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# UMSL



# Bulletin

University of Missouri-St. Louis

Graduate

Undergraduate

March 1981

# UMSL

University of Missouri-St. Louis

## Bulletin

Graduate

Undergraduate

March 1981

### UMSL

University of Missouri-Saint Louis  
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## Academic Calendar

### 1981 Winter Semester

|                |  |
|----------------|--|
| January 12     | Monday, Registration, Day Students.  |
| January 13, 14 | Tuesday, Wednesday, Evening College and Graduate Registration, 4:30 p.m. - 8:30 p.m.                                       |
| January 19     | Monday, Classwork begins 8:00 a.m.   |
| March 6        | Friday, Spring Recess begins 10:00 p.m.  |
| March 16       | Monday, Classwork resumes 8:00 a.m.  |
| May 5, 6, 7    | Tuesday, Wednesday, Thursday, Optional Days (Classes scheduled, but option for reading or study days. No exams scheduled.) |
| May 8          | Friday, Final Examinations begin.  |
| May 15         | Friday, Second Semester closes 10:00 p.m.  |
| May 17         | Sunday, Annual Commencement.   |

### 1981 Three-Week Intersession

|        |  |
|--------|--|
| May 18 | Monday, Registration                                 |
| May 19 | Tuesday, Classwork begins 8:00 a.m.                  |
| May 25 | Monday, Memorial Day Holiday (No classes scheduled.) |
| June 5 | Friday, Session closes 10:40 p.m.                    |

### 1981 Eight-Week Summer Session

|             |   |
|-------------|---|
| June 3, 4   | Wednesday, Thursday, Evening College and Graduate Registration. |
| June 8      | Monday, Registration, Day Students.                             |
| June 9      | Tuesday, Classwork Begins 8:00 a.m.                             |
| July 3      | Friday, Independence Day Holiday. (No classes scheduled.)       |
| July 30, 31 | Thursday, Friday, Final Examinations.                           |
| July 31     | Friday, Session closes 10:40 p.m.                               |
| August 2    | Sunday, Summer Commencement.                                    |

### 1981 Fall Semester

|                 |  |
|-----------------|--|
| August 20, 21   | Thursday, Friday, Regular Registration, Day Students.                          |
| August 24, 25   | Monday, Tuesday, Evening College and Graduate Registration.                    |
| August 26       | Wednesday, Classwork begins 5:30 p.m.  |
| September 7     | Monday, Labor Day Holiday. (No classes scheduled.)                             |
| November 25     | Wednesday, Thanksgiving Holiday begins 5:00 p.m.                               |
| November 30     | Monday, Classwork resumes 8:00 a.m.  |
| December 10, 11 | Thursday, Friday, Intensive Study Days. (No Classes held. No exams scheduled.) |
| December 14     | Monday, Final Examinations begin.  |
| December 20     | Sunday, Mid-Year Commencement.   |
| December 21     | Monday, First Semester closes. Close of Day.                                   |

# Academic Calendar

## 1982 Winter Semester

|                |  |
|----------------|--|
| January 11     | Monday, Registration, Day Students   |
| January 12, 13 | Tuesday, Wednesday, Evening College and Graduate Registration 4:30 - 8:30 p.m.       |
| January 18     | Monday, Classwork begins 8:00 a.m.   |
| March 5        | Friday, Spring Recess begins, Close of Day.  |
| March 15       | Monday, Classwork Resumes 8:00 a.m.  |
| May 5, 6       | Wednesday, Thursday, Intensive Study Days,<br>(No classes held; No exams scheduled.) |
| May 7          | Friday, Final Examinations begin.  |
| May 14         | Friday, Second Semester closes, Close of Day.  |
| May 16         | Sunday, Annual Commencement.   |

## Three-Week Intersession

|        |  |
|--------|--|
| May 17 | Monday, Registration.                                |
| May 18 | Tuesday, Classwork begins 8:00 p.m.                  |
| May 31 | Monday, Memorial Day Holiday (No classes scheduled.) |
| June 4 | Friday, Session closes, Close of Day.                |

## Eight-Week Summer Session

|             |   |
|-------------|---|
| June 2, 3   | Wednesday, Thursday, Evening College and Graduate Registration. |
| June 7      | Monday, Registration, Day Students                              |
| June 8      | Tuesday, Classwork begins 8:00 a.m.                             |
| July 5      | Monday, Independence Day Holiday (No classes scheduled.)        |
| July 29, 30 | Thursday, Friday, Final Examinations.                           |
| July 30     | Friday, Session closes, Close of Day.                           |
| August 1    | Sunday, Summer Commencement.                                    |

## Religious and 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:**

|                    |   |
|--------------------|---|
| April 17, 1981     | Good Friday                               |
| April 19, 1981     | Passover                                  |
| September 29, 1981 | Rosh Hashana                              |
| October 8, 1981    | Yom Kippur                                |
| January 15, 1982   | Dr. Martin Luther King, Jr.'s<br>Birthday |
| April 8, 1982      | Passover                                  |
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3 Woods Hall  
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5a J.C. Penney Auditorium  
6 University Center  
7 University Center  
8 Parking Garage #2  
9 Chancellor's Residence  
10 Power Substation  
11 Thomas Jefferson Library  
12 Social Sciences and Business Building  
13 Social Sciences and Business Tower  
14 Clark Hall  
15 Lucas Hall  
16 Parking Garage #1  
17 Parking Garage #4  
18 Office Building  
19 General Services Building  
20 Mark Twain Building  
21 Music Building  
22 Education Office Building and School of Optometry  
23 Education Classroom Annex  
24 Education Auditorium  
25 Education Library  
26 Education Classroom Building  
27 Boiler House  
28 Service Building  
29 Garage  
30 Parking Garage #3  
31 University House



|    |    |    |    |
|----|----|----|----|
| 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 |



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University of Missouri-  
Saint Louis



## University Programs and Offices

**Academic Affairs, Vice Chancellor for**  
401 Woods, 553-5371  
**Administration, Foundations, and Secondary Education Department**  
269 Education Office Bldg., 553-5944  
**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**  
401 Woods, 553-5695  
**Alumni Office**  
426 Woods, 553-5441  
**Art Department**  
506 Lucas, 553-5975  
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305 Lucas, 553-5501; Academic Advising, 553-5300  
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225 Mark Twain, 553-5641  
**Behavioral Studies Department**  
469 Education Office Bldg., 553-5782  
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326 Stadler, 553-6200  
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50 Univ. Center, 553-5763  
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**Cashier's Office**  
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**Center for Academic Development (CAD)**  
506 Tower, 553-5194  
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369 Education Office Bldg., 553-5791  
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103 SSB Bldg., 553-6000  
**Continuing Education-Extension, Office of**  
201 J.C. Penney Continuing Education Bldg.  
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427 SSB Bldg., 553-5711  
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324 Lucas, 553-5161  
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209 Woods, 553-5526  
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338 Woods, 553-5900



## Directory

### **Gerontological Studies**

1010 Tower, 553-6388

### **Health Center**

127 Woods, 553-5671

### **History Department**

484 Lucas, 553-5681

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

366 SSB Bldg., 553-5753

### **KWMU fm91 Radio**

105 Lucas, 553-5968

### **Libraries: Thos. Jefferson, 553-5050**

Education Library, 553-5571

### **Mathematical Sciences Department**

500 Clark, 553-5741

### **Metropolitan Studies, Center for**

362 SSB Bldg., 553-5273

### **Modern Foreign Languages and Literatures Department**

554 Clark, 553-6240

### **Music Department**

589 Lucas, 553-5980

### **Nursing, School of**

411 Woods Hall (Temporary),  
553-6067

### **Optometry, School of**

135 Education Office Bldg., Office,  
553-5606; Academic Advising, 553-6263

### **Philosophy Department**

599 Lucas, 553-5631

### **Physical Education Department**

225 Mark Twain, 553-5226

### **Physics Department**

517 Benton, 553-5931

### **UMSL Police**

222 General Services Bldg., 553-5155

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807 Tower, 553-5521

### **Psychology Department**

224 Stadler, 553-5391

### **Public Policy Administration**

406 Tower, 553-5145

### **Records & Transcripts**

118 Woods, 553-5676

### **Social Work**

606 Tower, 553-6385

### **Sociology/Anthropology**

707 Tower, 553-6364

### **Speech Communication**

590 Lucas, 553-5485

### **Student Affairs, Dean of**

301 Woods, 553-5211

### **Student Services and Records, School of Education**

111 Education Office Bldg., 553-5937

### **UMR Graduate Engineering Center**

35 Metal Ofc. Bldg., 553-5431

### **University Center**

267 Center, 553-5291

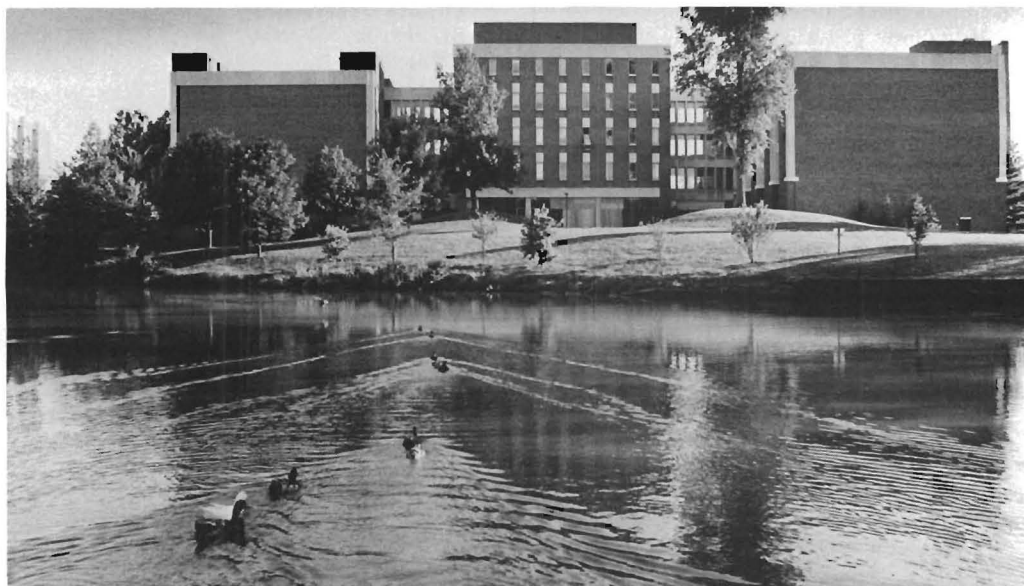
### **Veteran's Affairs, Office of**

346 Woods, 553-5315

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107A Benton, 553-5380





## Preface

This *Bulletin* includes a description of undergraduate and graduate courses and programs for the 1981-82 academic year 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.

