Most of the students will be employed full-time and attend the program on a part-time basis.
- 2) Registered nurse students are adult learners, and the concepts and techniques related to adult learners are appropriate for this program.
- 3) Registered nurse students are licensed practitioners and do not require the same type of clinical activities found in generic programs.
- 4) Lower-division nursing courses, completed either in an associate degree program or a hospital diploma program, provide a base of nursing content for baccalaureate nursing education taught at the upper-division level.
- 5) Quality baccalaureate nursing education can be designed to build on students' prior education and experience without duplicating content or experiences.
- 6) Students enrolled in the upper-division nursing program have an academic background equivalent to the academic background required for junior standing in any undergraduate program at the University of Missouri-St. Louis.

Purposes The purpose of the program is to provide the registered nurse student with:

- 1) Upper-division content in general education and nursing courses necessary to practice at the professional level.
- 2) The foundation for continued personal and professional development as well as preparation for graduate study.
- 3) The ability to adapt to a rapidly changing health care delivery system.
- 4) The knowledge and skills necessary to practice in a variety of health care settings.

Accreditation The School of Nursing is fully accredited by the National League for Nursing.

Admission Policies

Admission Requirements

A candidate for admission to the School of Nursing:

- 1) must meet all requirements for admission to the University of Missouri-St. Louis (see Undergraduate Admissions section in this *Bulletin*);
- 2) must be a graduate of either a diploma or associate degree program in nursing;
- 3) must hold a current license as a registered nurse in the state of Missouri;
- 4) must have a cumulative grade point average of 2.5 (4.0 scale) on all previous college-level course work;
- 5) must have at least 30 hours of college credit applicable to a degree.

School of Nursing

Credit Requirements for Admission

Associate Degree or Diploma Nursing The curriculum of the upper-division nursing major is based on the lower-division program of study in general education which most associate degree graduates will have acquired. Currently most diploma graduates will have these credits as well because hospital schools of nursing are utilizing college courses for their general education requirements.

For the diploma nurse who graduated before hospital schools affiliated with colleges, various testing methods can be used to grant college credit, such as NLN science scores and CLEP (College Level Examination Program).

Nursing Credit by Examination In order to grant college credit for basic nursing knowledge and skill, the student must successfully complete four written placement examinations. The four examinations cover basic nursing knowledge in medical-surgical nursing, nursing of children, maternity nursing, and psychiatric nursing.

Twenty-eight hours of college credit will be recorded on the student's transcript following successful completion of the four examinations.

Additionally, provisions have been made with some St. Louis area nursing schools to facilitate transfer of credit. For example, admission requirements are based on the nursing programs offered at the St. Louis Community Colleges. Therefore, graduates of these programs with a 2.5 grade point average have met all admission requirements.

General education courses are taught at UM-St. Louis and at off-campus sites at dePaul Health Center, Jewish Hospital School of Nursing, and other locations thereby facilitating nurses' matriculation into the BSN program.

Acceptance into the B.S.N. Program

Following the completion of the University's admission requirement, the Student Affairs Committee of the School of Nursing will review the application for acceptance into the program.

For specific information regarding the BSN degree program, please contact: UM-St. Louis, School of Nursing, Office of Student Services and Records—(314) 553-6071.

Degree Requirements

A total of 120 credit hours is needed for graduation. The lower-division requirements of the B.S.N. program will be met by most associate degree or diploma graduates with transferable college credit.

Satisfactory/Unsatisfactory Restrictions All prerequisite courses to the nursing major and all nursing courses are exceptions to the satisfactory/unsatisfactory option.

I Lower-Division Requirements (59-60 hours total)

These courses are prerequisite to the nursing major and must be completed prior to matriculation into the nursing courses. Lower-division general education courses must meet the prerequisite requirements for upper-division general education courses.

General Education Courses (29-31 hours)

Subject Area	UM-St. Louis Equivalent
English Composition (3)	English 10 , English Composition (3)
Anatomy and Physiology (6-8)	Biology 113 , Human Physiology and Anatomy I (4) Biology 114 , Human Physiology and Anatomy II (4)
Microbiology (4-5)	Biology 116 , Microbiology and Man (3) Biology 118 , Microbiology and Man Laboratory (2)
Chemistry (4-5)	Chemistry 1 , General Chemistry (3) Chemistry 3 , General Chemistry Laboratory (2)
American History or Government (3) (State requirement)	History 3 , American Civilization (3) History 4 , American Civilization (3) History 107 , The History of Missouri (3) History 311 , Topics in American Constitutional History (3) Political Science 11 , Introduction to American Politics Political Science 121 , Civil Liberties Political Science 130 , State Politics Political Science 135 , Introduction to Urban Politics Political Science 140 , Public Administration Political Science 230 , The American Presidency Political Science 233 , Introduction to Political Behavior Political Science 235 , Political Parties and Elections Political Science 240 , Bureaucratic Politics Political Science 245 , Urban Administration Political Science 320 , Introduction to American Constitutional Law Political Science 331 , Legislative Processes Political Science 346 , Urban Planning and Politics
Psychology (6)	Psychology 3 , General Psychology (3) Psychology 268 , Human Growth and Behavior (3) or Psychology 277 , Child Psychology (3)
Sociology (3)	Sociology 10 , Introduction to Sociology (3)
Mathematics Proficiency	Mathematics 02, a, b, c , Fundamentals of Algebra (no credit toward graduation) or Proficiency by mathematics placement examination

Nursing Credit Requirement (28 hours)

Successful completion of a junior-level placement exam in basic nursing knowledge and skills. See Nursing Credit by Examination in the preceding General Information section for more details.

School of Nursing

II Upper-Division Requirements

(58-63 hours total)

The upper-division program of study leading to the B.S.N. degree integrates general education and advanced professional nursing knowledge and skills. The upper-division requirements of 58-63 credit hours, to complete the 120 hours needed for the degree, may be earned in a two-year period by most full-time students. A student must earn a grade of C or better in all courses **required** for the degree, both in general education course work and in nursing course work.

General Education Course Work (30-31 hours)

English 210, Advanced Expository Writing or equivalent (3 hours) is **required**.

Humanities (9 hours) Three courses are selected, one course in logic and two courses from art or music appreciation, literature or philosophy.

Electives (3-9 hours) Students take 3 to 9 credit hours of electives to meet the 120-hour degree requirement and the University requirements of 45 hours above the introductory level.

Statistics (3 or 4 hours) **One** of the following courses is **required**:

- Sociology 220**, Sociological Statistics (3)
- Psychology 101**, Psychological Statistics (4)
- Mathematics 31**, Elementary Statistical Methods (3)
- Business Administration 131**, Elementary Statistics (3)

Also **required** are the following courses:

- Biology 213**, Vertebrate Physiology (3)
- Chemistry 2**, General Organic Chemistry (3)

Nursing Course work (32 hours)

The nursing courses have been developed to expand the student's nursing knowledge and skill in patient teaching, leadership, interpersonal communication, and health assessment. A number of courses are designed to acquaint the registered nurse with nursing theory, research, and family and community health. The nursing course sequence must be completed within five years after a student has taken Nursing 200 and enrolled in a subsequent nursing course. The following nursing courses are **required** for the degree.

Junior-Level Nursing Courses Admission to the School of Nursing is required for the student to begin the nursing course sequence. All junior-level courses are three-hour courses.

200, Dimensions of Professional Nursing Practice

Note: Nursing 200 is a prerequisite or corequisite to other junior-level nursing courses.

- 216**, Teaching and Interpersonal Systems in the Practice of Nursing
- 220**, Health Assessment
- 240**, Leadership and Management in Nursing
- 250**, Research in Nursing

Note The above 200-level nursing courses are prerequisites or corequisites to 260.

260, Application of Professional Nursing Skills (this is a clinical course)

All junior-level courses must be completed successfully prior to enrolling in senior-level courses.

Senior-Level Nursing Courses Only 337 and 340 contain a clinical component.

- 308**, Designing Nursing Systems: Families
- 320**, Designing Nursing Systems: Groups
- 338**, Community Health Nursing
- 337**, Community Health Nursing Practicum
- 340**, Synthesis in Nursing Practice
- 350**, Contemporary Nursing Issues

Note: Nursing 350 must be taken in the student's last semester.

Graduate Studies

Cooperative Graduate Program in Nursing

Master of Science in Nursing The Schools of Nursing at the University of Missouri-Kansas City and the University of Missouri-St. Louis offer a Cooperative Graduate Nursing Program on the St. Louis campus. The program requires 36 semester credits to complete and is fully accredited by the National League for Nursing. The full-time student, taking nine credits a semester, can complete the program in four semesters. The part-time student is required to take six semester credits a semester in order to complete the program in six semesters.

Students may choose one of the three Clinical majors:

- Health Care of the Adult
- Health Care of Children
- Health Care of Women (Perinatal)

In addition, the student may select one of three functional role areas: Education, Administration, or Clinical Specialty.

The completion of comprehensive examinations and a thesis are required.

Method of Instruction The faculty of both the Kansas City and St. Louis campus will teach in this program using the interactive telecommunication system of the University of Missouri. All classes and clinical experiences will be in the St. Louis area; however, if the student chooses, opportunities will be made available for students and faculty of the two campuses to interact.

School of Nursing

Master's Program Objectives The function of graduate education in nursing leading to the master's degree is to build upon the knowledge, skills, and attitudes of baccalaureate education in such a way as to:

- 1) Demonstrate knowledge, values, and skills in the management of client care in a specialized area of nursing practice.
- 2) Demonstrate knowledge, values, and skills in a selected functional role.
- 3) Utilize the process of systematic inquiry (research) to validate and expand nursing practice.
- 4) Utilize a theory-derived approach to advanced nursing practice.
- 5) Apply strategies of planned change to practice and the health care delivery system.
- 6) Function as a leader and collaborator in the health care delivery system.
- 7) Contribute to the evolving science of nursing through the generation of a thesis.

Admission Requirements

Program applicants must have the following:

- 1) BSN from NLN-accredited college/university-based program or from a BSN program comparable to UM-Kansas City School of Nursing's BSN program.
- 2) Minimum cumulative grade point average of 3.0.

Matriculation Requirements

- 1) Current Missouri licensure. Clinical courses cannot be taken without current licensure; copy of license is to be filed in the School of Nursing.
- 2) Basic Cardiac Life Support Certification record on file with the School of Nursing.
- 3) Graduate Record Examination. Have an official copy of scores submitted to the Admissions Office.
- 4) Upper-division or comparable statistics course with minimum grade of "B."
- 5) Free standing Health Assessment course with minimum grade of "B."

See an academic adviser in the School of Nursing for specific courses in the M.S. in Nursing program.

Professional Organizations

American Nurses Association

Students, as registered nurses, are eligible for membership in the American Nurses Association. Membership and participation in this professional organization is strongly urged for all nurses practicing today. Nurses, as the largest group of health professionals, have a responsibility to assume leadership positions in the determination of health-care policy, and this activity can best be accomplished by participating in the professional organization.

Rho Nu

Rho Nu is the student association of the School of Nursing. It is a collegial group providing professional development activities for the registered-nurse student. All students enrolled in the School of Nursing are eligible for membership.

Continuing Education-Extension

Continuing education offerings in the field of nursing are currently presented to provide nurses with new information, techniques, and trends within the nursing profession.

Credit courses which will apply to the B.S.N. program are offered at the following off-campus sites: Jewish Hospital, St. John's Mercy Medical Center, Lindbergh High School, St. Joseph's Hospital in St. Charles, Missouri, Christian Hospital Northeast, and St. Louis Children's Hospital. Credit courses are offered in both nursing and general education.

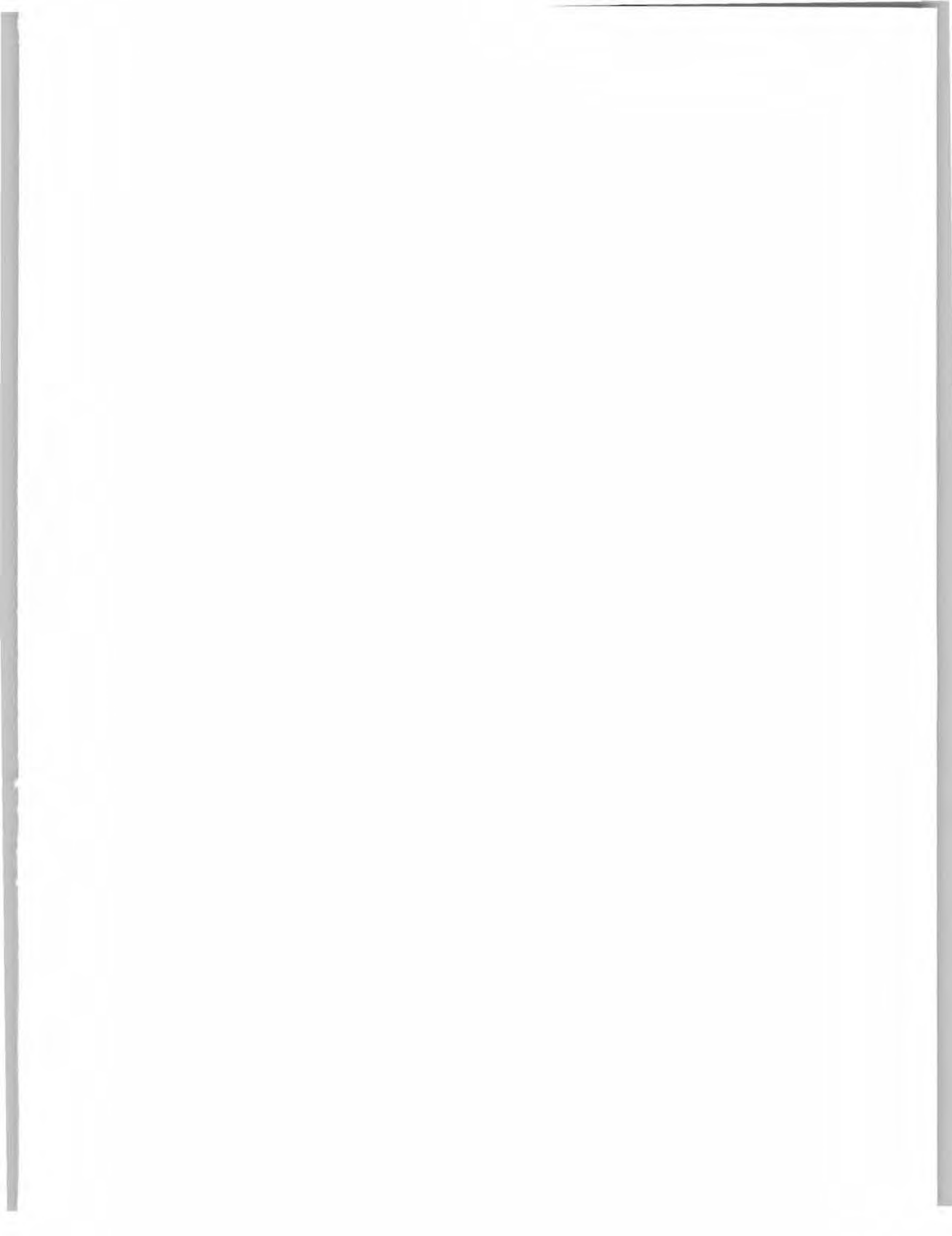
Career Outlook

The increased expertise in nursing skills and the broad base of managerial skills acquired by the registered nurse in a baccalaureate program will qualify our graduates for many positions of leadership in nursing. Moreover, the current growth in community health nursing has created a demand for nurses with the bachelor's degree in nursing.