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.

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.

# Introduction to UMSL

The University of Missouri-St. Louis is one of four campuses that now constitute the University of Missouri, the ninth largest university in the United States. Founded in 1839 as the first state university in the Louisiana Purchase, the University of Missouri-Columbia became the nucleus for what is now a state-wide university.

In the 1960s, a movement began across the country that marked the most significant change in higher education in the 20th century. That movement was toward the creation of public universities located within metropolitan centers.

The University of Missouri-St. Louis is a product of that movement. UMSL, the fourth campus of the University of Missouri, was established in 1963 as a bold experiment in urban higher education. In a period of 17 years, the notion of a major public institution serving the St. Louis area has evolved from a dream to a solid reality that today exceeds the expectations of those who created it.

Since the doors of the Old Administration Building opened 17 years ago, UMSL has become the largest university serving St. Louisans and the third largest university in the state.

Located on the former site of an exclusive country club, UMSL has grown from a faculty of 30 in 1963 to more than 500 faculty committed to the future of the St. Louis area through teaching, research and service.

Student enrollment has steadily increased from 600 in 1963 to over 11,000 in 1980. The numbers have changed, but not the spirit. Still paramount in the minds of faculty and students is the preparation of new talent to contribute to the social, intellectual, and economic health of Missouri's largest metropolitan area.

In physical stature, UMSL has risen from a single country club building, converted to classrooms and offices, to a large modern campus of 20 buildings with complete services for all the activities that contribute to a full university experience.

UMSL's curriculum has grown to include 30 undergraduate programs, 16 master's programs, and four doctoral programs. Programs range from a bachelor's degree in philosophy to a master's in public policy administration to a

Ph.D. in chemistry. There are programs which answer the particular needs of students returning to school after long "vacations"; of students pursuing pre-law, pre-medicine, pre-pharmacy, pre-engineering, or pre-journalism 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 which often lead to job offers.



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

The College of Arts and Sciences, the largest of the divisions, includes 17 academic departments that combine the best features of two different educational worlds. One world provides students, through general educational offerings, 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 students' vocational lives by providing learning experiences that encourage intelligent vocational choice and allow students to prepare for careers in specialized fields.

The School of Business Administration strives to maintain a balance between the specialization of professional courses and the diversity of liberal arts. Besides training students as qualified

## Introduction to UMSL

professionals for the business world, the School of Business Administration endeavors, through its bachelor's and master's programs, to expand student capacities in communication, analysis, judgment and ability to relate to today's complex environment.

The School of Education acts on the premise that the process of developing and maintaining a quality educational setting in an urban area necessitates both advancing the field of education and meeting changing societal needs. It is committed to the university concept of quality in research, excellence in teaching, and the extension of these research and teaching capabilities through a service commitment to the community. The school meets these commitments through its undergraduate and graduate teacher-education offerings and related activities both on campus and in the field.

Programs offered in the UMSL 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. Graduate programs are carefully structured to respond to the needs of the metropolitan area and to provide students with the knowledge necessary to relate effectively to the complex modern world.

The Evening College was established in response to a clear need for quality education for those who cannot attend classes during the day. For those interested in traditional university

study, the Evening College offers most of the degree programs available to day students and makes sure these programs conform to the same standards and requirements as their daytime counterparts. For those seeking innovative approaches to education, the Evening College has the Bachelor of General Studies (BGS) Program, a unique concept designed for mature students who need more flexibility in reaching their educational goals. BGS students choose courses from the UMSL curriculum that they view as important to their education; thus the students' program structures vary according to their needs. All campus services are open to Evening College students, ensuring that students who attend class at night have the same opportunities for a full university experience as day students.

The School of Optometry, opened in the fall of 1980, is dedicated to supplying quality educational and clinical experience for its students. Furnished with the newest equipment for teaching and research, the dean and faculty will also satisfy a community need through clinical support.

The School of Nursing is the newest addition to UMSL. Housed on the Marillac campus, the School is committed to the goal of providing an innovative upper-division nursing program specifically designed for the registered nurse.

One of the keys to UMSL's development as a quality institution has been the careful selection of faculty over the years. UMSL has attracted some of the top authorities in many fields. In



## Introduction to UMSL

general, UMSL faculty members are younger than their counterparts at older, established institutions. About 80 percent hold doctoral degrees, a figure that far exceeds the national average. These professionals develop new theories and new procedures. They attract hundreds of thousands of dollars each year in research funding. But most of all, they teach and they care.

UMSL is not all work. There is a wealth of leisure-time activities, most either free or available at reduced cost to students. Over 90 student organizations, from the Accounting Club to Zeta Tau Alpha Sorority, seek members—and leaders. Interesting speakers, concerts, film series, mixers, 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 to exhaust student energies.

For those interested in athletics, either as player or spectator, the university offers a wide range of varsity or intramural sports. On the varsity level, the UMSL Rivermen (and women) compete in almost every major sport with great success. UMSL teams have won a national title in soccer and participated in several national basketball and baseball tournaments. The expanding women's program includes varsity competition in basketball, field hockey, softball, volleyball, swimming and tennis. Students are admitted free to all home contests. For those who prefer individual physical activity at their own pace, UMSL's Mark Twain complex offers swimming, weight and exercise rooms, basketball and volleyball, handball and racquetball courts. Outdoor facilities include tennis, basketball, handball courts, and baseball fields.

The result of this total university experience is over 18,000 St. Louisans holding degrees from UMSL. These graduates are developing a fine reputation in St. Louis. Most are still young, with challenging careers ahead of them. They work in widely diversified fields and for large and small corporations; they serve in various levels of both government and education; and they contribute in almost every profession throughout the metropolitan area.

Each year, St. Louis employers hire more graduates from UMSL than from any other university. And because more than 80 percent of UMSL's graduates stay in St. Louis, alumni impact and influence continue to grow. In fact, many alums now hold positions in which they hire other UMSL graduates.

These graduates represent a new breed of university—the public urban university, which carries with it a large measure of higher education's hope for the future.





# Undergraduate Study

This section includes admission, general education, and degree requirements and academic policies for students seeking undergraduate degrees from UMSL.

## Admission and Application Procedure

### Freshmen

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

### Class Rank

A class rank at the end of six semesters should be noted on transcripts for students applying for admission during their senior high school year. If grades are not given, the principal or counselor should assign an estimated class rank.

### Aptitude Test

One college aptitude test score is required for admission as a new freshman. One of the following tests meets this requirement: American College Testing Program (ACT); Scholastic Aptitude Test (SAT); or Cooperative School and College Ability Test (SCAT) Series II, form IC (College Level) or form IIB or SCAT X. These test results are beneficial to both students and advisers in planning students' academic programs and in considering their educational and professional objectives. In general, the lower the class rank, the higher the test score must be to meet the admission requirements and vice versa. Students should request that test scores be sent to the admissions office. This is normally done when students register for the test, but may be requested later on forms supplied by the testing agencies.

If students have taken two or more of these tests, or have taken one more than once, all resulting test scores should be forwarded since the admission decision is based on the highest score.

Entrance examinations should be taken at the earliest possible time during the senior year. The admissions office should have all scores before July 1.

### Transcript

A high school transcript, certified by the proper school official, must be sent directly from the high school attended to the admissions office. The transcript should indicate the class rank at the time of application and all courses satisfactorily completed.

It is recommended that the high school curriculum include four English units, two mathematics units excluding general mathematics, one laboratory science unit, and one social science unit. Two units in one foreign language are recommended for students planning to pursue a liberal arts degree. Any remaining units should be taken in such areas as art, music, economics, a second foreign language, two more units of the same foreign language, mathematics, and science.

### When To Apply

Qualified applicants are admitted and notified by letter of their admission in the order completed applications are received. Applications are accepted after October 1 for the next fall semester on the basis of six or more high school semesters. Completed applications, including high school transcripts and test scores, should be on file by July 1 to guarantee that they receive full consideration. Datelines are July 1 for the fall semester; December 1, winter semester; and May 1, summer session.

### Acceptance

Upon acceptance to the fall or winter semester, students must submit satisfactory medical history reports and 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 admissions office after notification of admission.

### Advanced Standing

UMSL grants credit hours to entering freshmen who, through performance on College Entrance Examination Board Advanced Placement Tests and faculty-administered tests, demonstrate

# Undergraduate Study

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 UMSL is 6889. Test scores should be sent to the admissions director, and must be on file before the first day of classes. A brochure with detailed information is available in the Admissions Office.

## 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 enrollment or during the summer session prior thereto. 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 space available and the prerequisites for the desired course or courses.

## College Level Examination Program

Individuals over age 18 who have 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 at UMSL. Contact the admissions office 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 on 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 conditional basis in the summer session. Usually enrollment is for 6 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 permitted to enroll in the fall semester.

## High School Nongraduate 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.

## Out-of-State Residents

Out-of-state students must be graduates of accredited high schools. Their high school class rank and aptitude test performance should indicate an appreciably higher probability of success than that applied to Missouri high school graduates. **Nonresident students must pay nonresident tuition fees.**



# Undergraduate Study

### Transfer Students

Students from other colleges and universities must submit official transcripts of high school and college work, an application for admission, and a satisfactory medical history report. Official transcripts should be sent by each institution previously attended directly to the admissions office; hand-carried credentials are not accepted. All credentials submitted for admission become the property of the university. All application material should be submitted by July 1 for the fall semester; December 1, winter semester; and May 1, summer session.

Transfer applicants with grade point averages of 3.0 or higher, based on the university's 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. UMSL may not admit any student who is under suspension or dismissal, or whose previous record shows work of an inferior or unsatisfactory quality.

### Advanced Standing

Advanced standing in the form of credit hours may be allowed for work satisfactorily completed in another college or university of recognized standing as long as the work satisfies the requirements of the university division in which the student registers. Courses with grades of D are not accepted. 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.

### Associate Degree Transfers from Junior Colleges

Students admitted to the university with associate degrees oriented toward the baccalaureate degree from an accredited associate-degree granting institution and a grade point average of C or above are accepted in junior standing. However, the student 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, other University of Missouri campuses, and other divisions on the same university campus.

Transcripts for students transferring to the university without an associate degree oriented toward a baccalaureate degree are evaluated on a course-by-course basis.

The maximum credit students may earn in a junior college is 64 semester hours. After a student's credits, wherever earned and counted in the order earned, amount to 64 hours, including advanced standing granted on the basis of examination, no additional credits are allowed for work completed in a junior college. Junior college students may, before graduation from junior college, complete in any approved senior college the work of one summer session without reducing the amount of credit allowed from junior college.

### Students from Other Countries

Prospective students living outside the United States and its possessions should write the admissions director at least one year before the date of desired admission for information and forms about admission and approximate expenses. 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 C or better quality work 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 files, 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.

# Undergraduate Study

## Other Applicants

### Former Students

Former students not currently enrolled should file a request for permit to reenroll with the admissions director 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 the preceding term.

### Visiting Students

Students who do not wish to earn a degree from the university 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 admissions office. At the end of the session, students must request that their grades be transferred to their respective schools.

### Auditor (Formerly Hearer)

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 Evening College description within this section.

## Registration

### New Students

Upon admission to the university students are notified that registration instructions will be sent by the registrar's office before registration. New students admitted for the fall semester may participate in advance registration during the summer months; new students admitted for the winter or summer terms participate in regular registration.

### Former Students

Former students not currently enrolled must submit a request for permit to reenroll. Former students in good standing who submit requests to reenroll at least one month before advanced registration for fall are eligible to preenroll. Those not admitted at an early date for fall and students admitted to the summer and winter terms will be mailed regular registration instructions.

### Currently Enrolled Students

Currently enrolled students may participate in advance registration for the fall, winter, and summer terms. Halfway through the winter semester currently enrolled students are mailed intent to continue enrollment cards. Students returning these cards to the registration office by the proper date may preenroll for the fall semester and/or summer session. Students enrolled during the fall term may preregister for winter semester shortly before the end of the fall semester. Currently enrolled students wishing to preenroll for the next semester in a different division must submit a change of division card to the admissions office.

Students registering after the regular registration period may have difficulty enrolling in desired subjects because of closed courses. Moreover, students may not be permitted to carry the full course load and may have to enroll for a proportionately reduced amount of work, depending upon the enrollment date. The dates of regular registration are publicized in the university calendar. Ordinarily, students do not receive credit for work in a university division begun after the end of one-eighth of the term.

### 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 registrar's office. The full registration fee, minus a \$10 processing charge, will be refunded through the mail.

# Undergraduate Study

### Enrollment and Academic Advising

In most cases, incoming 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 or School of Education.

Students planning to pursue degrees in the School of Education or School of Business Administration are enrolled in the College of Arts and Sciences until they obtain 60 credit hours with a cumulative grade point average of 2.0, and, in the case of the School of Business Administration, have satisfied the school's general education requirements. Refer to School of Business Administration and School of Education sections in this *Bulletin* for additional admission requirements.

Registered nurses planning to pursue the B.S.N. degree should contact the School of Nursing for information regarding specific admission requirements.

The dean's office in each division will assist its 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 pass-fail, and filing for degree candidacy.

#### College of Arts and Sciences

All incoming students and all students who have not declared a major, who are enrolled in the College of Arts and Sciences, can receive academic advice from the College of Arts and Sciences dean's office, 303 Lucas Hall. 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 academic advisers can be assigned. The adviser, a faculty member in the student's area of interest, assists in selecting appropriate courses and advises 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 Office of Academic Advising has available a staff of professional, full-time academic advisers who provide assistance to students in the planning of their academic career. Concerns dealing with the following:

- appropriate course selection
- School of Business requirements
- general education requirements
- evaluation of transfer credit
- career information
- course prerequisites
- school policy and regulations
- graduation requirements

and other matters related to a student's academic matriculation should 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. 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 planning of the degree program.

All students are urged to make advising appointments early during each semester to obtain approval of schedules for coming semesters. Advising is a continuous and on-going process.

#### 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 UMSL 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

# Undergraduate Study

apply for admission to the School of Education to pursue the bachelor of science in education degree or they may elect to receive degrees from other UMSL colleges and schools and meet teacher certification requirements.

In 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 avoid extending programs beyond 120 hours. Students should, therefore, seek advisory help from the Office of Student Services and Records in the School of Education (111 Education Office Building) at the earliest opportunity. Regular consultation with advisers is essential.

The Office of Student Services and Records in the School of 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

A staff of academic advisers is available to help Evening College students plan programs appropriate to their individual needs. The Evening College urges students to use these services. For an appointment call the Evening College office.

## School of Nursing

Introduced in the fall of 1981, the School of Nursing is the newest addition to the University. Interested students should contact the School of Nursing office to obtain specific information on enrollment and advising.

## 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. Following are the general education requirements for all degrees.

### Credit Hours

All candidates for the baccalaureate degree 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 of 2.0 grade point average overall as well as in their area of specialization. Students seeking two degrees must complete at least 24 additional credit hours over the requirements for one of the degrees.

### 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 deans' office at the end of the first year to verify that their proficiency has been properly recorded.

### An additional communicative skills requirement

must also be completed before graduation. Students should check with their divisional deans' office at the beginning of their senior year to verify that this proficiency has been properly recorded. Proficiency may be shown by fulfilling the following requirements in each skills area:

### Communicative Skills (Two requirements)

- 1 Submit a satisfactory score on the English placement test. Contact the admissions office for the test dates  
**or**  
Achieve a grade of C or better in a college-level English composition course. At UMSL, English 10, Composition.
- 2 Effective Fall 1981, new students with 0 to 89 semester hours which are applicable to a degree at UMSL must complete English 160, Advanced Expository Writing, or its equivalent. Students should consult college or school advisers in their respective dean's office for additional information.

### Mathematical Skills

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

- 1 Completion of two years of high school mathematics exclusive of general mathematics with grades of C or better.
- 2 Satisfactory score on the mathematics placement test. (The admissions office has the dates this test is given.)
- 3 A passing grade in college-level mathematics course.
- 4 A passing grade in Mathematics 02.

## Undergraduate Study

### 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 indicated in each Course Description section by the symbols [-] shown below)

- 1 **Humanities:** art history or 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; economics; geography; history; political science; psychology; social work; sociology. (Symbol [SS])

### 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 107**, History of Missouri  
**History 311**, Topics in American Constitutional History  
**Political Science 11**, Government in Modern Society:  
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  
**Political Science 240**, Bureaucratic Politics  
**Political Science 245**, Urban Administration  
**Political Science 320**, Introduction to American  
Constitutional Law  
**Political Science 331**, Legislative Politics  
**Political Science 346**, Urban Planning and Politics

### Academic Residence

Students must be in residence for at least 24 of

the last 30 hours of graded credit (exclusive of pass-fail grades), 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 division, 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 and the grades sent to the admissions office no later than the official date for submission of final semester grades.

### Courses Not Approved for Degree Credit

**Education 082**, Effective Reading and Study Skills  
**English 09**, English Composition  
**Mathematics 02**, Fundamentals of Algebra  
**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:

**Education 160**, Shorthand Theory I  
**Education 161**, Shorthand Theory II  
**Education 162**, Business and Professional Typewriting I  
**Education 163**, Business and Professional Typewriting II

### 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.

## Academic Policy

### Course Descriptions

Undergraduate and graduate courses offered at UMSL are listed by department or field within the College of Arts and Sciences, School of Business Administration and School of Education sections of this *Bulletin*. An explanation of their

# Undergraduate Study

numbering and other notations appears on p.55.

Approximately four weeks before each semester begins a *Schedule of Courses* is published listing the specific courses offered that semester and their meeting times and locations. The university reserves the right to cancel without notice any course listed in this *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 periods or for a total of approximately 16 periods for one term. Generally, a course valued at 3 semester hours meets for three periods weekly for one semester, a 2-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. 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, P (Pass), EX (Excused), DL (Incomplete), and Y. 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, that the student's work does not meet the minimum standards. The grade of P indicates pass.

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 admissions director informs students of their grades. A copy can 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. (A summer session is not counted as a semester.) Notice of a change in a delayed grade shall be given to the admissions director 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 or an "Excused." The "Excused" grade will be given when the student can demonstrate sufficient reason for not having completed the requirements of the course. The change to "Excused" will require the approval of the instructor or the dean of the college or school, if the instructor is no longer on the faculty.

## Examinations

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

## Pass-Fail Option

Undergraduate students in good standing may take up to 24 credit hours during their academic careers on a pass-fail grading basis. This includes courses taken as electives or those which satisfy the general education requirements. Normally, courses required for a specific degree may not be taken pass-fail. 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 pass-fail option before the end of the first four weeks of the semester or the first two weeks of the summer term. Instructors are not informed of students taking courses pass-fail.