B.S.N. graduates have an awareness of the complexity of influences on the health care of individuals, families, and groups, and this makes them a valuable member of health-care teams in both the hospital and community health setting.

The image features a minimalist, abstract design. A dark grey background is divided into several rectangular sections of varying shades. A prominent horizontal black bar in the upper-middle section contains the text 'School of Optometry' in a white, italicized serif font. Below this, a large, dark grey wavy shape spans across the width of the page. To the right, a vertical black bar extends from the middle to the bottom. In the lower-left quadrant, there is a small, solid white square. The overall aesthetic is clean and modern, using a limited color palette of greys, black, and white.

School of Optometry



School of Optometry

Faculty

Jerry L. Christensen, Dean; Professor
O.D., Ph.D., The Ohio State University

David W. Davidson, Associate Dean; Associate Professor
M.S., University of Alabama-Birmingham; O.D., University of California-Berkeley

Gerald A. Franzel, Assistant Dean for Continuing Education and Community Relations; Clinical Associate Professor
O.D., University of Houston

Carol K. Peck, Director of Research; Professor
Ph.D., University of California-Los Angeles

Ralph P. Garzia, Associate Professor
O.D., Pennsylvania College of Optometry

Stephen W. Lehmkuhle, Associate Professor
Ph.D., Vanderbilt University

William F. Long, Associate Professor
Ph.D., Michigan State University; O.D., Indiana University

Edward S. Bennett, Associate Professor
M.S.Ed., O.D., Indiana University-Bloomington

Donald J. Egan, Associate Professor
O.D., Pennsylvania College of Optometry

Linda R. Trick, Associate Professor
O.D., Indiana University

Alexander J. Harris, Director of Minority Affairs; Clinical Assistant Professor
M.A., Washington University; O.D., University of Missouri-St. Louis

Daniel D. Selbert, Director of Optometric Center; Clinical Assistant Professor
O.D., Illinois College of Optometry

Michael A. Sesma, Assistant Professor
Ph.D., University of California-Riverside

Steven B. Nicholson, Assistant Professor
O.D., Southern California College of Optometry

William H. McAlister, Assistant Professor
O.D., Ohio State University; M.A., Webster University; M.P.H., University of Illinois

William G. Bachman, Assistant Professor
O.D., Southern College of Optometry; M.S., University of Alabama-Birmingham; A.S., Missouri Western College

Carl J. Bassi, Assistant Professor
Ph.D., Vanderbilt University; B.S., University of Pittsburgh-Johnstown

Nina Tumosa, Assistant Professor
Ph.D., State University of New York-Albany; M.S., Rensselaer Polytechnic Institute; B.S., Rensselaer Polytechnic Institute

Timothy A. Wingert, Assistant Professor
O.D., Illinois College of Optometry; B.S., Illinois Benedictine College

Steven J. Grondalski, Clinical Assistant Professor
O.D., Pennsylvania College of Optometry; B.S., Pennsylvania College of Optometry; B.S., St. Louis University

Faye DeClue Allen, Clinical Assistant Professor
O.D., University of Missouri-St. Louis

Vinita A. Henry, Clinical Assistant Professor
O.D., University of Missouri-St. Louis

Raymond A. Myers, Clinical Assistant Professor
O.D., Indiana University-Bloomington

Marian C. Welling, Assistant Instructor
B.S., Ferris State College

General Information

The UM-St. Louis School of Optometry enrolled its first class in 1980, graduating 32 students in May 1984. It is located on the South Campus complex of the University of Missouri-St. Louis at 7800 Natural Bridge Road. A modern five-story building houses the School's classrooms, laboratories, research facilities, administrative offices, health-science library, and the Optometry Eye Clinic facility. The complex also includes a large cafeteria, student lounge, and an impressive 350-seat amphitheater.

The Optometry Eye Clinic Facility located on campus is open to the public, as well as to the faculty, staff, and students of the University. The primary goal of the clinic is to provide patients with high-quality vision care. This purpose is consistent with the overall goal of training well-qualified eye care practitioners.

In addition to the Optometry Eye Clinic on the UM-St. Louis campus, the School operates a second clinical facility, the Optometric Center of St. Louis, in the Central West End of the city. The Optometric Center is a full-scope optometric eye care facility which serves as an important clinical rotation for third- and fourth-year student interns.

A number of outreach programs have been established to provide additional sites for the advanced clinical training of fourth-year student interns. Examples include the Veterans Administration Medical Center in St. Louis and Kansas City; Grace Hill Neighborhood Health Center; Yeatman/Union-Sarah Health Centers; Anandarko Indian Health Center in Oklahoma City; Fort Leonard Wood; New Life Evangelistic Center; the Denver Optometric Center; and Carl Albert Indian Hospital in Ada, Oklahoma.

Situated in Missouri's largest metropolitan area, the School enjoys the city's strong community and professional support. The urban setting offers many opportunities for outreach programs, expanding the scope of optometric education and making available highly diverse programs of clinical training. Another asset of the School is the location of the national headquarters of the American Optometric Association, approximately twelve miles from the campus.

School of Optometry

The curriculum leading to the Doctor of Optometry degree is a four-year, full-time program of study. The first year of the professional curriculum stresses optics and basic health sciences. The second year covers vision science and training in eye examination techniques. The third year emphasizes patient care and introduces the student to various specialty areas within optometry, such as contact lenses, pediatric and geriatric vision care, binocular vision and vision training, and low vision rehabilitation. The second and third years also include course work and clinical training in ocular disease and pharmacology. The Missouri Optometry Practice Act was revised by the state legislature in 1986 to include treatment of eye diseases utilizing pharmaceutical agents. Thus, optometry students at UM-St. Louis are uniquely situated to receive excellent training in this aspect of optometric practice. The fourth year provides additional patient care experiences and includes rotation through a variety of outreach programs, where the student gains added experience in the treatment of eye diseases as well as valuable experience in other optometric clinical specialties.

A student who satisfactorily completes all four years of the professional curriculum will be eligible to receive the Doctor of Optometry degree.

The UM-St. Louis School of Optometry has received full accreditation status from the American Optometric Association Council on Optometric Education.

Optometry students at UM-St. Louis are able to take advantage of many exciting and worthwhile extracurricular activities. Students participate in a Missouri Chapter of the American Optometric Student Association (A.O.S.A.). Through this organization, students become involved in local and national optometric activities. A.O.S.A. provides an environment for the cultivation of professional leadership skills. Optometry students have organized and participated in a variety of community service activities, including community health screenings and vision care to residents of nursing homes, convalescent hospitals, and mental institutions. Furthermore, optometry students have formed a local chapter of V.O.S.H. (Volunteer Optometrists in Service to Humanity), an international organization of optometrists providing free vision care to people in impoverished nations. Spouses of married optometry students have formed an optometric student auxiliary. They are involved in a variety of community service activities and work closely with the auxiliary to the Missouri Optometric Association.

In addition to the many activities through the School of Optometry, optometry students are able to take advantage of all the activities provided by the University to the entire university community. These include intramural sports, movies and cultural activities, a modern, fully-equipped gymnasium, and access to many social and cultural opportunities in St. Louis at reduced cost.

Admission Requirements

	Semester	Quarter
English	2	or 3
Biology (including laboratory)*	2	or 3
Physics (including laboratory)	2	or 3
Chemistry		
General (including laboratory)	2	or 3
Organic (including laboratory)	1	or 2
Mathematics**		
Calculus	1	or 1
Statistics	1	or 1
Psychology	2	or 2
Social and Behavioral Sciences	2	or 2

*One semester (or one quarter) of Microbiology is a requirement. Other biological science courses that are recommended include: genetics; cellular physiology; embryology.

**Trigonometry as a prerequisite course for Calculus must be completed either in high school or college.

All courses used to satisfy the admission requirements must have been taken at a fully accredited institution or must be acceptable by an accredited institution toward degree credit. Applicants must have completed 90 semester- or 135 quarter-hours (the equivalent of three years of college education) prior to the start of classes. The applicant cannot apply more than 60 semester-hours or 90 quarter-hours which were earned at a two-year institution toward the credit-hour requirement. Applicants holding a bachelor's degree will be given preference over applicants with similar academic credentials who do not have a degree.

Admission Test All applicants are required to take the Optometry Admission Test (OAT). The OAT is a replacement for the previous entrance examination, the Optometry College Admission Test (OCAT). The OAT is offered twice each year in February and October. Results are sent to the applicant and colleges of optometry approximately four to six weeks following the date of testing. Official test scores are acceptable for up to three years from the testing date.

Applicants are encouraged to take the examination in February or October of the year preceding anticipated application to the School of Optometry. If applicants wish to enhance their scores, they are encouraged to repeat the examination. For an OAT application packet and additional information, contact: Optometry Admission Testing Program, 211 East Chicago Ave., Chicago, IL 60611, (312) 440-2693.

Application Procedures

The Admissions Committee begins to process applications on August 1 for the class entering the following year. An applicant's file will be considered complete and ready for consideration by the Admissions Committee when the following material has been received:

School of Optometry

- 1) Application.
- 2) Official high school and college transcripts, followed by updated transcripts as they become available.
- 3) Academic Record form.
- 4) Official OAT results.
- 5) A composite evaluation prepared by the preprofessional advisory committee at the educational institution the applicant is attending. Those applicants not currently attending college or who are at an institution that does not offer a committee evaluation will be required to submit four letters of recommendation.

Early submission of applications is encouraged. Applications must be complete by March 15 to be considered for admission to the class entering in August of the same year. Application materials received after March 15 will not be evaluated for the class entering in August of the same year.

All correspondence and inquiries, including transcripts, should be addressed to: Chairperson, Admissions Committee, School of Optometry, University of Missouri-St. Louis, St. Louis, Missouri 63121-4499, (314) 553-6263.

Selection Procedures

The Admissions Committee has the responsibility to review and evaluate all applicants and select the best qualified candidates. The Committee considers: an applicant's overall grade point average, the grade point achieved in the sciences, any grade trends over the years in college, the scores on the Optometry Admission Test (OAT), as well as letters of recommendation. Those applicants whom the Committee feels to be most competitive will be scheduled for an interview. From this group of interviewed applicants, the entering class will be selected. Positions are available for forty new students each year. The policies of the University of Missouri-St. Louis and the School of Optometry comply with the provisions under those laws which forbid discrimination on the basis of race, color, sex, national origin, religion, age, handicap, or veteran status. The School of Optometry encourages minority applicants.

Acceptance Procedures

Students accepted for admission will begin receiving notices of acceptance in December prior to the year of anticipated matriculation. Notices of acceptance may be received as late as the following May. If acceptance to the class is conditional, the terms of the condition must be completed prior to matriculation. Applicants who have indicated that degree requirements will be completed prior to matriculation, and who have been selected for admission, may receive a conditional offer of acceptance contingent upon completion of the degree.

Financial Aid

The University of Missouri-St. Louis maintains an Office of Student Financial Aid to help students who are unable to obtain an education without the benefit of financial assistance. UM-St. Louis attempts to assist as many students as possible and encourages students to apply for financial assistance. For information regarding available sources of student financial assistance contact: Student Financial Aid, Room 209 Woods Hall, University of Missouri-St. Louis, St. Louis, Missouri 63121-4499, (314) 553-5526. In addition, the UM-St. Louis School of Optometry Office of Student Affairs has up-to-date information on numerous scholarships and grants. This information is given to a prospective student during the pre-interview process.

Fees

Regular Semester

The following lists the current 1989-90 fees for full-time optometry students who are enrolled for 16 credit hours per regular semester.

Educational Fee

Missouri Residents	(\$192.70 per cr. hr.) . . .	\$3083.20
Nonresident Students	(\$308.70 per cr. hr.) . . .	\$4939.20

These figures do not include a Student Facility and Activity Fee of \$53.40 (\$4.45 per credit hour) and a Parking Fee of \$46.40 (\$2.90 per credit hour). Parking fees are optional.

Summer Session

The following lists the current 1989-90 fees for Summer Session for optometry students enrolled for 8 credit hours.

Educational Fee

Missouri Residents	(\$192.00 per cr. hr.) . . .	\$1541.60
Nonresident Students	(\$308.70 per cr. hr.) . . .	\$2469.60

These figures do not include a Student Facility and Activity Fee of \$26.70 (\$4.45 per credit hour) and a Parking Fee of \$23.20 (\$2.90 per credit hour). Parking fees are optional. A Summer Session Clinic is required between the third and fourth professional year.

Class Size

Each entering class will be limited to 40 students.

Residence

The UM-St. Louis School of Optometry is state-supported and therefore gives preference to individuals who are bona fide residents of Missouri. Twenty of the forty available positions are reserved for Missouri residents. This number may be revised slightly (upward or downward) based on annual variations in the applicant pool. The remaining places will be allocated to residents of other states with some preference given to qualified applicants from states that provide contract support.

School of Optometry

Currently, seven of these nonresident positions are allocated by State Affiliation Agreements. Of the seven, three positions are reserved for residents of Arkansas and four positions are reserved for residents of Kansas. Individuals who are admitted under these State Affiliation Agreements will pay reduced educational fees. For additional information, contact: Optometry Program, Kansas Board of Regents, Suite 609, Capitol Tower, 400 S.W. Eighth, Topeka, KS 66603 (913) 296-3517; or Dr. P.M. Johnston, Coordinator, Department of Zoology, University of Arkansas-Fayetteville, Fayetteville, AR 72701 (501) 575-3251.