## Admissions and Academic Policies

### Undergraduate Study

Passing grades (A through D) have no numerical value in computing overall academic average, but do satisfy hourly graduation requirements. An F grade received on the pass-fail system is computed in the overall average.

#### Repeating Courses

Students passing a course are not given credit for repeating the course 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 average.

#### Prerequisites

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 (senior class standing). Requirements for class standing vary. Students should determine the requirements for their division. Individual course restrictions are listed in the 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, excluding any physical education or military sciences. Students who have shown the ability to carry successfully more than 16 hours may enroll for additional hours with the approval of their advisers or deans. Students may not take more than 20 hours in a semester or 10 hours in a summer session.

#### Attendance

Students are expected to attend class regularly, and, in accordance with the UMSL Bylaws, faculty may establish penalties for excessive absences. Students absent from class for more than three successive days are 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 dean shall be permitted, if possible, to make up work missed, provided the dean notifies the instructor in writing.

#### Dropping/Adding Courses

To change original enrollment, students must get approval from their advisers and respective deans. Students may drop/add courses by filing a petition form in their dean's office. As many as five courses may be dropped/added on one form. Students may not enter courses after the first two weeks of the semester or the first week of the 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 (for summer session, the third through the sixth weeks) students may withdraw from courses with an "Excused" grade, providing they are passing the courses and receive the approval of their instructors, advisers, and dean's office representatives. 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 "Excused."

After this period, "Excused" grades are given only in exceptional instances where instructors' and deans' approvals are given. These grades are recorded on 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 students who withdraw from a course during any semester or otherwise fail to complete the work required for full course credit.

#### Section Changing

At any time during the semester or session students may change course sections (changes in class time). Forms for doing this may be obtained, completed, and submitted to the department office for day courses and to the Evening College office for evening courses. Course cards for the sections being added should be submitted with the forms. There is no fee for section changing.

#### Change of Major

To change academic majors students should



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consult their advisers and dean's offices. Students admitted to one division may pursue work in others under the conditions set forth by the other division faculty. The chairpersons of students' major departments shall determine which courses in other divisions, or 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 the 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 instructors' and deans' approvals.

These grades are recorded on students' official records at the end of the term. An F grade is counted in computing the grade point average. No partial credit is granted 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 at any time his or her accumulative 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 averages are below 1.5, or their grade point averages fall 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 6 academic hours. If they receive any grades below C, their work will be reviewed by the divisional dean or appropriate committee to determine eligibility to reenroll. 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 division shall not be admitted to any other division until they are eligible for readmission to the original division, unless they obtain the consent of the divisional 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 *UMSL Student Handbook*.

## Degrees

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

## Honors

### Honor Societies

The following is a list of honorary societies at the University:

Alpha Sigma Lambda (Evening College)  
Beta Alpha Psi (School of Business Administration, Accounting Majors)  
Beta Gamma Sigma (School of Business Administration)



### Undergraduate Study

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)

**Dean's List** At the end of each semester the College of Arts and Sciences, School of Business Administration, School of Education, and the Evening College send letters of commendation to undergraduates completing at least 9 hours of graded courses with grade point averages of 3.2 or above for the semester.

**"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, and service to the school and promise for future usefulness. Nomination forms and further information may be obtained in the offices of the academic deans, dean of student affairs, and student activities.

**Latin Honors** To graduate with Latin honors, students must have attended UMSL 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 major department.

#### Transcripts

The admissions director furnishes transcripts of credits to students upon written request. Transcripts are furnished to students' parents or guardians only if students have filed written consent with the Admissions Office.

Students transferring to another University of Missouri campus may ask the UMSL admissions director to furnish a transcript, free of charge, to the admissions director at that campus.

Requests for transcripts by organizations supporting students or with fee compensation programs are not honored unless the student has filed a consent form with the admissions office 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.

#### Transfer within the University of Missouri System

UMSL will allow undergraduate students to transfer to another University of Missouri campus with minimum difficulty, provided such transfers are not made to avoid disciplinary or academic requirements.

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

Acceptable credits earned at other University of Missouri campuses are transferred at the grade earned. All grades transferred, including D and F grades, are computed in grade point averages, except where students have earned 12 or more acceptable credit hours at another institution outside the system before acceptance at UMSL. In such cases, grades from the University of Missouri campus are treated as other transfer credits. Students with grade point averages below 2.0 normally are not allowed to transfer to UMSL.

For information about degree and major requirements in force at other campuses of the University of Missouri, contact the Office of Admissions.

#### Fees

Detailed information regarding fee expenses and residency is furnished in the *Schedule of Courses* and a pamphlet, *Tuition and Residence Rules*.

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

All university fees must be paid in full at the time of registration as a condition of admission to classes. Students who preregister and do not pay fees by the announced deadline will have their registration cancelled and be required to register again and pay fees during the regular registration period. Registration is not complete until all fees are paid; partial payment or deferment of fees cannot be honored. Valid

# Undergraduate Study

Master Card or VISA credit cards are accepted.

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

## Incidental Fee

All students enrolled in the university must pay an incidental fee as follows:

### Undergraduate Students

#### Regular Semester

\$435 for 12 or more credit hours

#### Summer Session

\$217.50 for 6 or more credit hours

For other sessions not specified or partial enrollment the incidental fee is calculated at \$36.25 per credit hour.

For **Graduate Student** incidental fees, see p. 38.

## Nonresident Tuition Fee

Students are also required to pay a nonresident tuition fee if they do not meet the residency requirements. A definition of "residency" is outlined in *Tuition and Residency Rules*, available from the cashier's office. Students are responsible for registering under the proper residence and paying proper tuition fees. They are also responsible for raising any questions if there is a possibility that they are subject to the nonresident fee.

The nonresident tuition fee is charged as follows:

### Undergraduate Students

#### Regular semester

No fee for 1 to 6 credit hours

\$145 for 7 credit hours

\$290 for 8 credit hours

\$435 for 9 credit hours

\$580 for 10 credit hours

\$725 for 11 credit hours

\$870 for 12 or more credit hours

## Summer Session

No fee for 1 to 3 credit hours

\$145 for 4 credit hours

\$290 for 5 credit hours

\$435 for 6 or more credit hours

For **Graduate Student** nonresident fees, see p. 38

## University Center and Student Activities Fee

Students registered in the university are required to pay a University Center and Activities Fee as follows:

### Regular Semester

\$35.00 for 12 or more credit hours

### Summer Session

\$17.50 for 6 or more credit hours

For other sessions not specified and partial enrollments, this fee is calculated at \$2.92 per credit hour or fraction thereof.

The University Center and Activities Fee is used for programs of broad interest within the university community. The fee is distributed as follows:

\$2.50 bond retirement on Mark Twain Building

\$12.00 bond retirement on University Center

\$12.00 Athletics

\$7.50 Student Activities

\$1.00 Student Services

## Music Fee

In addition to other fees, music majors must pay \$45 per semester for all required applied music. For nonmusic majors, the fee is \$45 per semester for each applied music area in which enrolled. Applied music areas include piano, voice, woodwinds, brass, percussion, and strings.

## Delinquent Indebtedness

Students must clear all delinquent indebtedness to the university before diplomas or transcripts can be issued.

## Late Registration Fee

Students registering after the close of the regular registration period must pay a late fee of \$25.

## Admissions and Academic Policies

### Undergraduate Study

Students presenting checks to the university for payment of student fees which are returned unpaid and remain unpaid at the close of regular registration are considered late registrants and required to pay the late fee.

#### **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 UMSL police office.

The parking fee is \$2.50 per credit hour, up to a maximum of \$25 per semester, for each motor vehicle used by a student on campus. Students who do not drive regularly may park in the daily parking lot for a fee of 50 cents a day. Special parking rates are available for car pools. Motorcycle and motor scooter fees are fixed at one-half these fees.

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.

#### **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**

##### **Regular Semester**

Students withdrawing during the regular semester are refunded the registration fee in accordance with the following schedule:

100 percent less \$10 for cost of handling registration if students withdraw before the day classwork begins.

70 percent if withdrawal is within two calendar

weeks from and including the day classwork began.

50 percent for withdrawal between two and including six calendar weeks from the day classwork began.

No refund if withdrawal is after six calendar weeks from the day classwork began.

##### **Summer Session**

100 percent refund less \$10 for the cost of handling registration for withdrawal before the day classwork begins.

70 percent if students withdraw within one calendar week from and including the day classwork began.

50 percent if withdrawal is between one and including three calendar weeks from the day classwork began.

No refund for withdrawal after three calendar weeks from the day classwork began.

##### **Refund of Parking Fees**

Students leaving school or canceling parking privileges for which they have paid fees receive, upon return of scraps of the sticker, a refund of fees paid in accordance with the following schedule:

##### **Regular Semester**

75 percent if parking is dropped between the first and through the fourth week from the day classwork began.

50 percent if parking is dropped between the fifth and through the eighth week from the day classwork began.

25 percent if parking is dropped between the ninth and through the twelfth week from the day classwork began.

No refund if parking is dropped after twelve weeks from the day classwork began.

##### **Summer Session**

75 percent if parking is dropped between the first and through the second week from the day classwork began.

# Undergraduate Study

50 percent if parking is dropped between the third and through the fourth week from the day classwork began.

25 percent if parking is dropped between the fifth and through the sixth week from the day classwork began.

No refund if parking is dropped after the sixth week from the day classwork began.

## Financial Assistance

### Undergraduate Student Aid

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 National Direct or Federally Insured Student Loans. Specific regulations for these areas as well as for other financial aid consumer information are contained in the current *Financial Aid Bulletin*. This Bulletin is available from the Office of Student Financial Aid.

### Checklist for Financial Aid Application

- 1 Obtain a copy of the *Financial Aid Bulletin*, the booklet published by UMSL for students seeking financial aid from the University of Missouri-St. Louis.
- 2 Submit your Admissions Application with proper transcripts to the UMSL Admissions Office.
- 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 at least two weeks prior to

the deadline of the financial aid for which you are applying.

- 4 Students who plan to transfer to UMSL from another college or junior college must also submit the Financial Aid Transcript to any college or junior college previously attended indicating all information concerning previous financial aid received.
- 5 Students who meet the criteria for the Missouri State Grant and the Basic Opportunity Grant **must** apply for both.
- 6 Financial aid preferred deadlines are March 1 for 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.

### Curator's Freshman Scholarship Program

Those scholars are selected in recognition of their outstanding achievement in high school and their potential for outstanding academic achievement in college. Nominations are made by the respective Missouri high school under the following criteria:

- 1 One scholar will be nominated for every 100 students or fraction thereof in the senior class.
- 2 Such scholars must rank in the top three percent of the total senior class at the close of the sixth semester.
- 3 Such scholars must rank in the top 10 percent on national norms of a recognized test of college aptitude.

The full amount of the incidental fee will be waived for Curator's Freshman Scholars during their freshman year at the university and will be continued during their undergraduate years, provided they maintain a cumulative grade point average which places them in the upper five percent of the undergraduate class and continue to be in full-time attendance.

### University Scholars Program

This scholarship program is designed to recognize upperclass students with outstanding academic achievements. Awards to eligible students are made automatically at the end of each academic year. No applications are required. Students are awarded a \$50 stipend for the next two semesters (\$100 total) to be credited toward their incidental fee. These scholarships are open to sophomores, juniors and seniors.

### Undergraduate Study

Transfer students who have transferred from a Missouri college or university are eligible to receive this award if they meet the same criteria as other university students. Graduate students are not eligible for this program. These scholarships are awarded based on the following criteria:

- 1 Students must have completed at least 24 credit hours of graded work (not including pass/fail courses) during the previous academic year.
- 2 Students must have achieved a cumulative grade point average which places them in the upper five percent of the undergraduates enrolled in the university. Currently this grade point average is 3.60, and is subject to change.
- 3 Students must be in full-time attendance each semester the award is used.
- 4 The scholarship is not transferable to another college or university.

#### **Air Force ROTC College Scholarships**

Scholarships covering tuition, 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, 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 Aeronautical Technology, Cahokia, Illinois, telephone 337-7500, extension 230 or 259.

#### **Army ROTC Scholarships**

In addition to four-year ROTC scholarships awarded to graduating high-school students, Army ROTC scholarships are available to qualified upperclassmen enrolled in Army ROTC. These scholarships pay incidental fees, books, lab fees, and a monthly \$100 subsistence allowance for up to 10 months of the school year. Selection for three-, two-, and one-year scholarships is based upon academic

achievement, leadership potential, and demonstrated motivation toward a career as a commissioned officer in the United States Army. Additional information is available from the Director of Army ROTC, 316 Education Office Bldg., UMSL, telephone 553-5176, or from the Professor of Military Science, Washington University, telephone 889-5546.

#### **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 UMSL 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.

#### **Consumer Information**

Consumer information for students can be found in the UMSL *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 UMSL, is derived from the *Rules and Regulations* of the Graduate School. The wording of the *Rules and Regulations* is the formal authoritative statement.

## 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 committees of the departments or schools in which students propose to do graduate study and by the Graduate School. Within limitations, students may be admitted to 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.

Inquiries concerning admission and requests for application forms should be sent to the admissions director. 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 with additional required materials should be filed with the admissions director by July 1 for the fall semester; December 1, winter semester; and May 1, summer session. Where applications are accompanied by financial aid requests, the last date for acceptance is usually March 15. Certain departments with heavy enrollments have earlier final acceptance dates, both for admission and financial assistance. Therefore, inquiries concerning Graduate School admission should be made as early as possible.

To be admitted, applicants must take the Graduate Record Examination (GRE) aptitude and advanced tests when required by the department. In the MBA program, the Graduate Management Aptitude Test is required in place of the GRE. 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.

Applications for the examination must be in at least four weeks before the test date. Information and application forms may be obtained from the admissions office.

## Matriculating Students

Matriculating students are defined as students applying for admission to pursue approved graduate 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 and their test scores meet departmental requirements.

Students with 2.5 to 2.75 undergraduate grade point averages may be admitted as regular students if there is strong supporting evidence in other areas: test scores, work in a major field, strong supporting letters, sharp improvement in undergraduate work, previous graduate work, evidence of academic maturity after completion of the bachelor's degree, or successful completion of a prescribed program such as unclassified undergraduate study at UMSL.

### 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 admission in the sense of full admission to the Graduate School. It is partial admission only and is not an invitation 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. to earn incomplete grades, drop 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 either their status is changed to regular or they are dropped from the program.

## Admissions and Academic Policies

### Graduate Study

Students with undergraduate grade point averages below 2.75 are not normally admitted unless there is strong supporting evidence in other areas as described above. If students with grade point averages below 2.75 are admitted it is only on a restricted basis. This partial admission is possible only for 12 hours. It expires with accumulation of 12 hours credit. Only a departmental recommendation, with Graduate School concurrence, advising regular admission can lead to taking more work. Once students have been admitted as restricted students and later denied regular admission they can no longer register as special, nondegree students.

Students with acceptable records but some deficiencies may be admitted as restricted students under admission conditions set by the department or 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.

#### **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. 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 admissions office sends a change of status form to the department or school to 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 approved graduate programs at UMSL. Classifications within this category include special, nondegree students; intercampus exchange students; and Continuing Education-Extension, institute, and workshop

students. These students are hereby informed that their status is not regular and that their enrollment in courses carries no connotations of permission to enroll in a curriculum leading to a graduate degree.

#### **Special, Nondegree Students**

Space permitting, students may be admitted as special, nondegree students if they are visiting students, are not intending to pursue degree or certificate programs, or are planning to enter programs not yet established.

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, nondegree 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, nondegree students is not regarded as completed within a degree program. Departmental approval must be received to apply such course work later to a degree program. It may not be counted as part of the degree residence requirement. Its acceptance by other universities may not be automatic.

Special, nondegree students are not permitted to preenroll and are not mailed registration packets in advance. Students may register after the regular registration period for matriculating students. 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 UMSL 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, nondegree students.



# Graduate Study

Inter-campus exchange students must have prior approval of their 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**

Students denied admission to the Graduate School may request admission to the university as unclassified students (not a Graduate School classification). These students do not meet the standards of regular, restricted, or special, nondegree students.

Unclassified students may not enroll in graduate courses. Any 300-level undergraduate work completed is not normally accepted as part of a graduate degree program.

The 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 additional information to the university for the decision process and is not a substitute for regular standards of admission.

## **Foreign Students**

Students from abroad who wish to study at UMSL may encounter obstacles since the University is a nonresident campus designed to serve a population of local students

Students must be competent in both written and spoken English; facility of the language cannot

be gained at the same time that serious study is undertaken. Submission of TOEFL scores is strongly advised for students whose first language is not English. (See Undergraduate Study, p. 16 for further information.)

No university housing is available for students. The University is a commuter campus; most UMSL students reside at home while attending day or evening classes. Foreign students make their own living arrangements, with assistance from the dean of students. Public transportation is available to some extent.

Married foreign students with families should appreciate that the cost of living is high and part-time work is hard to find. Medical expenses 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 before applying for admission. Once accepted they are welcome members of our campus community.

# Enrollment

## **Undergraduate Students**

Undergraduate students with exceptional records at UMSL 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.

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.

## **Inter-campus Exchange Program**

Graduate students in good standing at any University of Missouri campus are normally permitted to enroll in graduate courses at UMSL as nonmatriculating graduate students. Separate applications must be filed every semester and



### Graduate Study

approved by the student's advisers, the Graduate School, and the UMSL admissions office. Application forms are available from graduate offices on students' home campuses.

#### **Inter-University Exchange Program**

Regularly admitted graduate students are permitted to take a few courses at Washington and St. Louis Universities under an agreement among the three institutions. Students pay UMSL fees and enroll through the UMSL Registrar. For details consult departmental Graduate Advisors.

#### **Postdoctoral Study**

Individuals with doctoral degrees and similarly qualified persons wishing to pursue special studies at UMSL may be appointed postdoctoral research fellows or visiting fellows by the Graduate School dean 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, appropriate department chairperson, or faculty member.

### Registration

#### **Permit to Enroll**

New students qualified for admission to the Graduate School are issued permits to enroll and registration packets. Subsequently, registration materials are made available each term as long as students remain in good standing.

To remain in good standing, students must enroll during at least one term each calendar year. Students failing to do so who have not been granted leaves of absence are removed from the Graduate School enrollment list. In some programs, students may be required to enroll each term. Students discharged from the Graduate School or a graduate program who wish subsequently to continue must submit new admission applications.

#### **Preregistration**

Enrolled students may preregister for the next term during regular preregistration periods, usually held in November and April. 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, nondegree students and individuals who have graduated are not allowed to preregister.

#### **Maximum Course Load**

In most graduate programs, the normal full-time course load is 9 to 12 hours during a regular semester and 5 to 6 hours during a summer session. With special permission, students may register for 15 hours. Three hours is the maximum load during intersessions.

Graduate students employed full-time may not register for more than 6 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.

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

Students must receive the approval of their advisers and the Graduate School dean to enter 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 graduate dean. 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 Graduate School dean, 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 graduate dean. Otherwise, a grade of F is given. Any students who stop attending classes without officially dropping courses also receive grades of F.

# Graduate Study

## 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 must be at the 400 level. Other courses must 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 other than the one offering their degree program.

### Institute and Workshop Courses

Institute courses will 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 graduate dean. However, they do not 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 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. Graduate credit is not given for work taken pass-fail.

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.