Optometry students will be required to pay Nonresident Educational Fees if they do not meet the University's residency requirements at the time of their enrollment. The definition of "residency" is outlined in the pamphlet *Tuition and Residency Rules* available from the Cashier's Office (314) 553-5151.

Four-Year Professional Degree (O.D.) Curriculum

First Year

Fall Semester

- 504, Neuroanatomy
- 505, Geometric Optics
- 506, Optometric Orientation
- 508, Human Anatomy and Physiology
- 512, Biochemistry

First Year

Winter Semester

- 510, Ocular Anatomy
- 513, Physical Optics and Photometry
- 514, Clinical Optometry I
- 515, Ocular Optics
- 516, Physiological Optics Laboratory
- 517, Ocular Motility
- 522, Systemic Pathology

Second Year

Fall Semester

- 520, Ophthalmic Optics
- 521, Clinical Optometry II
- 523, Ocular Physiology
- 524, Monocular Sensory Processes
- 535, Epidemiology
- 555, General Pharmacology

Second Year

Winter Semester

- 530, Ophthalmic Dispensing
- 531, Clinical Optometry III
- 532, Binocular Vision and Space Perception
- 533, Ocular Pathology I
- 541, Interpersonal Relations
- 565, Ocular Pharmacology

Third Year

Fall Semester

- 550, General Clinic I
- 553, Contact Lenses I
- 554, Binocular Vision Anomalies
- 556, Ocular Pathology II
- 557, Vision Performance
- 558, Geriatric Optometry

Third Year

Winter Semester

- 560, General Clinic II
- 561, Specialty Clinic I
- 563, Contact Lenses II
- 564, Low Vision
- 567, Pediatric Optometry
- 583, Practice Management
- 596, Public Health Elective

Fourth Year

Summer Session

- 570, Summer Clinic

Fourth Year

Fall Semester

- 580, General Clinic III
- 581, Specialty Clinic II
- 582, Clinic Seminar I
- 584, Affiliated Clinic I
- 597, Independent Study

Fourth Year

Winter Semester

- 590, General Clinic IV
- 591, Specialty Clinic III
- 593, Clinic Seminar II
- 594, Affiliated Clinic II

School of Optometry

Career Outlook

A Doctor of Optometry (optometrist) is an independent health-care professional who is specifically educated, clinically trained, and licensed to examine, diagnose, and treat conditions or impairments of the human vision system. Optometrists examine the eyes and related structures to determine the presence of vision problems, eye disease, and other ocular abnormalities.

Optometrists are the major providers of vision care. They provide treatment by prescribing ophthalmic lenses or other optical aids, provide vision therapy to preserve or restore maximum efficiency in vision, and in some states (including Missouri), are authorized to prescribe drugs in the treatment of certain eye diseases.

Optometrists can also detect certain general diseases of the human body such as diabetes, hypertension, and arteriosclerosis. When an eye examination reveals diseases in other parts of the body, the optometrist will refer patients to the appropriate health-care practitioner for treatment. Like physicians and dentists, optometrists are primary health-care professionals.

The scope of optometry requires an understanding of the development of vision from infancy through adulthood, and the therapeutic and rehabilitative methods required to care for the problems of vision from infancy through the declining years.

Optometry is the nation's third largest independent health care profession. Today, there are about 28,500 optometrists with approximately 25,000 involved in direct patient care. Nearly a quarter of the current practitioners will be reaching retirement age by the end of the century. The need for new optometrists resulting from this high attrition rate will be further augmented by an increasing demand for optometric services. Over 130 million persons in the United States currently wear some form of eyewear. It is estimated that nearly half of the remaining population has need of visual attention.

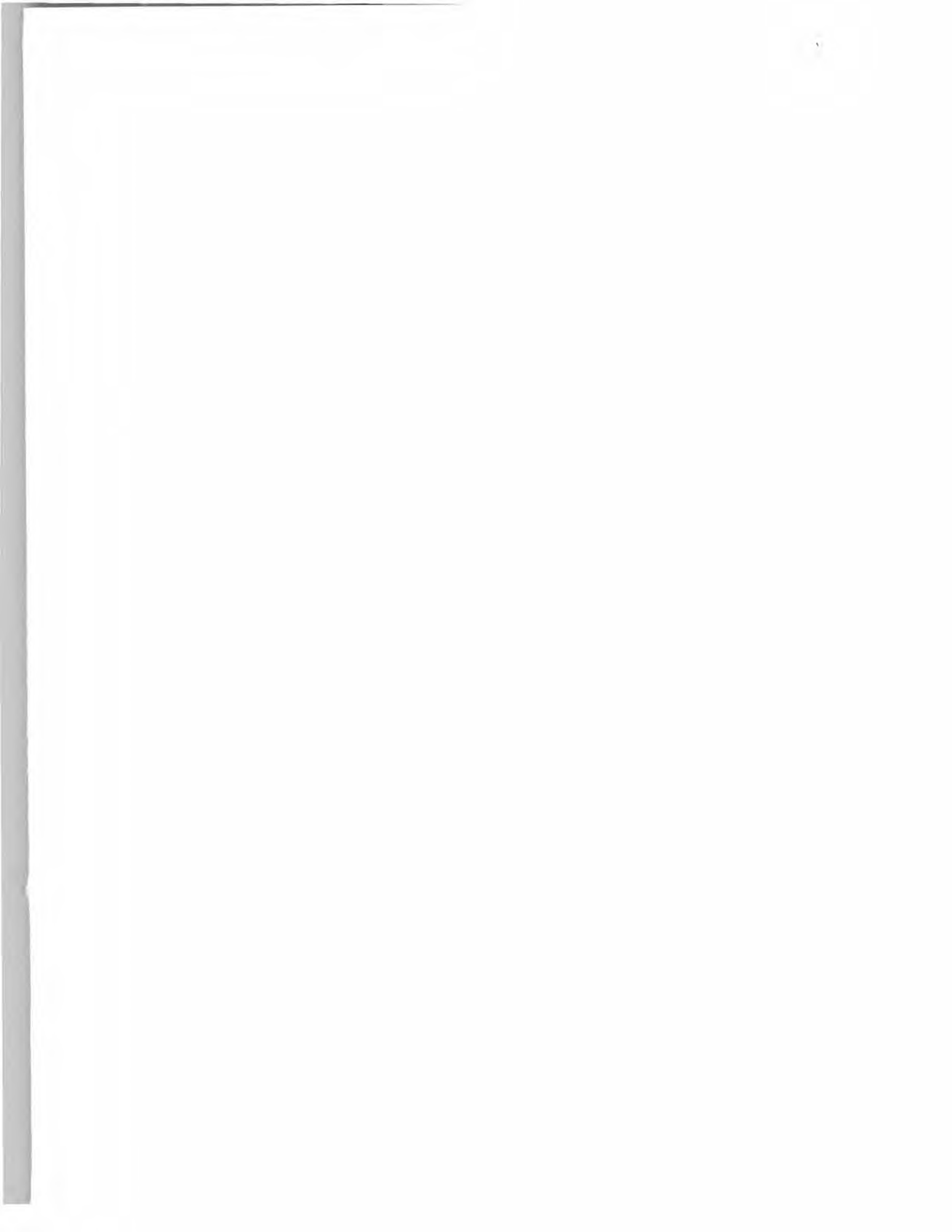
While the American Optometric Association recommends 14.3 practicing optometrists per 100,000 population, there are currently 10.2 per 100,000. Several states are below the average rate and some are recognized as having a critical shortage.

As our society becomes more highly mechanized, vision requirements become more exacting. The number of persons needing professional help for near-point visual tasks, including both older citizens and school children, is steadily growing. Increased demands for vision care result not only from population growth, but also from increased understanding of how good vision related to industrial production, student achievement, adjustments to aging, and other areas crucial to modern society.

The practice of optometry offers independence, flexibility, and diversity. Optometrists have a wide range of modes of practice. They practice vision care in the inner cities, suburbs, and rural areas. Opportunities exist for solo practice, associateship, optometric or multidisciplinary group practice, government or military service, and clinical or hospital settings. Additional optometric employment opportunities may be found in teaching, research, or both.

The patients whom the practicing optometrist treats may have varied and challenging needs. One could be involved in restoring vision to a partially sighted patient; fitting glasses for a child who is not achieving in school due to vision difficulty; treating an eye infection with antibiotics; improving the function of a patient's eyes through vision training; helping an elderly patient cope with changing vision through patient education; and performing initial eye examinations for those who need correction of astigmatism, nearsightedness, and numerous other vision problems.

Optometry is a rewarding career, both economically and personally. Based on data from the Bureau of Labor Statistics and surveys by professional associations, optometry is one of the top ten income-earning professions in the country.





Other Programs

UMR Engineering Center

Faculty

Edward C. Bertnolli, P.E., Director, Professor
Ph.D., Kansas State University
C. Ben Basye, P.E., Professor
Ph.D., Iowa State University
Birman Victor, Professor
Ph.D., Israel Institute of Technology
Anton deS. Brasunas, P.E., Professor Emeritus
Sc.D., Massachusetts Institute of Technology
Shirley N.C. Cheng, Assistant Professor
Sc.D., Washington University
Herbert A. Crosby, Professor Emeritus
D.Sc., Washington University
James H. Hahn, Associate Professor
Ph.D., University of Missouri-Rolla
Chaman L. Sabharwal, Professor
Ph.D., University of Illinois-Urbana
Daniel C. St. Clair, Professor
Ph.D., University of Missouri-Rolla
David A. Shaller, Assistant Professor
J.D., Cleveland State University

General Information

The UMR Engineering Center offers course work leading to the Master of Science degree in six areas of engineering and computer science. In addition, the Professional Development degree is available to persons wishing a more flexible post-baccalaureate degree.

Master of Science degree areas are as follows:

- Aerospace Engineering
- Civil Engineering
- Computer Science
- Electrical Engineering
- Engineering Mechanics
- Engineering Management
- Environmental Engineering
- Mechanical Engineering

Admission

Admission to candidacy for these degrees is granted by the University of Missouri-Rolla in the same manner that admission is granted on the UMR campus (see UMR catalog for full details).

Normally admission is granted to persons holding B.S. degrees in engineering from ABET-accredited schools (this does not apply to Computer Science) and whose undergraduate GPA places them in the upper third of their graduating class.

Degree Requirements

An appropriately selected program of 30 credit hours is required for the Master of Science degree with thesis, and a 33 credit hour program is required for the non-thesis Master of Science degree. Slight variations in credit hour requirements may exist from department to department.

Course Listings

Course listings for the various semesters may be obtained by writing or phoning the Engineering Center. Course descriptions are listed in the UMR graduate catalog.

The Center also provides information to St. Louis area residents about UMR programs in Rolla. The Center can assist area pre-engineering students with transfer to the Rolla campus and with entry into the Cooperative Training Programs that exist between UMR and numerous U.S. industries. This co-op program allows engineering students to gain valuable industrial experience during their school years and to be partially or totally self-supporting.

Fees

Registration fees for UMR Engineering Center programs are different from those on the UM-St. Louis campus. For information about the UMR evening program on the UM-St. Louis campus, write to UMR Engineering Center, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis Missouri 63121, or phone (314) 553-5431.

Reserve Officers' Training Corps

Students interested in Reserve Officers' Training Corps (ROTC) programs may enroll in either the Army ROTC program at UM-St. Louis or the Air Force ROTC program sponsored at UM-St. Louis through Parks College of St. Louis University. These programs provide undergraduate and graduate students with the opportunity to combine academic study with a military officer training program.

For further information concerning the Army ROTC program, contact the ROTC office at UM-St. Louis, telephone 553-5176 or call collect (314) 263-1253. For information on the Air Force ROTC program, contact the Air Force ROTC Department at Parks College of St. Louis University, telephone 337-7500, extensions 230 or 259.

The purpose of the Military Science Department is to develop young men and women into junior commissioned officers for positions of responsibility in the Army Reserve, Army National Guard, or Active Army.

Informal Cross-Enrollment Agreements

An informal cross-enrollment agreement, effective as of Winter Semester 1989 (January 1989), exists between the Department of Military Science, University of Missouri-St. Louis and Lindenwood College, St. Charles, Missouri, as well as Southern Illinois University-Edwardsville.

Benefits

Army ROTC offers UM-St. Louis and cross enrolled students:

- 1)** A challenging, important, well-paid job at graduation in one of the many professional fields that the modern Army has to offer. Army officers serve in such fields as aviation, procurement, personnel management, intelligence, military police, communications, engineering, transportation management, finance, combat arms, hospital administration, nursing, and research and development. Starting salary of an active duty Second Lieutenant is approximately \$18,500. Within three years he/she should be promoted to Captain with a salary of nearly \$30,000. Reserve officers attend one weekend per month and an annual two-week training camp.
- 2)** College financing. All students receive \$100/month during the final two years of college (up to \$2,000) plus another \$750 for attendance at summer camp. Also, advanced course students may join the Reserves as an officer trainee and receive Sergeants' pay (currently \$110/month) while in college.
- 3)** Two- and three-year scholarships. Fully enrolled students may compete for the many ROTC scholarships available every year. These scholarships pay for tuition, fees, and books, and also provide \$100/month.

- 4)** Option of two careers. Upon graduation and commissioning as officers in the U.S. Army, students may fulfill their obligation by serving on active duty or be guaranteed reserve duty if requested. This is an important option for those students who want to pursue a civilian career but would like to serve as reserve officers. Officers who serve on active duty receive 30 days paid vacation every year, free medical and dental care, travel, and the opportunity to pursue advanced degrees with educational assistance from the Army on a fully funded or partially funded basis.

The Program

College students who complete the Reserve Officers' Training Corps program will earn commissions as Second Lieutenants in the U.S. Army. The ROTC program may be completed in several different ways as outlined below.

- 1)** Four-Year Program. The Military Science program is traditionally offered as a four-year program. It is best to start as a freshman, but special arrangements can be made for those who start as sophomores. The first two years of Military Science are voluntary without service obligation, and designed to give the student a perspective of their leadership ability and what the Army can offer them. The student who decides to continue in ROTC and pursue a commission signs an agreement with the Department of the Army to accept a commission upon completion of the last two years of Military Science. In return the Army agrees to provide a subsistence allowance (up to \$2,000) and to provide all necessary uniforms and Military Science books.
- 2)** Two-Year Program. The two-year program is designed to provide greater flexibility in meeting the needs of students desiring commissions in the U.S. Army. UM-St. Louis students who did not participate in the four-year program and junior college transfer students are eligible for enrollment. Basic prerequisites for entering the two-year program are:
(A) Students must be in good academic standing (minimum 2.0 GPA) and pass an Army medical examination, and
(B) The student must have two academic years of study remaining (undergraduate, graduate, or combination).