Delayed grades may be given when students' 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 final, regular grades are reported by the instructor.

### Probation and Dismissal

Graduate students enrolled in degree or certificate programs must maintain at least a 3.0 grade point average in all courses for which graduate credit is given. Students cannot graduate with less than a 3.0. Students whose grade point averages fall below this standard 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 averages fall 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.

All students admitted on probation are automatically terminated after completion of 12 hours unless their adviser or division recommends otherwise.

Special, nondegree students must maintain the same standards required of students enrolled in degree or certificate programs. Upon recommendation of the school or department, special, nondegree 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.

# Graduate 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 courses 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 admissions office. Students leaving the campus 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.

## 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 determining that all requirements are met.

### Advisers

Graduate students are assigned advisers by the chairperson or director of graduate studies in students' major departments or schools. Before each semester's registration, students must consult with 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. With the approval of the department or school and the graduate dean, students may receive transfer credit for non-extension graduate courses completed in residence at other accredited institutions with a grade of A or B, but not Pass/Fail. Once admitted to the Graduate School, students must obtain departmental approval before enrolling in courses for transfer credit from other institutions.

Courses taken pass-fail or by correspondence may not be included as part of the degree program.

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.

### 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.

### Time Limitation

All work included in a master's degree program must be completed within six years after initial enrollment in the program. Graduate work completed outside the six-year period may not be included in the degree program. In

# Graduate Study

connection with an authorized leave of absence, an exception to the time limitation may be approved.

## Filing of Degree Program

Before completing one-half of the required hours in a degree program graduate students, in consultation with their advisers, should file with the graduate dean a program of studies which must be approved by the department or school involved and the graduate dean. 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 graduate dean on the recommendation of the department or school.

## Dual Master's Degrees

With approval of the department or school and the graduate dean, 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.

With approval of the departments or schools involved and the graduate dean, students may simultaneously pursue two master's degrees under the following conditions:

- 1 No more than 10 credit hours may be overlapping or common to both programs.
- 2 Students must obtain approval of both departments and schools and program advisers from both areas before they have completed 12 hours in either program.

## 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 UMSL, limited opportunities exist for work in cooperative programs with other University of Missouri campuses. Specific inquiries should be directed to the chairperson of the department offering the desired program.

## Advisers

After 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 graduate dean, select advisers to assist in planning the program. The graduate dean appoints the adviser and notifies all concerned.

## Residence Requirement

Minimal 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 (9 hours or more each semester) on the UMSL 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 will not meet the residence requirement at that level. When students present two master's degrees, relevant coursework may be selected for credit, bearing in mind the eight-year regulation on recency of transferred courses. In

### Graduate Study

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 UMSL. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, at least 46 hours must be taken at UMSL, including dissertation credit.

Doctoral degree work must be completed within eight years of admission.

#### Qualifying Examination

Upon completion of approximately one year of residence requirements, the appropriate chairperson or dean and advisers may recommend to the graduate dean that students pursue work toward the doctorate as precandidate doctoral students. Such recommendations may be based upon a qualifying examination as well as students' academic records and personal programs. At this time students, with approval of the chairperson or dean and adviser, file a detailed program (excluding the dissertation topic) with the graduate dean. After approval, copies are filed with students, their advisers, chairpersons, and divisional deans.

#### 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 dean's supervision. Examinations may be written, oral, or both. Upon successful completion, applicants are advanced to candidacy by the graduate dean on the department's recommendation.

#### Dissertation Proposal

At a time appropriate to the pattern of study, students are to file their dissertation proposals with the graduate dean on the appropriate forms.

Upon acceptance of the proposal, Ph.D. thesis research or dissertation credit may be earned.

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 dean to appoint the dissertation committee. The committee consists of four graduate faculty members, including one member outside the discipline involved. Dissertation committee members are selected by students and their advisers in consultation with the department and with the concurrence of the graduate dean. The dissertation director must be a doctoral faculty member.

#### Dissertation and Final Examination

Two copies 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 graduate dean 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 final examinations. The dean appoints to the Oral Examination Committee members of the dissertation committee and such other members of the graduate faculty as seem appropriate.

Candidates must submit an abstract of the dissertation and a vita to the Graduate School one month before the oral examination.

The Defense of Dissertation Committee certifies the final acceptability of the dissertation to the graduate dean on the basis of a final examination open to all graduate faculty members.

## Graduate Study

At least six weeks prior to graduation, candidates for doctoral degrees are required to submit to the Graduate School two complete copies of the dissertation ready for binding, and an abstract. The abstract should not exceed 600 words in length. The candidate may submit extra copies to be bound for personal use. For further information, consult the Office of the Director of Libraries.

### 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 pre-candidacy.

- 3 Failure to remove by the end of the second year deficiencies indicated by placement examinations.

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 the Graduate School.

### Graduation

Candidates for the doctoral degree ordinarily attend Commencement.



## Admissions and Academic Policies

### Graduate Study

#### Fees

Detailed information regarding fee expenses and residency is furnished in the *Schedule of Courses* and a pamphlet, *Tuition and Residency Rules*.

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

#### Incidental Fee

All students enrolled in the university must pay an incidental fee as follows:

#### Graduate Students

##### Regular Semester

\$480 for 12 or more credit hours

##### Summer Session

\$240 for 6 or more credit hours

For other sessions not specified or partial enrollment the incidental fee is calculated at \$40 per credit hour.

#### Nonresident Tuition Fee

Students are also required to pay a nonresident tuition fee if they do not meet the residency requirements. A definition of "residency" is outlined in *Tuition and Residency Rules*, available at the cashier's office. Students are responsible for registering under the proper residence and paying proper tuition fees. They are also responsible for raising any questions if there is a possibility that they are subject to the nonresident fee. The nonresident fee is charged as follows:

#### Graduate Students

##### Regular Semester

No fee for 1 to 6 credit hours

\$160 for 7 credit hours

\$320 for 8 credit hours

\$480 for 9 credit hours

\$640 for 10 credit hours

\$800 for 11 credit hours

\$960 for 12 or more credit hours

##### Summer Session

No fee for 1 to 3 credit hours

\$160 for 4 credit hours

\$320 for 5 credit hours

\$480 for 6 or more credit hours

Graduate students should refer to the Undergraduate Study section of this bulletin for information on university fees applicable to all students (such as the University Center and Student Activities Fee), see page 25.

#### Final Semester Incidental 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 1 credit in the term in which they expect to receive the degree. Only students so registered may file applications for graduate degrees.

#### Thesis and Dissertation Fee

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

### 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 which in the 1979-80 academic year averaged \$4,000. Students receiving assistantships are expected to pay all incidental fees, but are exempt from the nonresident tuition fee. Normally students with these stipends register for 9 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 term. Occasionally a few teaching assistantships are available for the winter term. Interested students should contact the appropriate department.

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

#### Research Assistantships

A small number of research assistantships are available in some departments and schools.



## Graduate Study

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 or fellowships. For information consult the appropriate department.

### Other Graduate Financial Aid

Graduate students may apply for both the National Direct Student Loan and the College Work-Study Program as well as the Federally Insured Student Loan Programs. Once a student has achieved their first baccalaureate degree, the federal and state grant programs are no longer available. For information on the Loan or Work-Study Programs or for additional financial aid 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*, the *UMSL 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 Career Planning and Placement Office 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, supervisory 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 are not in attendance at the University, records made and maintained in the normal course of business which relate exclusively to such person 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,



### Confidentiality Policy

psychiatrist, psychologist, or other recognized professional or para-professional acting in his/her 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 a 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. L. 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 an 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 the Career Planning and Placement Office, 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 or her 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 and 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 the hearing. The parties shall be entitled to 10 days prior written notice of the time and place of the hearing.
- (c) The hearing shall be conducted and the

## Confidentiality Policy

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.

**9** The University of Missouri-St. Louis will mail grade reports to students at their permanent mailing address only. Grades will not be mailed

to parents unless the students, in question, have completed the necessary authorizations 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 the 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.



## Student Services

## UMSL Libraries

### Librarians

**Ronald Krash**, Director

M.L.S., Wayne State University

**Mushira Haddad**, Head, General Services

B.A., American College

**Charles Hamaker**, Head, Collection Development

M.A., M.L.S., Brigham Young University

**Barbara Lehocky**, Head, Reference Services

M.A.L.S., University of Missouri-Columbia

**Frank Sadowski**, Head, Bibliographic Services

M.L.S., Rutgers University

**Virginia Workman**, Head, Education Library

M.A.L.S., University of Missouri-Columbia

**Sandra Brandt**, Reference Librarian

M.A.L.S., University of Missouri-Columbia

**Mary Doran**, Reference Librarian

M.L.S., University of California-Los Angeles

**Michael Montgomery**, Reference Librarian

M.A., M.S.L.S., University of Illinois-Champaign

**Leanne Miller**, Cataloging Librarian

M.A.L.S., University of Michigan

**Frank Pershe**, Cataloging Librarian

M.S., M.L.S., Case Western Reserve; Ph.D.,  
University of Munich

**Ann Campion Riley**, Acquisitions Librarian

M.L.S., University of Illinois-Champaign

**Sandra Schelling**, Reference Librarian

M.S., M.S.L.S., University of Illinois-Champaign

**Mark Scheu**, Reference Librarian

M.A., M.S.L.S., University of Illinois-Champaign;

A.B.D. University of Kansas

**Betty Wilbanks**, Reference Librarian

A.B.

**Nancy Zander**, Reference Librarian

M.A.L.S., University of Missouri-Columbia

UMSL Libraries support the educational objectives of the university and meet the informational needs of the campus community. Housed in two locations—the Thomas Jefferson Library, on the main campus, and the Education Library, on the Marillac campus—the Libraries' collections consist of over 362,000 volumes, including 2900 periodical subscriptions, more than 198,000 U.S. Government documents, and some 1,000,000 items in microform.