The student will attend a six-week summer camp to catch up with the students in the four-year program. Attendance at the basic camp does not obligate the student in any way and is only intended to give the student a look at Army life and opportunities. The student will be paid approximately \$750 for attendance at basic camp.

Reserve Officers' Training Corps

Simultaneous Membership Program (SMP)

Students who qualify for the SMP (members of the Army Reserve or National Guard) can complete the military science program in two years and earn more than \$6,500 at the same time. At the completion of the second year of the advanced course, students are commissioned as Second Lieutenants in the reserves and may serve with a Guard or Reserve unit until they complete their college degree. Upon graduation, a student may request to stay in the reserve or may request active duty.

Veterans

Veterans of any of the Armed Forces may qualify for advanced placement and should contact the Military Science Department for details.

Scholarships

The Army Reserve Officers' Training Corps currently has 12,000 scholarships in effect, which pay for tuition, fees, and books, and provide \$100/monthly for the academic year. These scholarships cover periods of four years, three years, and two years. UM-St. Louis freshmen and sophomores should apply in January for the two- and three-year scholarships. Special consideration for scholarships is given to students in engineering, nursing, business, and any physical science. Scholarship students may incur a four-year active duty obligation; however, they may request reserve duty to serve with the National Guard or Army Reserve.

Qualifications

All students who desire to enter the Army Reserve Officers' Training Corps must be United States citizens, in good physical condition, and have high moral character. Students must be at least 17 years old to enroll and not over 30 when they receive their commission. Additional qualifications to be admitted into the advanced course include an academic average of C or better, and passing an Army medical examination.

Academics

UM-St. Louis Army Reserve Officers' Training Corps academics consists of two parts: (1) earning a degree in the student's chosen academic subject, and (2) completing 18 credit hours (four-year program) or 12 credit hours (two-year program) of the Military Science curriculum. The courses in Military Science are college-level academic courses which receive full academic credit toward the student's elective degree requirements in the Business School and the School of Education. The curriculum consists of classroom instruction and a leadership laboratory in which students receive leadership experience.

Graduate Study

The Army realizes the importance of a graduate degree for its personnel. There are several programs available to assist ROTC graduates in obtaining an advanced degree. The Army sends selected Second Lieutenants immediately to graduate school (with full pay and allowances) to pursue advanced degrees in engineering and the physical sciences. Other officers may postpone active duty for two years to continue graduate study. Students who are accepted into medical school may take up to four years to complete their studies. There are numerous opportunities for an officer to complete a master's degree in service and receive financial assistance from the Army.

Special Training

Selected volunteers may attend one of several special schools during the summer: the Airborne Course at Fort Benning, GA; Air Assault School at Fort Campbell, KY; Flight Training Orientation Program at Fort Rucker, AL; or the Northern Warfare School in Alaska. Successful course completion earns the coveted badge (such as the jump wings or air assault wings) associated with each school. Special Cadet Troop Leader Training is available on a limited basis. Students participating in the program live and work with an active Army unit during part of one summer.

Cadet Activities

Army ROTC students may participate in many extracurricular activities during the year. The cadets sponsor athletic teams in intramural sports on campus. Students interested in journalism publish a cadet newsletter. Social activities include the Army/Air Force Military Ball, a fall canoe trip down the Meramec River, picnics, and informal parties. Army ROTC students also support various campus and community service activities. Interested students also participate in the Ranger Club, Orienteering Club, Drill Team, Color Guard, and Rifle Team.

Army ROTC

Military Science courses are described in detail in a companion booklet to this *Bulletin*, the *Description of Courses*.

The mission of the Army Reserve Officers' Training Corps is to train and commission junior officers for service in the active and reserve components of the United States Army. While there is much to be learned in the classroom, at leadership laboratories and during summer camp, there are still other opportunities for self-enrichment and personal satisfaction to be found through active participation in the various extracurricular activities sponsored by ROTC and through interaction and association with fellow cadets and cadre. Cadre instructors are active Army officers and non-commissioned officers working full time as instructors and mentors at the university.

Reserve Officers' Training Corps

Two- and three-year scholarships covering all educational fees, a book stipend, and laboratory fees are available to qualified cadets in the Army ROTC program. Recipients also receive \$100 per month. Call the Army ROTC office on the UM-St. Louis campus for further information.

Air Force ROTC

Aerospace Studies courses are described in detail in a companion booklet to this *Bulletin*, the *Description of Courses*. The basic courses are designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in aerospace studies will be computed in the student's overall grade point average, but credit hours for these courses will not be included in the 120 hours needed for graduation.

Two-, three-, and four-year scholarships covering incidental fees and laboratory expenses are available to qualified cadets in the Air Force ROTC program. Recipients also receive \$100 per month and reimbursement for book costs. High school students interested in competing for the full four-year scholarship program must apply to Headquarters AFROTC, Maxwell AFB, Alabama, 36112-6663, not later than 1 December of their senior year. For further information call the Air Force ROTC detachment at (618) 337-7500, extension 259, or (800) 851-3048, extension 259. (In Illinois call (800) 851-7878.)

Programs at Other Universities

Reciprocal Programs

Unless otherwise stated, students interested in one of the following programs should contact the admissions office at the school where the program is offered.

Nebraska

The University of Nebraska in Lincoln offers programs for Missouri residents in architecture, community and regional planning, construction management, and actuarial science where students may pursue bachelor's degrees.

Illinois

A cooperative agreement exists between Southern Illinois University-Edwardsville and UM-St. Louis which permits students of one institution to take courses at the other institution as a regular part of their academic program. For further information consult the registrar's office or the dean's office.

Kansas

The following programs are offered to Missouri residents at various Kansas universities:

Humanities University of Kansas, Lawrence, with a Ph.D. in linguistics, an M.S. in music therapy, an M.A. in Oriental languages and literature, and a B.A. and M.A. in Slavic languages and literature (not Russian). A Ph.D. in Slavic languages and literature is also offered.

Grain milling and technology Kansas State University, Manhattan, with a B.S., M.S., or Ph.D. in bakery science and management, feed science and management or milling science and management.

Horticulture Kansas State University, Manhattan, with a B.S. in horticulture therapy.

Study Abroad Programs

Through agreements of academic cooperation with international universities, special opportunities for study abroad are available to qualified UM-St. Louis students. Agreements are in force with universities in France and the Federal Republic of Germany (West Germany). Also, other exchange programs may accept UM-St. Louis students.

Fees UM-St. Louis students may pay standard UM-St. Louis fees during their term of study abroad. Transportation and living expenses abroad are the responsibility of the student, but in general, no further academic fees are required by the foreign university. Terms of study may not coincide with the regular academic calendar of the University of Missouri-St. Louis.

Programs at Other Universities

Application The UM-St. Louis student must be recommended by the Center for International Studies. The student's qualifications typically include upper-division standing with a high grade point average, recommendations by faculty members, approval of the proposed course of studies via the departmental/divisional advisory process, and familiarity with or willingness to learn the foreign language of instruction/study. If selected, students must furnish evidence of good health, emotional maturity, and stability.

Expressions of interest are welcome throughout the year. Since the nomination process involves international mails, generally, formal applications should be submitted not later than the end of class work of the winter term for the following fall term.

For further information contact the Study Abroad Office, Center for International Studies, 366 SSB, 553-5753.

Universities Participating in Student and Faculty Exchange

France

Université Jean Moulin, Lyon

West Germany

Stuttgart University, Stuttgart
Frankfurt University, Frankfurt

Other Programs

The Center for International Studies has information on study abroad programs offered by other universities. UM-St. Louis students may participate in programs sponsored by CCIS (College Consortium for International Studies) and MASUA (Mid-America State Universities Association) institutions in Africa, Europe, Latin America, and the Far East. These programs vary in duration from several weeks to the full academic year and represent study opportunities in many disciplines. For further information, contact the Study Abroad Office.

CBHE Articulation Agreement

The Coordinating Board of Higher Education Articulation 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.

- 1)** Communication skills in the English language, three (3) courses—at least two (2) of which must be written; one (1) oral communication course is recommended;
- 2)** Humanities, three (3) courses from at least two (2) disciplines;
- 3)** Physical and/or biological sciences, two (2) courses including at least one (1) with its associated laboratory component;
- 4)** Mathematics, one (1) course—college algebra, an alternative course that includes a significant component of college algebra, or a course which has college algebra as a prerequisite; and
- 5)** Social and behavioral sciences, three (3) courses from at least two (2) disciplines.

All institutions shall recognize the validity of other institutions' general education requirements when the minimum requirements as specified above are met. However, some foreign language and/or upper division general education courses or upper division graduation requirements may be required by the receiving institution whenever all native students are obligated to satisfy the same requirements.

Baccalaureate professional schools or programs may specify exceptions to the credit hour and course distribution minimums established in this section by promulgating these exceptions and by establishing specialized articulation programs related to associate of science degrees as detailed in that section of these transfer guidelines. In these instances, transferring students are not exempted from satisfying the specialized lower division requirements of departments or divisions of an institution into which a student wishes to transfer.

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Code of Student Conduct

A student enrolling in the University assumes an obligation to conduct himself in a manner compatible with the University's function as an educational institution.

A. MISCONDUCT—for which students are subject to discipline falls into the following categories:

1. Dishonesty, Such as Cheating or Plagiarism—The Board of Curators recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards. In all cases of academic dishonesty the instructor shall make an academic judgment about the student's grade on that work and in that course and shall report such incidents to the Primary Administrative Officer.
2. Forgery, Alteration, or Misuse of University documents, records or identification, or knowingly furnishing false information to the University.
3. Obstruction or Disruption of teaching, research, administration, disciplinary procedures, or other University activities, including its public service functions, or of other authorized activities on University premises.
4. Physical Abuse of any person on University-owned or -controlled property or at University-sponsored or -supervised functions, or conduct which threatens or endangers the health or safety of any such person.
5. Theft of or Damage to Property of the University or of a member of the University community or campus visitor.
6. Unauthorized Entry to or use of University facilities.
7. Violation of University Policies or of Campus Regulations including campus regulations concerning the registration of student organizations, the use of university facilities, or the time, place and manner of public expression.
8. Use, Possession or Distribution of Narcotic or Dangerous Drugs, such as marijuana and lysergic acid diethylamide (LSD), except as expressly permitted by law.
9. Violation of Rules Governing Residence in University-owned or -controlled property.
10. Disorderly Conduct or lewd, indecent, or obscene conduct or expression on University-owned or -controlled property or at University-sponsored or -supervised functions.
11. Failure to comply with directions of University officials acting in the performance of their duties.
12. Conduct which adversely affects the student's suitability as a member of the academic community.

Student Disciplinary Matters

Rules of Procedures in Student Disciplinary Matters Adopted November 8, 1968, Amended March 20, 1981

A. PREAMBLE--The following Rules of Procedure in Student Disciplinary Matters are hereby adopted in order to insure insofar as possible and practicable (a) that the requirements of procedural due process in student disciplinary proceedings will be fulfilled by the University, (b) that the immediate effectiveness of Article V of the Bylaws of the Board of Curators relating to student conduct and discipline may be secured for all students in the University of Missouri, and (c) so that procedures shall be definite and determinable within the University of Missouri.

B. DEFINITIONS--As used in these rules, the following definitions shall apply:

1. Primary Administrative Officers--As used in these procedures, "Primary Administrative Officer" is charged with the responsibility for the administration of these disciplinary procedures and refers to the person or persons on each campus designated.
2. Disciplinary Dismissal--An involuntary separation of the student from the institution for misconduct apart from academic requirements. It does not imply or state a minimum separation time.
3. Disciplinary Expulsion--Disciplinary dismissal of a permanent nature.
4. Disciplinary Probation--A status resulting from misconduct apart from academic performance. The student remains enrolled but under stated conditions.
5. Disciplinary Suspension--An involuntary separation of the student from the institution for misconduct apart from academic performance for a specified period of time.
6. Discipline Panel--A panel of students appointed by the Chancellor, from which shall be selected by the Chairman, upon the request of a student charged before the Student Conduct Committee, not more than three students to serve with the Student Conduct Committee.
7. References to Gender--Any use of grammatical gender reference shall be interpreted as applying equally to males and females.
8. Student--A person having once been admitted in the University who has not completed his course of study and who intends to or does continue his course of study in or through one of the campuses of the University. For the purpose of these rules, student status continues whether or not the University's academic programs are in session.
9. Student Conduct Committee--As used in these procedures, "Student Conduct Committee" is that body on each campus which is authorized to conduct hearings and to make dispositions under these procedures or a Hearing Panel of such body as herein defined.
10. Review--The exercise by the student or Primary Administrative Officer of the right to request the review by the Chancellor whether or not discipline is imposed and when the discipline imposed, if any, is other than expulsion, dismissal, or suspension.
11. Appeal--The exercise by the student or the Primary Administrative Officer of the right to have reviewed by the Chancellor the full record of the Student Conduct Committee where discipline of expulsion, dismissal or suspension is imposed.

C. POLICY AND PROCEDURES

1. Primary Administrative Officers--The Chief Student Personnel Administrator on each campus or his designee is the primary officer for administration of discipline for unacceptable conduct or infraction of University rules and regulations, except in cases of academic dishonesty, where the Chief Academic Administrator (Provost or Vice Chancellor for Academic Affairs) or his designee is the primary officer.

Student Disciplinary Matters

2. Preliminary Procedures--The Primary Administrative Officer shall investigate any reported student misconduct before initiating formal disciplinary procedures and give the student the opportunity to present his personal version of the incident or occurrence. The Primary Administrative Officer may discuss with any student such alleged misconduct and the student shall attend such consultation as requested by the Primary Administrative Officer. The Primary Administrative Officer, in making an investigation and disposition, may utilize student courts and boards and/or divisional deans to make recommendations which he shall consider in exercising the authority vested in him.

3. Informal Disposition--The Primary Administrative Officer shall have the authority to impose appropriate discipline and shall fix a reasonable time within which the student shall accept or reject a proposed informal disposition. A failure of the student either to accept or reject within the time fixed shall be deemed to be an acceptance and, in such event, the proposed disposition shall become final upon expiration of such time. If the student rejects informal disposition it must be in writing, and his signed statement shall be forwarded to the Committee. The Primary Administrative Officer may refer cases to the Student Conduct Committee without first offering informal disposition.

4. Temporary Suspension--Either the President or Chancellor of a campus may at any time temporarily suspend or deny readmission to a student from the University pending formal procedures when he finds and believes from available information that the presence of a student on campus would seriously disrupt the University or constitute a danger to the health, safety, or welfare of the University. The appropriate disciplinary procedure will be initiated within five days.

5. Formal Procedures and Disposition:

a. Student Conduct Committee:

(1) The Student Conduct Committee shall be appointed by the Chancellor and shall have the authority to impose appropriate discipline upon any student or students appearing before it, including, but not limited to, probation, suspension, dismissal, or expulsion.

(2) The Committee, when appropriate or convenient, may be divided by the Chairman of the Student Conduct Committee, into Hearing Panels, each panel to be composed of at least five members present at the hearing, including a designated chairman. A Hearing Panel has the authority of the whole Committee in those cases assigned to it by the Chairman of the Student Conduct Committee. The Chairman of the Committee or of a Hearing Panel shall count as one member of the Committee or Hearing Panel and have, in addition to his rights as Chairman, the same voting and other rights as other members of the Committee or Hearing Panel.

(3) Each Chancellor shall appoint a panel of students for his campus, to be known as the Discipline Panel. Upon written request of a student charged before the Student Conduct Committee, made at least forty-eight (48) hours prior to the hearing, the Chairman of the Committee or Hearing Panel shall appoint from the Discipline Panel not more than three students to sit with the Committee or Hearing Panel for that particular case. When students from the Discipline Panel serve at the request of a student charged, they shall have the same rights as other members of the Committee or Hearing Panel, including the right to vote.

b. General Statement of Procedures--A student charged with a breach of University rules or regulations or conduct in violation of the

General Standards of Student Conduct is entitled to a written notice and a formal hearing unless the matter be disposed of under the rules for informal disposition. Disciplinary proceedings are not to be construed as judicial trials, but care shall be taken to comply as fully as possible with the spirit and intent of the procedural safeguards set forth herein. The Office of the General Counsel shall be legal adviser to the Student Conduct Committee and the Primary Administrative Officer.

c. Notice--The Primary Administrative Officer shall initiate disciplinary actions by arranging with the Chairman to call a meeting of the Student Conduct Committee and by giving written notice by certified mail or personal delivery to the student charged with misconduct. The notice shall set forth the date, time and place of the alleged violation, the conduct to be inquired into, and the date, time, and place of hearing before the Student Conduct Committee. Notice by certified mail may be addressed to the last address currently on record with the University. Failure by the student to have his current correct local address on record with the University shall not be construed to invalidate such notice. The notice shall be given at least seven (7) consecutive days prior to the hearing, unless a shorter time be fixed by the Chairman for good cause. Any request for continuance shall be made in writing to the Chairman, who shall have the authority in his discretion to continue the hearing if he determines the request is timely and made for good cause. The Chairman shall notify the Primary Administrative Officer and the student of the new date for the hearing. If the student fails to appear at the scheduled time, the Committee may hear and determine the matter in his absence.

6. Right to Petition for Review (Other than expulsion, dismissal, or suspension):

a. In all cases where the discipline imposed by the Student Conduct Committee is other than expulsion, dismissal, or suspension, the Primary Administrative Officer or the student may petition the Chancellor or his designated representative in writing for a review of the decision within five (5) consecutive calendar days after notification. A copy of the Petition for Review must also be served upon the nonappealing party within such time. The Petition for Review shall state the grounds or reasons for review, and the nonappealing party may answer the petition within five (5) consecutive calendar days if he so desires.

b. The Chancellor or his designated representative may grant or refuse the right of review. In all cases where the Petition for Review is refused, the action of the Student Conduct Committee shall be final. If the Chancellor or representative reviews the decision, the action of the Chancellor shall be final unless it be to remand the matter for further proceedings.

7. Right of Appeal (Expulsion, dismissal, or suspension only):

a. When a student is expelled, dismissed or suspended from the University by the Student Conduct Committee, the Primary Administrative Officer or the student may appeal such decision to the Chancellor of the campus or his designated representative by filing written notice of appeal with the Chancellor within ten (10) consecutive calendar days after notification of the decision of the Student Conduct Committee. A copy of the Notice of Appeal will contemporaneously be given by the student to the Primary Administrative Officer or by the Primary Administrative Officer to the student. The appealing party may file a written memorandum for consideration by the Chancellor with the Notice of Appeal, and the Chancellor may request a reply to such memorandum by the appropriate party.

Student Disciplinary Matters

b. The Chancellor or his designated representative shall review the full record of the case and the appeal documents and may affirm, reverse, or remand the case for further proceedings and shall notify the Primary Administrative Officer and the student in writing of the decision on the appeal.

c. The Primary Administrative Officer or the student may thereafter appeal to the Board of Curators of the University of Missouri by filing a written Notice of Appeal with the Chancellor, the President and Secretary of the Board of Curators and giving notice to either the student or Primary Administrative Officer, as appropriate. Such Notice of Appeal must be filed within ten (10) days of the notification of action by the Chancellor. Upon the filing of a Notice of Appeal to the Board, the Chancellor shall cause the record of the case, including any written memoranda received during his consideration, to be promptly filed with the Secretary of the Board through the Office of the President.

d. The appealing party may file a written memorandum for consideration by the Board of Curators with the Notice of Appeal if he so desires, and the other party may file a written reply within ten (10) consecutive calendar days.

e. The Board of Curators shall take such action on the appeal as it deems appropriate and may require a hearing de novo on the issues made on the appeal. The Secretary of the Board shall notify the student, the Primary Administrative Officer, the Committee Chairman, the Chancellor and the President in writing of the decision of the Board.

8. Status During Appeal--In cases of suspension, dismissal, or expulsion where a Notice of Appeal is filed within the required time, a student may petition the appellate authority in writing for permission to attend classes pending final determination of appeal. The appellate authority may permit a student to continue in school under such conditions as may be designated pending completion of appellate procedures, provided such continuance will not seriously disrupt the University or constitute a danger to the health, safety, or welfare of the University community. In such event, however, any final disciplinary action imposed shall be effective from the date of the action of the Student Conduct Committee.

9. Student Honor Systems--Forums under the student honor systems established for investigating facts, holding hearings, and recommending and imposing sanctions are authorized when the student honor code or other regulations containing well defined jurisdictional statement and satisfying the requirements of Article V of the Bylaws of the Board of Curators have been reduced to writing and have been approved by the Chancellor and the Board of Curators and notice thereof in writing has been furnished to students subject thereto. Procedures shall satisfy the requirements of the Board of Curators' Bylaws, Article V, and shall contain procedures herein before stated insofar as appropriate and adaptable to the particular situations and shall be approved by the Chancellor and the General Counsel. Students subject to student honor systems shall have the rights of appeal as set forth in Section 200.020 C.6 and 7.

D. HEARING PROCEDURES

1. Conduct of Hearing--The Chairman shall preside at the hearing, call the hearing to order, call the roll of the Committee in attendance, ascertain the presence or absence of the student charged with misconduct, read the notice of hearing and charges and verify the receipt of notices of charges by the student, report any continuances requested or granted, establish the presence of any adviser or counselor of the student, and call to the attention of the student charged and his adviser any special or extraordinary procedures to be employed during the hearing and permit the student to make suggestions of or objections to any procedures for the Student Conduct Committee to consider.

a. Opening Statements:

(1) The Primary Administrative Officer shall make opening remarks outlining the general nature of the case and testify to any facts his investigation has revealed.

(2) The student may make a statement to the Committee about the charge at this time or at the conclusion of the University's presentation, at his election.

b. University Evidence:

(1) University witnesses are to be called and identified or written reports of evidence introduced as appropriate.

(2) The Committee may question witnesses at any time.

(3) The student or, with permission of the committee, his adviser or counselor may question witnesses or examine evidence at the conclusion of the University's presentation.

c. Student Evidence--The student shall have the opportunity to make a statement to the Committee about the charge and may then present further evidence through witnesses or in the form of written memoranda as he desires. The Committee may question the student or witnesses at any time. The Primary Administrative Officer may question the student or witnesses.

d. Rebuttal Evidence--The Committee may permit the University or the student to offer any matter in rebuttal of the other's presentation.

e. Rights of Student Conduct Committee--The Student Conduct Committee shall have the right:

(1) In cases involving more than one student which arise out of the same transaction or occurrence to hear such cases together, but in that event shall make separate findings and determinations for each student;

(2) To permit a stipulation of facts by the Primary Administrative Officer and the student involved;

(3) To permit the incorporation in the record by a reference of any document, affidavit or other thing produced and desired in the record by the University or the student charged;

(4) To question witnesses or other evidence introduced by either the University or the student at any time;

(5) To hear from the Primary Administrative Officer about dispositions made in similar cases and any dispositions offered to the student appearing before the Committee;

(6) To call additional witnesses or require additional investigation;

(7) To dismiss any action at any time or permit informal disposition as otherwise provided;

(8) To permit or require at any time amendment of the Notice of Hearing to include new or additional matters which may come to the attention of the Committee before final determination of the case; provided, however, that in such event the Committee shall grant to the student or Primary Administrative Officer such time as the Committee may determine reasonable under the circumstances to answer or explain such additional matters;

(9) To dismiss any person from the hearing who interferes with or obstructs the hearing or fails to abide by the rulings of the Chairman or the Committee;

(10) To suspend summarily students from the University who, during the hearing, obstruct or interfere with the course of the hearing or fail to abide by the ruling of the Chairman of the Committee on any procedural question or requests of the Chairman for order.

2. Students Rights Upon Hearing--A student appearing before a Student Conduct Committee shall have the right:

a. To be present at the hearing;

b. To have an adviser or counselor of his choice appear with him and to consult with such adviser or counselor during the hearing;

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- c. Upon timely request, to have students from the Discipline Panel sit with the Committee or Hearing Panel in his case;
- d. To hear or examine evidence presented to the Committee against him;
- e. To question witnesses present and testifying against him at the hearing;
- f. To present evidence by witness or affidavit of any defense the student desires;
- g. To make any statement to the Committee in mitigation or explanation of his conduct in question that he desires;
- h. To be informed in writing of the findings of the Student Conduct Committee and any discipline it imposes, and
- i. To request review or to appeal to the Chancellor or Board of Curators as herein provided.

3. **Determination by Committee**--The Student Conduct Committee shall then make its findings and determinations in executive session out of the presence of the Primary Administrative Officer and the student charged. Separate findings are to be made:

- a. As to the conduct of the student and
- b. On the discipline, if any, to be imposed. No discipline shall be imposed on the student unless a majority of the Committee present is reasonably convinced by the evidence that the student has committed the violation charged and should be disciplined therefore.

4. **Official Report of Findings and Determinations**--The Committee shall promptly consider the case on the merits and make its findings and determination and transmit them to the Primary Administrative Officer and the student charged forthwith.

5. **Other Procedural Questions**--Procedural questions which arise during the hearing not covered by these general rules shall be determined by the Chairman, whose ruling shall be final unless the Chairman shall present the question to the Committee at the request of a member of the Committee, in which event the ruling of the committee by majority vote shall be final.

6. **General Rules of Decorum**--The following general rules of decorum shall be adhered to:

- a. All requests to address the Committee shall be addressed to the Chairman.
- b. The Chairman will rule on all requests and points of order and may consult with Committee's legal adviser prior to any ruling. The Chairman's ruling shall be final and all participants shall abide thereby, unless the Chairman shall present the question to the Committee at the request of a member of the Committee, in which event the ruling of the Committee by majority vote shall be final.
- c. Rules of common courtesy and decency shall be observed at all times.
- d. An adviser or counselor may be permitted to address the Committee at the discretion of the Committee. An adviser or counselor may request clarification of a procedural matter or object on the basis of procedure at any time by addressing the Chairman after recognition.

7. **Record of Hearing**--A taped or stenographic record of the hearing shall be maintained. The hearing record shall be maintained and kept as long as the discipline imposed shall be in force, or for five (5) years, whichever is earlier. The notice, exhibits, hearing record and the findings and determination of the Committee shall become the "Record of the Case" and shall be filed in the Office of the Primary Administrative Officer and for the purpose of review or appeal be accessible at reasonable times and places to both the University and the student.

Appeals Procedures

Financial Aid Waiver (Appeals)

The University of Missouri-St. Louis has an established financial aid waiver (appeals) procedure. An aid applicant can raise questions or appeal the offer, or lack of an offer, of financial aid if not satisfied. The general provisions for appeals procedures are as follows:

- 1) An aid applicant who is not satisfied with the fact that no aid was offered, or was not pleased with the type and/or amount of aid that was offered, may make a written appeal to the campus Director of Student Financial Aid for reconsideration of the aid request and ask for a personal hearing.
- 2) If on review of all the facts of the case, including any new information which the applicant may provide, the director can make a revised offer which is satisfactory, the case can be closed.
- 3) If the director cannot provide a satisfactory solution, he/she refers the written appeal with all pertinent information to the next step. The written record is reviewed by the Director of Admissions, and the applicant may appear in person. Where academic progress is an issue, the student may ask an academic adviser or counselor to write or speak in the student's behalf. If a satisfactory solution is worked out, the case is closed.
- 4) If step three did not solve the problem, it is referred to the campus Faculty-Student Committee on Student Aid. In ordinary practice it is rare for a case to be appealed beyond this step.
- 5) If, however, the applicant is still not satisfied after review by committee, the case is to be referred to the chancellor.
- 6) The next appeal is the President.
- 7) The final University appeal would be for the President to refer a case to the Board of Curators.

Grievance About Grade

Recourse for a Student Who has a Grievance About a Given Grade

The following grievance procedure is to be followed by any student who believes he/she has received an unjustified grade in a course and wants a review of the matter. It is to be understood that the establishment of criteria for grades is the responsibility of the instructor. The purpose of this grievance procedure is to determine whether the criteria for grading were fairly applied. If these procedures lead to the conclusion that the grading criteria were improperly applied, then the instructor is to be requested to reconsider the grade.