Materials from other University of Missouri libraries are available through the Interlibrary Loan Service. Faculty and graduate students engaged in research can request materials from other libraries across the country through this service. An automated data-base retrieval service also is available to UMSL students and faculty.

The libraries are open more than 90 hours per week during regular sessions. Specific hours for various library services are posted in both libraries.

### Archives and Western Historical Manuscript Collection

#### Archivists

**Anne R. Kenney**, Associate Director, Joint Collection Western Historical Manuscript Collection and State Historical Society of Missouri Manuscripts, Associate Archivist

M.A., University of Missouri-St. Louis;

M.A.L.S., University of Missouri-Columbia

**Patricia L. Adams**, Manuscript Specialist

B.A., University of Missouri-St. Louis

This facility primarily serves UMSL students and faculty, but it is open to all researchers. Located in the Thomas Jefferson Library, the archives office is available daily for reference service. Acquisitions are grouped into two sections: the University Archives, which includes official campus correspondence and publications, artifacts, and photographs telling the history of UMSL; and the Western Historical Manuscript Collection which consists of written, graphic, aural and photographic material reflecting many aspects of America, including the heritage of St. Louis.

The manuscripts division also acts as a resource center, duplicating for use, in either graphic or tape-recorded form, many of its holdings. Copies of photographs in the collections are loaned to patrons, although most archival and manuscript material does not circulate.

A microfilm copy of the Western Historical Manuscript Collection-Columbia Card Catalog is also available. Manuscripts from other WHMC branches may be borrowed through inter-campus loan.

#### Optometry Library

The Optometry Library is located in the east wing of the Education Library.

#### Library Science Studies

The UMC-Extension Division offers courses in the St. Louis area toward a master's degree in library science and/or certification for school librarianship. For information, contact the Graduate School of Library and Information Sciences, 104 Stewart Hall, Columbia, MO., 65201.

# University Center

The University Center houses university food services, an information and ticket desk, the bookstore, University Center administrative and central reservations offices, and offices of the directors of Programming and Student Activities. Student work areas include meeting rooms, a photographic darkroom, typing room (with typing service), student government offices, and the Black Culture Room. Informal lounge space with a 10-channel music system provides a comfortable environment in which groups and individuals can relax or study.

The Fun Palace, located on the hill overlooking the lake, is an extension of University Center facilities. A TV room, pinball machines, and ping pong and pool tables are offered for student recreation. The Fun Palace concession counter serves hot dogs, chips, soda and other snacks.

## University Center Funding

At UMSL, 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 union 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. The revenue-producing areas (food services, bookstore, Fun Palace) are self-supporting operations whose excess income (if any) contributes to the improvement of the facilities and services.

## Bookstore

The bookstore, located in the University Center, 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.

There is also a new University Bookshop located in room G-13, Education Office Building which specializes in teachers' aids, classroom materials, and educational books and school supplies.

## Food Services

The snack bar on the upper level of the University Center building is a fast food area open weekdays from 7:00 am to 8:00 pm with the exception of Friday when it closes at 3:00 pm. The cafeteria downstairs is open weekdays for lunch. Cafeteria service for both day and evening students is offered on the education campus in the lower level of the Education Office Building. Catered services may be arranged at reasonable costs through the reservations office.

## Information Services

Student information services are located at the Information Desk in the University Center lobby. UMSL students staff the desk from 7:00 am to 8:45 pm weekdays, providing information and referral services to the community. In addition, tickets for on-campus and selected off-campus events, weekly bus passes and postage stamps may be purchased at the desk. The campus "lost and found" department is also at the Information Desk. Persons with questions about campus activities and services are invited to call 553-5148 or stop by the desk.

A calendar of campus activities is published monthly as a part of University Center information services. Free copies are available on campus bulletin boards and at the desk.

## Hotline

"Hotline" is UMSL's 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, campus films; 5866, cultural events and tickets; 5867, daily calendar of campus events and hours for campus facilities; and 5148, direct line to the Information Desk. 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 6:30 am.

Free pocket-size Hotline directories, listing Hotline and most campus office numbers, may be picked up at the Information Desk.

## Student Services

### University Center

#### Darkroom

A fully equipped, well-supplied black and white darkroom is located on the second floor of the University Center building. It is the only campus darkroom open to the entire UMSL community and it is available for use by anyone with basic photographic knowledge. A semester fee of \$12.50 includes use of equipment and chemicals. Paper must be provided by the individual.

Each semester, a six-week course in basic developing and printing will be offered. For information about the darkroom or the course, call 553-5291.

#### Black Culture Room

The Black Culture Room houses a tutorial service and is equipped with a study area and lounge. Sponsored by the Minority Student Service Coalition, the room is called "Umajaa," an African word meaning brothers and sisters working together. For more information, call the Black Culture Room at 553-5949.



### Student Affairs

The Office of the Dean of Student Affairs in 301 Woods Hall offers students a wide variety of services. The office provides a new student orientation program each semester so students can become acquainted with each other and the campus. In addition, the office responds to various disciplinary matters. For more information, call 553-5211.

#### Student Government

The Student Association, the University student government, provides input in all aspects of university life, university affairs, and policy-making. The Association encourages students to govern themselves and to be responsible for their government and education. The Association works with members of the faculty and administrators to increase services to students, alumni, and residents of the metropolitan community and the state.

The Association's activities range from investigating student grievances to proposing curriculum changes.

The legislative body of the Association is known as the Assembly. Representatives are selected from the student body on the basis of one representative for every 500 students enrolled by school, college, and major.

For more information, call 553-5104, or drop by 253A, University Center.

#### Student Court

The Student Court is appointed by the Student Assembly. The five-member Court makes recommendations to the Dean of Student Affairs concerning traffic violations, adjudicates matters of grievance between individual students or groups of students, and conducts impeachment proceedings as delineated by the Student Association Constitution.

### Counseling

#### Counseling Service

The Counseling Service in 427 SSB offers free professional assistance to students, faculty, and staff with any concerns of a personal, social, educational, or vocational nature. All contacts with staff counselors and psychologists are kept confidential. The service provides individual and

## **Student Affairs**

group psychological counseling and consultation, vocational testing, and career-choice guidance. A well-stocked library of career-choice and educational opportunity materials is also maintained.

### **Peer Counseling**

The goal of the Peer Counseling Center is to provide a place where students can get short-term assistance for a wide variety of personal and career concerns. Peer Counseling also offers rap groups, workshops, and films of interest to students. In addition, information and referrals are available for on- and off-campus services. All services are without cost to the student. The Counseling Center specially trains and supervises peer counselors. All contacts are completely confidential. For more information, call 553-5730.

### **Women's Center**

Located in 107A Benton, the Women's Center is a good place to go for coffee, conversation, studying, or browsing. The Center is also a place to get support and assistance in coping with UMSL, help in doing research on women, and answers to questions about almost anything.

The Women's Center is governed by an elected board and is staffed by paid and volunteer student members in addition to a full-time coordinator. There are opportunities for students to get involved at all levels in the activities and work of the Women's Center. Students are encouraged to drop by, attend programs, or become volunteer staff.

The Women's Center offers: an information and referral service about women's activities, events, organizations, and services in St. Louis; support for mature students; programs on women's issues and career choices; a library of literature by and about women; and advocacy for women at UMSL.

The Women's Center is open full-time Monday through Friday, but hours vary by semester. For more information, call 553-5380.

### **Career Planning and Placement**

As an aid to students and alumni, the Career Planning and Placement Office in 308 Woods Hall offers career planning services and acts as a central registry for full- and part-time job opportunities off-campus. Students undecided about their career choice should consult the office as soon as possible. Representatives from business, government agencies, and school districts conduct on-campus interviews through the office each semester. Students interested in securing full-time employment after graduation should register with the office at the beginning of their final year. A job search program is available to aid alumni in finding full-time positions of their choice. For more information, call 553-5111.

### **Veteran's 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 establish educational goals and to explain the special benefits available to veterans. A staff of peer counselors, female and male veterans, is available to help fellow veterans deal with school, drug, or housing problems; veterans' benefits; jobs; or any 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.

### **Health Center**

The Student Health Service is located in 127 Woods Hall. Out-patient medical care, including first-aid and general health consultation, is available to students at the Health Center, open during day and evening class hours. Emergency medical care is provided for all members of the university community. The staff of full and part-time health personnel is assisted by a St. Louis physician on a part-time basis. Patients are referred to health facilities in the St. Louis area when needed care is beyond the limitations of the center. The UMSL police assist in the event of medical emergencies. For information on hours, call 553-5671.

# Student Affairs

### Intramural Sports

UMSL's intramural program is geared toward the interests of the entire university community. Students, faculty, and staff are encouraged to take active roles in the creation of new intramural programs.

Activities currently offered include touch football, basketball, volleyball, swimming, racquetball, handball, golf, tennis, bowling, softball, hoc soc, badminton, superstars, mini-marathon, soccer, wrestling, weight lifting, wrist wrestling, tug-of-war, white-water kayaking, and orienteering races.

### Intercollegiate Sports

Intercollegiate athletics is available for both men and women at UMSL.

Women's athletics is in its sixth year of intercollegiate competition and has already proven itself to be one of the area's best. The program includes women's basketball, field hockey, tennis, volleyball, softball, and swimming.

The men's varsity teams have earned a winning tradition and brought national visibility to the university. Four of the teams, baseball, basketball, golf, and soccer, have reached national championship playoffs in recent years. Other teams include wrestling, swimming, cross country, and tennis.

Intramurals and intercollegiate athletics are supported in part by student activity fees. UMSL students with validated ID's are admitted free to all home athletic contests.

### 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 an Olympic-size 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.

### Student Activities Office and Organizations

Students interested in performing on-stage, writing for the *Current*, checkmating a challenger, floating scenic streams, caving, backpacking, or pursuing other special interests can join one of the 100 student clubs and organizations. Information concerning recognized department clubs, fine arts groups, fraternities and sororities, religious organizations, and special interest groups may be obtained from the Student Activities Office. Information on group and individual travel in the United States and abroad is also available.