- 1) The student's first recourse is to review the issue fully with the instructor involved and then with the department chairperson. This must be done within, at most, one month after the beginning of the succeeding regular academic semester.
- 2) If the issue has not been resolved within, at most, two weeks, the student should bring the matter to the dean of the School for adjudication by whatever appeals committee the dean's office has established. It is anticipated that nearly all cases would be settled at the department or College or School level.
- 3) A student may take his/her case to the chancellor.

Student Organization Policy

Policy on Student Organizations

The University recognizes that the acquisition of knowledge is not confined to the formality of the classroom and that much can be gained through the activities of student organizations. To assure maximum freedom for students and to assure that organizational activities are orderly, responsible and appropriate to the mission of the University, certain principles and procedures are established through which organizations gain University recognition.

I Procedures for Recognition

A. To obtain recognition, an organization shall submit to the vice chancellor for Student Affairs, through the office of student activities, a registration form which shall include:

- 1) The name of the organization.
- 2) A statement of the general purpose of the organization and the means for accomplishing it. The statement should demonstrate that the organization's purpose is to broaden the scope of general learning, extend knowledge of specialized areas, or to serve the professional, cultural, social or recreational interests of the University community, consistent with the educational goals of the University. The statement must not conflict with policies governing recognized organizations as listed below.
- 3) The names of at least three officers or responsible representatives, including student numbers, addresses and telephone numbers; these persons must be students registered at the University of Missouri-St. Louis.
- 4) A statement of any affiliation with any other organization not registered with the University, and a copy of the organization's constitution.
- 5) Upon submission of the registration form the organization shall be granted temporary recognition until the request for recognition is acted upon by the Senate Student Affairs Committee.

B. To maintain recognition, an organization must register with the Office of Student Activities no later than two weeks following the beginning of each semester. The registration form must be kept current.

II Privileges of Recognized Organizations

- 1) Use of campus facilities and services or organizational activities as provided in the University regulations.
- 2) Use of the University name in connection with publicity, but only for identification purposes, and in no way to imply support of the University for any position of the organization.
- 3) Participation in University-sponsored events.
- 4) Application for supplemental financial assistance.

III Policies Governing Recognized Organizations

- 1) Organizations shall comply with the Rules and Regulations of the University of Missouri and the St. Louis campus.
- 2) Organizations' membership policy shall not discriminate for reasons of color, creed, national origin or sex. Any organization may petition to the vice chancellor for Student Affairs for exemption from the requirement as it applies to sex. Academic and professional organizations which have discriminatory membership policy based on sex shall not be recognized.
- 3) Organizations' membership shall not be subject to approval by anyone other than the local campus membership.
- 4) Organizations are expected to maintain fiscal responsibility.
- 5) Organizations are encouraged to seek the advice of faculty and other members of the University community.

IV Procedure for Review of Grievances

A. Any member of the University community may bring charges against a recognized organization for breach of the above policies or procedures.

B. Such charges, except those pertaining to discrimination, are brought initially to the vice chancellor for Student Affairs, who may:

- 1) Dismiss the charges, in which case an appeal may be made to the Senate Student Affairs Committee.
- 2) Settle the charges in a way acceptable to both parties or,
- 3) Refer the charges to the Senate Student Affairs Committee.

C. Penalties may range from withdrawals of one or more privileges to withdrawal of recognition. Assessment of penalties shall also provide for the conditions leading to reinstatement of such privileges or recognition.

D. Either party to the charges may appeal the decision of the Student Committee on Group Recognition to the chancellor.

Policy on Hazing

Hazing, defined by the Fraternity Executive Association and accepted by the University of Missouri-St. Louis, is any intentional action taken or situation created, whether on or off University premises, that produces mental or physical discomfort, embarrassment, harassment, or ridicule. This includes but is not limited to: paddling in any form, creation of excessive fatigue, physical or psychological shocks, wearing apparel publicly which is conspicuous and not normally in good taste, engaging in public stunts and buffoonery, morally degrading or humiliating games and activities, involuntary labor, or any activity not consistent with the University of Missouri Board of Curators Standard of Student Conduct.

The University of Missouri-St. Louis does not condone or tolerate hazing of any type by an organization, or by an individual against another individual.

The Office of Student Activities will investigate any incident in which a charge of hazing has been made. University recognition may be temporarily withdrawn pending hearings and due process procedures.

Should it be determined that a student organization or any of its members is guilty of hazing as previously defined, sanctions may include but are not limited to:

A. automatic and indefinite suspension of campus recognition with an accompanying loss of all campus privileges (i.e. use of facilities, student services, etc.);

B. disciplinary action against those members involved in the incident(s) including suspension or expulsion from the University.

Implementation: Each organizational president (or equivalent officer) is required to read and sign the University's Policy on Hazing at the first regular meeting at which he or she presides. This policy, signed by the incoming president (or equivalent officer), **must** accompany any notification of a change in officers submitted to the Office of Student Activities. Failure to do so will result in the automatic imposition of inactive status on the organization with an accompanying loss of all university privileges until such time as the signed policy is submitted.

Equal Opportunity Policies

Equal Opportunity Policies of the University of Missouri-St. Louis

The following University policies are governed by the Affirmative Action Office:

Affirmative Action on Committee Appointments Policy—As a part of the implementation of the Affirmative Action Plan of the University of Missouri, any person appointing any committee for the University or any campus, in selecting the membership, shall give due consideration to the inclusion in such membership of women and minorities unless membership thereon is ex-officio.

Equal Employment Opportunity Policy—The Curators of the University of Missouri do hereby reaffirm and state the policy of the University of Missouri on Equal Employment/Educational Opportunity.

1. Equal Opportunity is and shall be provided for all employees and applicants for employment on the basis of their demonstrated ability and competence without discrimination on the basis of their race, color, religion, sex, national origin, age, disability, or status as a Vietnam era veteran.

2. Equal opportunity is and shall be also provided for all students and applicants for admission in compliance with existing legislation.

Sexual Harassment

The following policy has been developed by the University of Missouri in order to respond to an increased awareness regarding sexual harassment by providing information on the subject and guidance for members of the University community.

Policy—It is the policy of the University of Missouri, in accordance with providing a positive discrimination-free educational and work environment, that sexual harassment in the work place or the educational environment is unacceptable conduct and will not be condoned.

Definition—For the purposes of this policy, sexual harassment may be defined as unsolicited nonreciprocal behavior by an employee who is in a position to control or affect another employee's job or a student's status as a student and who uses the power or authority of that position to cause that student or employee to submit to sexual activity, or to fear that he or she would be punished for the refusal to submit.

1. Sexual harassment also includes employee conduct of a sexual nature unreasonably interfering with another employee's work performance or student's status as an offensive working or educational environment.

2. Sexual harassment may consist of a variety of behaviors by University employees or students including, but not limited to, subtle pressures for sexual activity, inappropriate touching, inappropriate language, demands for sexual favors, and physical assault.

Procedure—Each campus shall develop and publish such informal procedures as needed to implement this policy. Any formal procedures shall use the existing grievance procedures.

Auxiliary Aids for Handicapped Students

The University maintains its commitment to the education of qualified handicapped students by providing them an equally effective opportunity to participate in or benefit from its educational programs as afforded non-handicapped students.

As a part of this commitment and upon the request of a qualified handicapped student, the Chief of Student Personnel Administrator or designee will arrange for an assessment of the student's abilities and his or her need for some type of auxiliary aid.

This assessment will include an evaluation of the extent of the student's disability and the requirements of the particular course or

education program in which the student is enrolled or plans to be enrolled.

If after the assessment of the student and the course, the University determines that some type of auxiliary aid is required, it will assist the qualified handicapped student 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, shall provide the necessary auxiliary aid or reimburse the student for the reasonable cost of the necessary auxiliary aid.

Requests by students for such assessments must be made no later than six weeks prior to the beginning of the next semester in order to provide sufficient time for the assessment and for obtaining any necessary auxiliary aid.

Unfavorable determinations made pursuant to this policy may be appealed by the handicapped student through the University of Missouri Discrimination Grievance Procedures for Students, a copy of which will be provided to any student whose request for auxiliary aid is denied.

(Additional resource materials are available through the Affirmative Action Office.)

AIDS Policy Statement

Current knowledge indicates college and university students or employees with AIDS, ARC, or a positive antibody blood test do not pose a health risk to either students or employees in a usual academic or residential setting. The policy of the University of Missouri is to permit students and employees with AIDS to continue to engage in as many of their normal pursuits as their condition allows. Managers should be sensitive to the medical problem and ensure that such employees are treated consistent with the treatment of other employees. Students will be allowed to continue their enrollment and activities (including continued residency in student housing) as long as they continue to meet academic standards and medical evidence indicates their conditions are not a threat to themselves or others. Every effort will be made to maintain confidentiality at all times.

The University also has a legitimate interest in the welfare of all students, employees, and visitors to the campus. Every reasonable precaution will be taken to minimize the risk that an employee's or student's condition will present a health and/or safety hazard to others.

The University will not discriminate against individuals with HIV infection, AIDS or ARC, but this protection does not include individuals with secondary infections or diseases that would constitute a direct threat to the health or safety of others or who may because of the disease or infection be unable to perform duties of their employment. In such cases, the appropriate University personnel or student policy will determine what changes, if any, will be made in the student's or employee's academic or work program.

In the event of public inquiry concerning AIDS on campus, the Chancellor or the Chancellor's designee will provide appropriate information on behalf of the University. Existing policies regarding confidentiality of employee and student records will be followed.

Consistent with its concern for students and employees with AIDS, the University offers a range of resources through the AIDS Task Force on each campus and through other campus services.

- a. Student, employee, and management education and information;
- b. Referral to agencies and organizations that offer supportive services for life-threatening illnesses;
- c. Consultation to assist employees in effectively managing health, leave, and other benefits.

Equal Opportunity Policies

The AIDS Task Force on each campus will continue to meet periodically to review and update policy and to make recommendations as new medical facts become available. Each Task Force will continue to encourage programs to educate all members of the campus community about the reality of AIDS.

To address specialized needs, each campus is authorized to adopt and implement special policies related to AIDS which are consistent with this policy statement.

The Affirmative Action Office is located in 440 Woods Hall. The telephone number is 553-5695.

University of Missouri Equal Opportunity Statement

The University of Missouri-St. Louis is committed to equal employment and educational opportunities without regard to conditions of race, color, sex, religion, national origin, age, physical ability, veteran status, or individuals with HIV, AIDS, or ARC.

Each administrative unit of the University employing personnel, admitting students, or entering into contracts is charged with implementation of the University's commitments, and maintenance of records to demonstrate good faith efforts, in admission and training, recruiting and hiring, compensating and promoting, layoff and dismissal, granting of tenure, contracting and purchasing, and access to facilities and programs.

As an employer of persons and as an institution accountable to taxpayers and the general public, the University must have administrative and management practices that are designed for the best use of talent for operational effectiveness and efficiency.

(1) Recruitment and employment of personnel

a. Recruitment of professors and academic personnel in research and continuing education/extension is primarily the responsibility of deans, directors, chairpersons, and department heads.

b. Recruitment of administrative, service, and support staff, except for top-ranking administrative personnel, is primarily the responsibility of the personnel office of each campus, and the director of Human Resources for the University of Missouri-St. Louis administration. Selection is the responsibility of the administrative head of the employing unit.

c. Administrative efforts are made to recruit and employ minorities, women, the handicapped, and members of protected age groups.

d. The University maintains relationships with governmental agencies, community groups, and other organizations which may be of assistance in furthering recruitment and employment of minority groups, handicapped persons, and women into departments and units which have imbalances. Personnel sources are advised of the University's commitment to equal opportunity and affirmative action.

e. Imbalances exist when available talent among specified minorities, women, handicapped, or protected age group members is proportionately underrepresented in a particular personnel category in the University. Underrepresentation is determined by an analysis of the appropriate employment market which is generally national or regional for major administrators, professors, and academic personnel in research and continuing education/extension. The appropriate employment market is generally the state or local community for most administrative positions and for service and support staff.

f. Advertisement and notices of employment opportunities indicate a filing date for consideration.

g. Notice of employment and training opportunities are made to existing personnel.

h. Employment applications meet federal and state requirements relating to equal opportunity.

i. The Office of Affirmative Action maintains records to demonstrate efforts and results of efforts to achieve equity and to act affirmatively and reasonably to correct imbalances.

(2) Salaries, wages, and benefits

a. University compensation and benefit programs are administered without regard to conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.

b. The salary range for academic positions is determined in advance of recruitment on the basis of prevailing national levels and departmental scales for the educational attainment, experience, and specialty desired.

(3) Facilities, activities, and working conditions

a. University facilities are maintained on an equitable and nondiscriminatory basis.

b. Physical facilities have been adapted within the limits of the financial resources available to insure access to the University by the physically handicapped.

c. Opportunities for involvement in University activities are provided on an equitable or nondiscriminatory basis.

(4) Promotion and training

a. Promotions, contract renewals, the granting of tenure, and reductions in force of academic personnel are handled in accordance with established University procedures and qualification criteria for all persons and free of discrimination.

b. University policy requires that promotions, demotions, layoffs, recalls from layoffs, transfers, and temporary hires for service and support personnel are determined without regard to conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.

c. Participation in training and educational programs sponsored by the University, including apprenticeships, is open to all employees within eligible job classifications.

d. The University offers developmental programs for professional and personal growth to enhance promotion potential.

(5) Student admission and retention

a. The University gives students equal access to its academic programs without regard to conditions of race, color, sex, religion, national origin, age, or physical ability. Furthermore, the University seeks to recruit, enroll, retain, and graduate minority group members and women in those fields in which they are underrepresented.

b. The University of Missouri has a unique responsibility for graduate and professional public higher education in the state of Missouri. Therefore, academic departments offering doctoral and/or advanced professional programs in disciplines and professions in which there is a deficiency of minorities and women have adopted methods to encourage enrollment, retention, and graduation of minority group members and women.

c. Affirmative action is taken to offer graduate teaching and research assistantships to minorities and women.

d. Business, government, industry, and labor are solicited to assist and provide support to minorities and women through financial aid and by providing work experiences as they pursue academic objectives.

e. Personnel representatives of prospective employers using University services and facilities to interview and recruit students must be equal opportunity employers, and must give all qualified students equal opportunity for interviews, without regard to conditions of race, color, sex, religion, national origin, age, disability, or veteran status.

Equal Opportunity Policies

(6) Appeal and grievance procedures

a. Grievance procedures are available for the processing of complaints and grievances of alleged discrimination based on conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.

b. A student grievant has access to the student grievance procedures through the Office of Student Affairs, the school or college, the campus, and central administration.

c. The Affirmative Action Office currently provides advice and information to grievants on the grievance procedures.

(7) Records and reports

a. The administrative head of each University unit must be prepared to demonstrate that equal opportunity is practiced and that affirmative action is taken in recruiting and employment of full-time and part-time personnel, admission and retention of students, provision of facilities and programs, and purchasing and contracting.

b. Each responsible administrative unit of the University must be prepared to show that procedures followed and selections made are in compliance with policies on equal employment and affirmative action. Admissions applications are retained for one year and employment applications are retained for five years. University business involving contracts and bids for various services are retained in compliance with University of Missouri record management policies.

c. Those responsible for recruiting, admitting, and retaining students—undergraduate, graduate and professional—maintain files and records documenting efforts to provide equal opportunity and act affirmatively to attract and retain minority group members, women, and older and handicapped persons. A report is made annually to the appropriate administrative committee.

d. Campus administrative officers have records demonstrating efforts to provide equal opportunity and show affirmative action in the interests of minority group members, women, and handicapped and older persons in the availability and use of University facilities, including recreational facilities.

e. Those responsible for personnel recruitment and employment personnel, including graduate teaching and research assistants, have records that reflect their adherence to equal opportunity and affirmative action practices.

f. Academic or administrative units receiving complaints or grievances based on allegations of discrimination report those cases to the Affirmative Action Office.

(8) Reviewing and monitoring

a. A University Committee on Equal Employment Opportunity and Affirmative Action (EEO/AA) is appointed annually by the Chancellor.

b. EEO/AA committee membership includes a reasonable cross section of personnel, including a representation of women, minorities, and the handicapped.

c. The EEO/AA committee advises the Director of Affirmative Action on matters relating to affirmative action and University equal employment policy.

d. Administrative officers (chancellor, vice chancellors, deans, directors, department chairpersons, and all other supervisory personnel) are responsible for implementation of equal opportunity and affirmative action policies and practices within their areas of jurisdiction, and the effectiveness of implementation will be an element in the evaluation of the performance of each officer.

(9) Dissemination

a. Equal opportunity and affirmative action policies and programs are disseminated throughout the University and discussed at appropriate school, college, departmental, management, and supervisory meetings. The subjects covered include attraction, admission, and retention of students; recruitment, employment, training, promotion, and transfer of employees.

b. University employees, faculty, staff, and students are kept informed of equal opportunity programs and affirmative action goals through campus publications and communications, the Personnel Policy Manual, the Faculty Handbook, divisional and departmental meetings, staff orientation programs, and posters.

c. Copies of the Equal Employment and Affirmative Action policies are available to a cross section of community organizations, news media, area colleges, secondary schools and recruiting sources.

d. Copies of the Affirmative Action Policy will be made available on request to employees, applicable governmental agencies, and contractors or subcontractors.

e. University invitations to bid, purchase orders, and specifications to architects and engineers contain the University's equal opportunity policy.

f. University correspondence, employment notices and advertising, academic information, and other public notices contain the University's equal opportunity policy.

Other Procedures or Regulations

Professional Responsibility, Protest and Political Activities

Statement of Professional Responsibilities, Protest and Political Activities Adopted September 5, 1970

In a community of learning, willful disruption of the educational process, destruction of property, and interference with the rights of other members of the community will not be permitted.

Academic and administrative procedures of this University provide for prompt and appropriate disciplinary action against those who abuse such rights as provided in the statement by the President regarding student demonstrations adopted by the Board of Curators on June 30, 1968. That statement as well as the Standard Conduct and Rules of Procedure in Student Disciplinary Matters is available to all students.

We endorse the statement submitted August 26, 1970, suggested by a special committee of the Inter-campus Faculty Council charged by the President with the development of a statement on faculty responsibility, as follows: The Board of Curators and the Faculty affirm their intention of keeping the University of Missouri in full operation throughout the coming academic year. The Board expects that the faculty will meet their professional obligations in accordance with already existing regulations and principles of academic responsibility regarding the meeting of classes and the awarding of grades and credit.

The Board of Curators hereby charges the faculty to re-examine and re-affirm its professional responsibilities and to develop procedures for dealing with cases in which those responsibilities are not fulfilled. We ask that this task be completed with full faculty consultation and with reasonable speed.

Until each campus develops a full set of procedures for dealing with alleged violations of professional ethics, the Board charges each campus faculty-governing body to establish immediately a temporary group for handling such cases as may arise.

The Board of Curators recognizes that any definition of faculty responsibility developed by a faculty group or groups on any campus must provide that the initial and primary responsibility for the effective function of the academic unit, including disciplinary action, resides in the administrative officers of the department, division, school, or college.

Students, faculty, administrators, and employees who are not in sympathy with the basic philosophy expressed herein and do not intend to abide by the rules and regulations of the University should not attend the University nor become associated with the institution nor continue to be associated with the University.

Discrimination Grievance Procedure for Students

December 17, 1982

A. GENERAL

1. It is the policy of the University of Missouri to provide equal opportunity for all enrolled students and applicants for admission to the University on the basis of merit without discrimination on the basis of their race, color, religion, sex, national origin, age or disability. Sexual harassment shall be considered discrimination because of sex.

2. To insure compliance with this policy, all University of Missouri prospective or enrolled students shall have available to them this student discrimination grievance procedure for resolving complaints and/or grievances regarding alleged discrimination.

3. This grievance procedure neither supersedes nor takes precedence over established University procedures of due process for any and all matters related to Academic Dishonesty, Grade Appeals, Traffic Appeals, Disciplinary Appeals, or other specific campus procedures which are authorized by the Board of Curators and deal with faculty/staff responsibilities.

4. These proceedings may be terminated at any time by the mutual agreement of the parties involved.

NOTE: A grievance concerning specific incidents filed under this discrimination grievance procedure shall not be processed on behalf of any student who elects to utilize another University grievance procedure. In addition, the filing of a grievance under these procedures precludes the subsequent use of other University grievance or appeals procedures for the same incident.

B. DEFINITIONS

1. A complaint is an informal claim of discriminatory treatment. A complaint may, but need not, constitute a grievance. Complaints shall be processed through the informal procedure herein set forth.

2. A grievance is the written allegation of discrimination which is related to:

- a. Recruitment and admission to the institution.
- b. Admission to and treatment while enrolled in an education program.
- c. Employment as a student employee on campus.
- d. Other matters of significance relating to campus living or student life, including, but not limited to:
 - Assignment of roommates in resident halls
 - Actions of fraternities and sororities
 - Membership in and/or admission to clubs/organizations
 - Student Health Services
 - Financial aid awards

3. A student is any person who has applied for admission or readmission, or who is currently enrolled, or who was a student of the University of Missouri at the time of the alleged discrimination.

4. Persons with disabilities--For the purpose of this student discrimination grievance procedure, a "person with a disability" has been substituted for "handicapped individual" (Section 504, Rehabilitation Act of 1973) and shall be defined as "...any person who

- a. Has a physical or mental impairment which substantially limits one or more of such person's major life activities,
- b. Has a record of such impairment, or
- c. Is regarded as having such an impairment."

For purpose of this definition, "major life activity" means any mental or physical function or activity which, if impaired, creates a substantial barrier to employment and/or education.

Any reference in this document to written materials or to written or oral presentations within the student discrimination grievance procedure may be adjusted to accommodate persons with disabilities for whom the stated materials or required presentations would not be appropriate. Cost of such accommodation will be borne by the University, with no charge to the individual.

5. Appropriate Administrative Officer--The primary administrative officer on the staff of the Chancellor (in the area of Student Services, Administrative Services, Development, and Academic Affairs) having administrative responsibility for the unit in which the discrimination is alleged to have occurred.

6. Grievance Consultant--At any step the Director of Equal Opportunity or of Affirmative Action may be asked to serve as a consultant by any of the parties involved in this grievance procedure.

Other Procedures or Regulations

C. FILING INFORMAL COMPLAINTS

1. Policies and Procedures--A student with an informal complaint will be provided with copies of appropriate policies and procedures pertaining to student complaints and grievances, and the Chief Student Personnel Administrator or his/her designee and the Officer for Equal Opportunity or for Affirmative Action shall be available to assist the student in understanding the opportunities afforded through such policies and procedures. The student may choose to have an advisor participate in any stage of the grievance procedure, subject to the restrictions of the hearing procedures set forth in Section 390.010 F.

2. Joint Complaint--If more than one student is aggrieved by the same action, these students may, by mutual written agreement among themselves, file with the Chief Student Personnel Administrator a complaint and pursue their complaints jointly under this grievance procedure. If the number of students in such a case is so large as to make it impracticable for them to be heard individually in a joint proceeding, they may, by mutual agreement, elect one or more of their number to act on behalf of them all.

3. Students may, at any time within thirty-five (35) calendar days of the date of the occurrence of the incident, informally discuss a complaint with the relevant supervising administrator. Every reasonable effort should be made to resolve the matter informally at this administrative level. If a satisfactory resolution is not reached, the student may pursue the matter through each level of administrative jurisdiction up to and including the Appropriate Administrative Officer.

4. Complaints Involving Recruitment

a. Undergraduate applicants must first present complaints about recruitment to the Director of Admissions. If a satisfactory resolution is not reached, the applicant may appeal the matter to the immediate supervising officer of the Director of Admissions.

b. Applicants for graduate study may request a meeting with the academic department head and the Dean of the College, or their designees, who are actually involved in the recruitment effort to discuss the matter informally. If a satisfactory resolution is not reached, the applicant may appeal to the Dean of the Graduate School and finally to the Appropriate Administrative Officer.

5. Complaints Involving Admissions (Undergraduate or Professional)

a. Undergraduate and professional student applicants shall present complaints to the Director of Admissions or to the Dean of the School or College, depending upon where the application was originally filed.

b. This University official shall compare the person's academic qualifications against the official University admissions criteria and review the denial. If the denial is sustained, the applicant may appeal this decision to the official's immediate supervisor or to the appropriate admissions committee.

6. Complaints Involving Admissions (Graduate)--Applicants to the Graduate School may ask for a meeting with the academic department head of the program to which the applicant was seeking admission. This official shall explain the reasons for the denial of recommendation for admission. If a satisfactory resolution is not reached, the applicant may then appeal to the Dean of the Graduate School or to the appropriate admissions committee. If the denial is upheld, the applicant may appeal the decision to the appropriate administrative officer.

7. Complaints Involving Admissions to or Treatment in an Educational Program or in the Granting of Assistantships--An undergraduate or graduate student enrolled at the institution who has a discrimination complaint involving admission to or treatment in an educational program or in the granting of assistantships may request

a conference with the appropriate department head and with the Dean of the School or College (or the Dean's designee) to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 F.

8. Complaints Involving Nonacademic Matters Related to Campus Living and Student Life--A currently enrolled student who has a University-related complaint concerning discrimination in nonacademic matters including but not limited to assignment of roommates, actions of fraternities and sororities, membership in and/or admissions to clubs/organizations, student health services and financial aid awards may request a conference with the appropriate administrative supervisor, department head and/or director to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 D.

9. Complaints Involving Student Employment on Campus--A student enrolled at the University who alleges that discrimination occurred either in applying for work or while working as a student employee at a University job may request a conference with the supervisor, department head or director of the employing unit to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 D.

10. Complaints Involving Financial Aid (Undergraduate, Graduate, Professional):

a. Undergraduate, graduate, and professional student aid applicants shall present complaints to the Director of Student Financial Aid where the application was originally filed or the award originally made.

b. This University official shall compare the person's financial and academic qualifications against the official University financial aid criteria and review the award, amount, or denial of the aid. If the original judgment is sustained, the applicant may appeal this decision to the official's immediate supervisor or to the appropriate financial aid committee.

D. INITIATING A GRIEVANCE

1. Regardless of their nature, all discrimination grievances are to be filed with the Chief Student Personnel Administrator. When a grievance is filed, the Chief Student Personnel Administrator (or his/her designee) will explain orally:

a. That a grievance must have been filed by a student within sixty (60) calendar days of the action complained of, and

b. Will review and discuss the procedures to be utilized in the administration of a grievance under the student discrimination grievance procedure.

2. Filing a Grievance

a. All grievances must be presented in writing and contain the following information:

(1) A clear concise statement of the grievance which includes the name of the person(s) against whom the grievance is made, the date(s) of the alleged discrimination and a statement describing the specific supporting evidence;

(2) A brief summary of the prior attempts to resolve the matter which includes the names of persons with whom the matter was discussed and the results of those previous discussions;

(3) A specific statement of the remedial action or relief sought.

b. Within seven (7) working days, the original grievance form with an explanation will be returned to the student if, in the judgment of the Chief Student Personnel Administrator, the statements are vague or do not meet the above requirement. The student may make the necessary corrections and resubmit the grievance within seven (7) days.

Other Procedures or Regulations

3. Any grievance not filed within the time limits specified in Section 390.010 D.1 shall be deemed waived by the grievant. The Chief Student Personnel Administrator may extend the time limits only if adequate cause for an extension of the time limits can be shown by the student.

4. For informational purposes, copies of the grievance shall be forwarded to the Appropriate Administrative Officer and the Director of Equal Employment and/or Affirmative Action.

5. Within fifteen (15) working days of receipt of a grievance that satisfies the requirement of Section 390.010 D.2, the Appropriate Administrative Officer with the consent of the parties involved may establish an informal hearing with the aggrieved student, the responding faculty/staff/organization, the respondent's supervisor and the Appropriate Administrative Officer's designee. The Appropriate Administrative Officer shall not involve himself/herself in this meeting. If this informal means of resolving the grievance fails, a grievance committee will be impaneled as called for in Section 390.010 E.1

E. FORMATION OF GRIEVANCE COMMITTEE

1. It is the Appropriate Administrative Officer's responsibility to initiate the selection of the grievance committee within fifteen (15) working days after the request for the formation of a grievance committee or after the completion of the informal hearing provided for in Section 390.010 F.5 without satisfaction to the grievant.

2. A grievance hearing panel shall be established by October 1 of each year from which a grievance committee should be constituted. The panel shall consist of ten (10) faculty, ten (10) staff and ten (10) students. Selection of the panel will be made by the Chief Student Personnel Administrator from recommendations by the appropriate faculty, staff and student associations. Selection of membership will consider sex, race, disability, academic rank, student classification and employee classification. Membership on the hearing panel shall be for two years. A member's term shall expire on September 30 of the second year unless he/she is serving at that time on a hearing committee still in the process of reviewing an unresolved grievance. In such case, the member's term shall expire as soon as the committee has submitted a written report of its findings and recommendations to the Appropriate Administrative Officer.

3. A hearing committee shall be composed of five (5) members. The grievant shall select two (2) members from the grievance hearing panel provided by the Chief Student Personnel Administrator. The responding faculty/staff/organization shall select two (2) members from the grievance hearing panel. The four committee members shall then select an additional member from the grievance hearing panel. Neither members of the immediate departmental unit nor student members of pertinent student organizations involved in the grievance shall be eligible to serve on the committee.

4. Any person selected to a grievance committee will be expected to serve on such committee and to be present at all sessions. If a member is absent from a single session, he/she will be required to review all tapes or transcribed proceedings of that session prior to the next meeting of the committee. Should a member be absent from two sessions or should a member request to be excused from service for reasons of illness, necessary absence from the campus or other hardship, then that member shall be replaced in the same manner used in the original selection (see Section 390.010 E.3). If a member is unable or ineligible to serve for whatever reason, the replacement shall review all tapes or written transcripts and all submitted evidence prior to service on the committee. Five members of the hearing committee, duly selected as in Sections 390.010 E.3 and E.4 must attend the opening and closing session of the hearing.

F. HEARING PROCEDURES FOR FORMAL GRIEVANCES

1. It shall be the responsibility of the Appropriate Administrative Officer to coordinate the procedures contained herein, to make provisions for hearing rooms, to coordinate secretarial and recording services and to otherwise serve the grievance committee as needed.

2. At the first organizational meeting of the grievance committee, the committee shall elect a chairperson from among the members to preside over subsequent meetings. Then the chairperson shall schedule a hearing at the earliest convenient time when all affected parties can be present.

3. A quorum consists of a minimum of four members of the committee except as provided by Section 390.010 E.4.

4. The grievance committee shall invite the grievant and the responding person to all hearings. Attendance at the hearings shall be limited to persons who have an official connection with the case as determined by the chairperson. The grievant and the responding person may choose to be accompanied by an advisor. Others whose participation in the hearing is considered essential in order to assist the committee in establishing the facts of the case shall appear before the committee only long enough to give testimony and to answer questions of committee members.

5. It is within the duties and responsibilities of all members of a grievance committee to commit themselves to observe procedures consistent with fairness to all parties concerned. For example, it is a matter of principle that members of the grievance committee will not discuss a case with anyone outside of the hearing process and that their finding will not be influenced by anything other than the evidence presented to them in meetings in which all affected parties are present.

6. The grievance committee shall set forth the rules of procedure for the hearing within the guidelines set forth herein. The chairperson may, for good cause and with the concurrence of a majority of the entire committee, authorize deviation from the suggested format, in which case the principal parties shall be notified.

a. The grievant shall be heard first in all phases of a grievance hearing and shall be primarily responsible for the presentation of his/her position.

b. The advisor of the grievant or respondent may advise that person and may briefly explain his or her position but shall not be permitted to testify or to cross-examine.

c. A reasonable time limit should be established for opening and closing statements and shall be announced prior to the hearing.

d. Length of hearing sessions may be established in advance; every effort should be made to conduct the hearing as expeditiously as possible, with equal fairness to both parties.

e. The interested parties shall provide the chairperson with the names of the advisor and potential witnesses at least forty-eight (48) hours prior to the hearing. It is the responsibility of the interested party, working with the chairperson, to ensure the presence of these individuals in a timely manner.

f. After initial witnesses for both parties have been heard, such witnesses may be recalled for additional questioning if requested by either party or the grievance committee. The committee may call new witnesses whose testimony it deems relevant or helpful.

g. In order to promote the truthful, unfettered exchange of information and ideas, all testimony pertaining to the grievance hearing shall be held in confidence.

h. Only evidence relevant to the grievance may be introduced. Questions regarding the admissibility of evidence shall be decided by the chairperson.

Other Procedures or Regulations

7. At any point in the proceedings prior to the time at which the committee reaches its final decision, the grievant may withdraw any portion or all of the grievance with the consent of a majority of the committee members and of the respondent. In all cases of withdrawal at the consent of the committee and of the respondent, the grievant shall not have the privilege of reopening the same grievance at any time in the future. In the event that the student refuses to participate further in the committee hearing, the committee may choose to continue the case or to move to closure with an appropriate closing statement as per Section 390.010 F.9.

8. A confidential tape recording of the grievance hearing shall be made and will be accessible to the parties involved, the committee, the Appropriate Administrative Officer, the Chancellor, the President, members of the Board of Curators and authorized representatives on a need-to-know basis. Either party to the grievance may request that the committee provide a written transcript of testimony. The cost of preparation of such a transcript is to be paid by the party making such request unless Section 390.010 B.4 is applicable. After the report of the grievance committee has been prepared, the tapes and relevant materials will be sealed and filed in the Appropriate Administrative Office. Unless extraordinary circumstances apply, these materials will be destroyed at the end of five years.

9. At the conclusion of the grievance hearing, the members of the grievance committee shall meet in closed session to deliberate upon their findings. A majority vote of the entire committee shall be required on all decisions. The grievance committee shall make a written report on findings and recommendations to the Appropriate Administrative Officer of the University, with copies to the grievant(s)

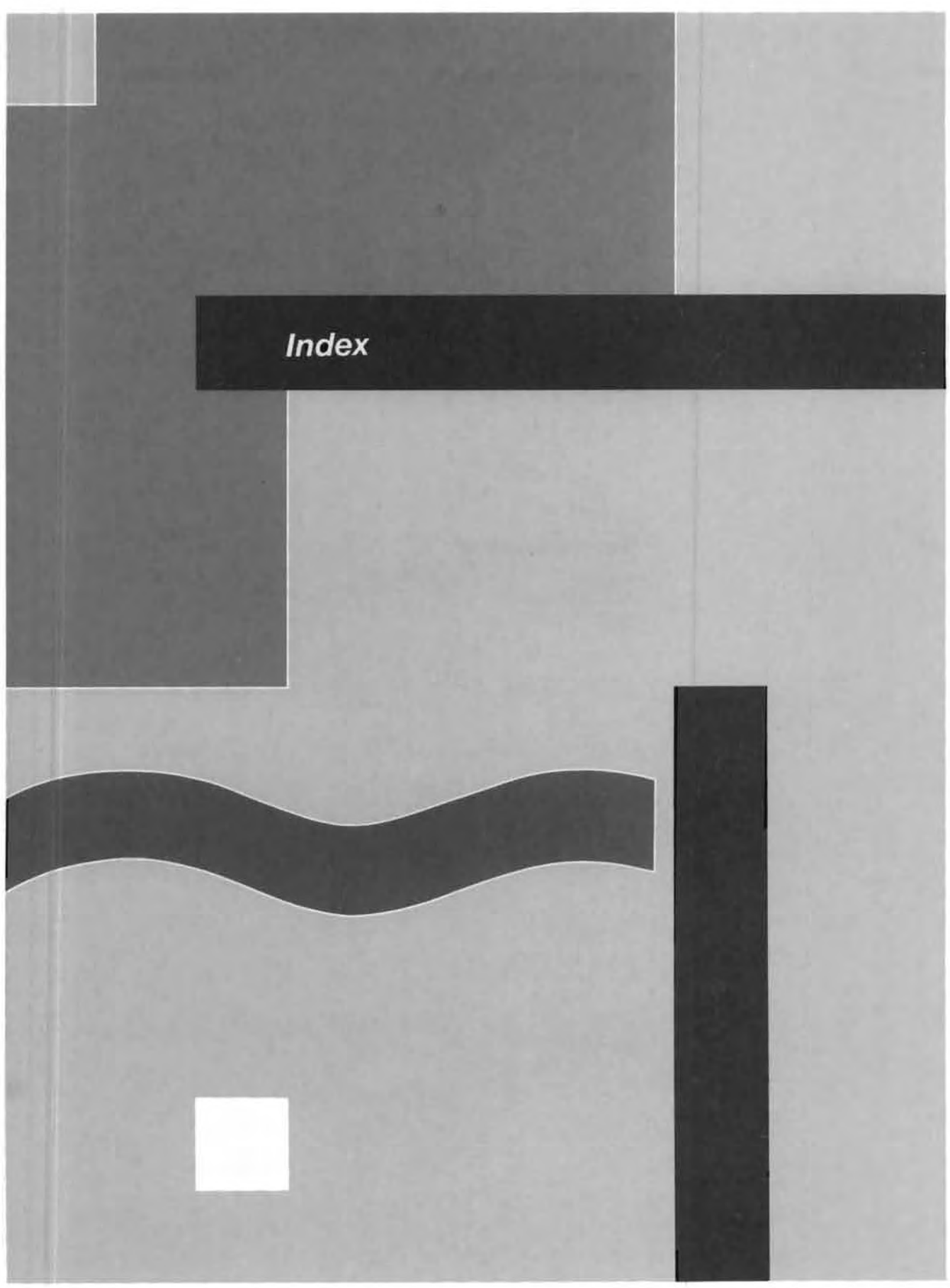
and the responding person(s). The written report will contain:

- a. A statement of the purpose of the hearing,
- b. Issues considered,
- c. A summary of the testimony and other evidence presented,
- d. Findings of fact as developed at the hearing, and
- e. Recommendations for final disposition of the case.

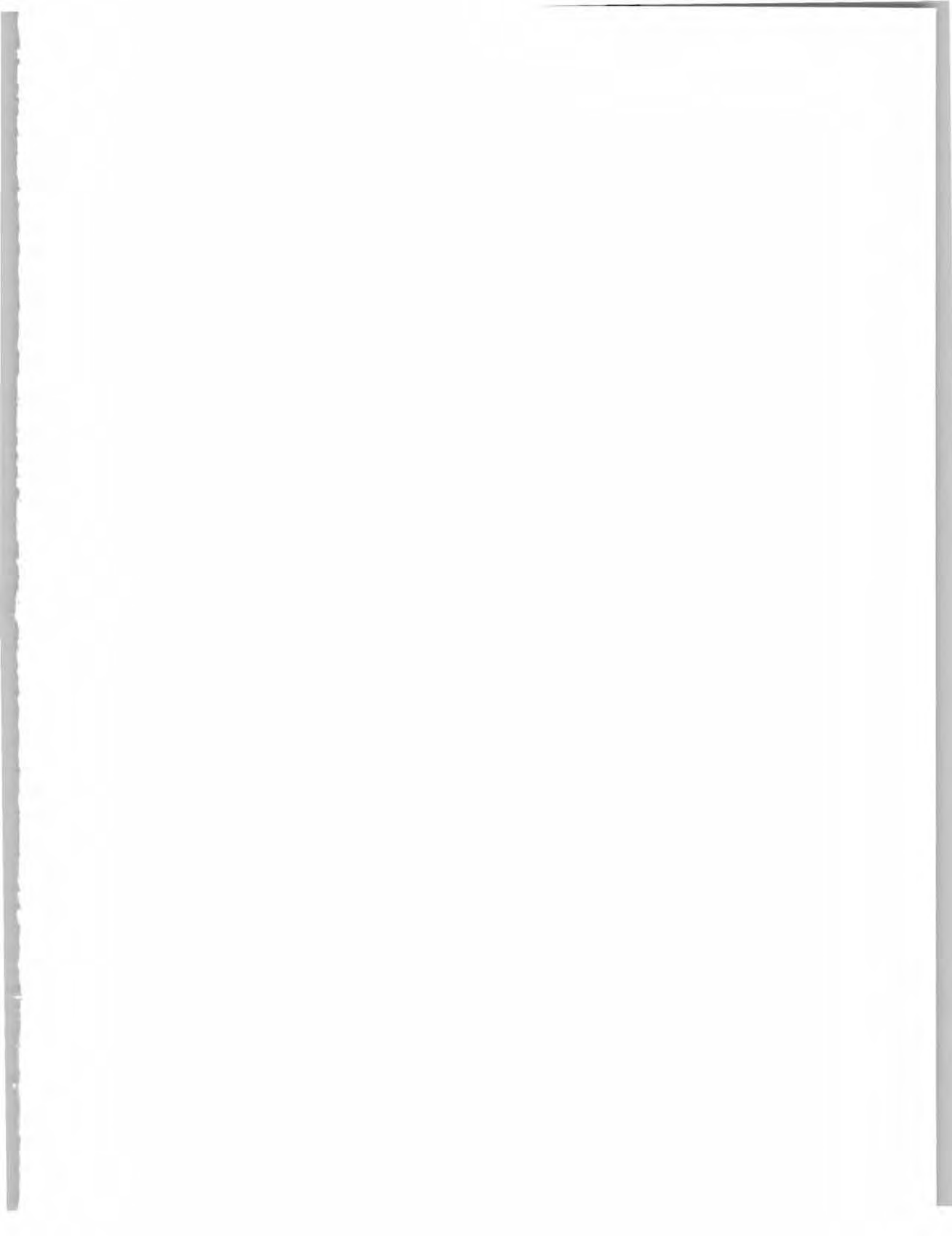
10. The Appropriate Administrative Officer will make his/her decision. This decision and the actions that have been taken shall be presented to both parties in writing. If the administrative officer does not accept the recommendations of the grievance committee, a written statement of the reasons for so ruling must be given to both parties and to the chairperson of the committee.

11. If requested by the grievant or the responding party, normally within seven (7) calendar days of the notification of the decision, the decision of the Appropriate Administrative Officer may be subject to a review of the records by the Chancellor. Any review and decision by the Chancellor shall be made normally within thirty (30) calendar days. The decision of the Chancellor can be appealed to the President, who shall have thirty (30) calendar days in which to make a decision, which shall be final.

12. Grievances shall receive prompt attention. The hearing and the report of the grievance committee shall normally be completed within sixty (60) calendar days of the formation of the grievance committee, and a final decision shall be made by the Appropriate Administrative Officer normally within ten (10) calendar days thereafter. In any case in which these time schedules should prove to be inadequate, the committee shall present, in writing, an amended time schedule to all parties involved.

The image features a complex abstract composition. A large, dark grey rectangular area occupies the top-left portion. A solid black horizontal bar is positioned across the middle, containing the word "Index" in white, italicized font. Below this bar, a light grey rectangular area is visible. A thick, black, wavy horizontal band spans across the lower-middle section. To the right of this band, a solid black vertical bar extends downwards. In the bottom-left area, there is a small, white square. The overall design is minimalist and geometric, using a palette of black, white, and various shades of grey.

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