The Student Activities Office also coordinates the computerized car-pool program and the UMSL shuttle bus service that operates from various city and county locations.

For more information, call 553-5536.

### Cultural Opportunities and Entertainment

The director of programming works with the student University Program Board and the faculty Concerts and Lectures Committee in planning a variety of cultural and social activities. These programs are subsidized by student activity fees and by the university. The director can be reached at 553-5294 in 262 University Center.

Program offerings include:

**Concerts**, including weekend evening concerts, for a reasonable admission, featuring such performers as Cleo Laine and John Dankworth, Leo Kottke, and Jean-Pierre Rampal.

**Free lectures** by such personalities as Ralph Nader, Daniel Schorr, Shirley Chisholm, and Benjamin Hooks.

**Two film series** for the university community, one featuring weekend showings of contemporary films at a nominal fee and the other showing a wide variety of film classics at no charge.

**Theatre**, including performances by such professional theatre companies as England's Royal Shakespeare Company and the Young Vic.



## Student Affairs

### Handicapped, International, and Minority Students

A coordinator in the Student Affairs Office assists handicapped, international, and minority students and serves as a link between the students and the administration. Special parking arrangements and accessibility problems are considered in preparing handicapped students' class schedules. The office assists visually impaired students in hiring readers. Some special equipment for the visually impaired is available in the UMSL library. For more information, call 553-5211.

### Housing

There is no university owned or approved housing at UMSL. The personnel office maintains listings for faculty, staff, and students of rooms, apartments, and houses for rent, and real estate for sale. The Student Activities Office maintains a housing referral service for students. The number on campus is 553-5536.

### Evening College Council

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 interests and coordinates social activities of special interest to evening students. Membership is open to all Evening College students who are in good standing. Applications are available in 324 Lucas Hall or from any

## University Organizations

council member. For more information, call 553-5161.

### University Senate

The Senate is the governing body for the campus, exercising the functions of the faculty and the student body as directed by the UMSL Bylaws. Twenty-five students and 75 faculty members are elected by their peers to the Senate which also consists of a number of *ex-officio* members. Much of the Senate business is carried out by committees. The standing committees to which students may be elected include: Committee on Committees, Executive Committee, Curriculum and Instruction, Admissions and Student Aid, Library, Welfare and Grievances, Student Affairs, Student Publications, Athletics, Fiscal Resources and Long Range Planning, Urban Affairs, Physical Facilities and General Services, and International Studies. In addition, *ad hoc* committees are established as needed.

For more information, call 553-5541.

### Alumni

As today's students form the present university community, UMSL's alumni help shape UMSL's future by supporting necessary improvements. The Alumni Association and the alumni activities office in 426 Woods work together to promote UMSL and to establish mutually beneficial relations between the campus and its alumni. Membership in the association is open to graduates and former students.

The Alumni Association sponsors a scholarship fund for UMSL undergraduates, special funding of campus projects and a public resources program to obtain increased public support for the university. For more information, call 553-5441.

### Gallery 210

Gallery 210 sponsors a series of changing art exhibitions that range from Primitive to contemporary art, from student work to the finest professional art available. Displays are offered that vary from painting and photography to mixed media in an effort to serve the visual interests of the metropolitan community and the campus. Under the auspices of the art department, the gallery offers exhibits that meet the best of both educational and aesthetic standards.





# Specialized Centers and Facilities

## Center for Academic Development

The CAD is an academic support program which focuses attention on the needs of UMSL students who may require some assistance in pursuing higher education. The CAD is comprehensive in nature consisting of the following programs:

### Special Services Unit:

#### Program for Disadvantaged Students

Provides supportive services which focus on the first two years; participants are chosen on basis of need, former academic preparation and achievement and motivation. Services include academic advising, counseling, and financial aid.

**Tutorial Lab** Student tutors, certified by the appropriate academic department, are available to give assistance in any discipline; times are arranged for mutual convenience of student and tutor. A lab fee is charged.

**Advisement** Offers academic advisement for students in choosing courses and outlining schedules. Specially trained students are available for one-to-one academic advisement. Other areas of advisement include finance and social welfare.

### Mathematics Unit:

**Remedial Math Lab** Provides individual assessment and plan of instruction. Offers individual and small group instruction in Basic Mathematics.

**Development Math Lab** Provides individual assistance on a walk-in basis to students enrolled in Math 02 or higher and other college courses involving mathematical skills.

### Communications Unit:

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

**Writing Lab** Tutorial assistance in organizing, writing and proofreading papers for any class is available as well as slide-tape programs, spelling and vocabulary tapes, and programmed texts. Instructors may arrange for

lecture-demonstrations in their classrooms if a majority of their students are having writing problems.

**Remedial English Lab** Tutorial assistance in the elementary principles of writing English prose. Appraises a student's writing needs and provides individual and small group instruction in sentence clarity, organization, the orderly development of ideas, and good diction.

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

## Metropolitan Studies

The Center for Metropolitan Studies performs a three-fold function of research, community service, and teaching. The Center strives to provide an interdisciplinary approach to urban problems, with staff members holding appointments in a variety of academic areas. Its major operating objective is to produce research that will assist in devising humane, equitable and effective social policies. Audiences for the Center's work include the private, public, and volunteer sectors as well as professional colleagues. Dissemination strategies involve speeches, workshops, consultations, service on policy bodies, the electronic and print media and professional publications. Center research is focused around five themes:

- Economic Development and Employment
- Financing Urban Services
- Ethnicity and Neighborhoods
- Community Conflict Resolution
- Urban Aesthetics.

## Midwest Community Education Development Center

The Midwest Community Education Development Center, located in the School of Education and the Division of Continuing Education-Extension, serves Missouri and Kansas in the development of community schools and community and continuing education. The Center 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 M.Ed. and Ed.D. programs with an emphasis in community education. (Fellowships are sometimes available for these programs on a

## Specialized Centers and Facilities

competitive basis.) Graduate courses in community and adult education are taught on a regular basis. For further information, refer to the section in this *Bulletin* under Graduate Programs in Educational Administration, or call the Center at 553-5746.

### Computer Center

Computer Center facilities on the four University of Missouri campuses provide modern computing services, available to faculty, staff, and students for educational, research, and administrative needs.

Hardware on the UMSL campus includes an IBM S370/125 computing system and a General Automation SPC-16/65, both of which are linked to a powerful Amdahl 370/V7 computer in Columbia. The two UMSL computers serve as remote job entry stations to the Amdahl 370, where all processing is done. Peripheral equipment at UMSL includes a Cal Comp plotter, an NCS 7010 optical scanner for test scoring and data collection, and a digitizer. The Computer Center also has a number of interactive terminals connected to the Amdahl 370.

The local staff provides such support services as consultation, programming, keypunching, and operations. Users have access to a large software inventory, which includes a data base of urban information.

### University Business Development Center

The University Business Development Center (UBDC) exists as a part of the University of Missouri-St. Louis, School of Business Administration and the University of Missouri Extension Division, providing a vehicle to facilitate the planning and expansion of new and existing business enterprises. The primary focus of the center is to provide management and technical assistance to the small business community in the state of Missouri. UBDC services include counseling, training, secondary data search and research.

The UBDC is part of an intercampus Small Business Development Center (SBDC) system and is located on the campus of the University of

Missouri-St. Louis. The four other regional operating centers are located on the Columbia (2), Kansas City, and Rolla campuses. This SBDC service network is integrated with the University Extension outreach offices providing a statewide linkage for client referral and service delivery.

For further information and assistance, call (314) 553-5621.

### Engineering Center

The UMR Graduate Engineering Center at UMSL 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 coursework during the evening. Graduate work is available in engineering and computer science, including both the master of science and professional development degrees in aerospace, chemical, civil, electrical, environmental, mechanical, metallurgical and nuclear engineering, engineering management, engineering mechanics and computer science.

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 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.

### 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 among the UMSL and area communities. The Center promotes interdisciplinary and multidisciplinary courses and assists in staffing courses within individual departments; arranges

## Student Services

### Specialized Centers and Facilities

seminars to meet specific faculty and student needs and interests; sponsors conferences and seminars; issues two publications; and administers, for the College of Arts and Sciences, undergraduate certificate programs in East Asian studies, European studies, international studies, and Latin American studies. The Center organizes and directs a summer travel-studies program with courses in Europe, Africa, and Asia; cooperates with several organizations which sponsor semester abroad programs with instruction in English; and serves as campus depository for information on numerous other travel-study abroad programs.

### University of Mid-America Learning Center

The University of Mid-America Learning Center at UMSL is part of the University of Missouri's college-at-home program. The UMA program provides college courses to individuals who are unable to attend regular classes on the UMSL campus. The Learning Center is a place where students may view course lessons, take exams and talk with instructors. Full-time UMSL students may view course lessons, take exams and talk with instructors. Special arrangements may be made for full-time UMSL students to enroll with no additional fees. Full-time UMSL employees may use educational assistance. For more information on the University of Mid-America, call the Learning Center at 553-5370 or toll-free 800-392-9536.

### 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 to improve and evaluate present economics curriculum. The Center also promotes the goals of economic education among business, professional, educational, labor and other organizations in the St. Louis community.

### KWMU

KWMU (91 FM Stereo), the St. Louis area's largest coverage FM station, presents fine arts, news, and public affairs programming 24 hours a day and serves the university by broadcasting all official university announcements. A special student programming staff operates the facilities after midnight Fridays, Saturdays, and Sundays for "on-the-air" training. In association with Continuing Education-Extension, the station airs closed-circuit instructional and credit programming simultaneously with the regular classical music and news programming.



## Research Facilities

Apart from the research facilities of separate departments and divisions, a number of specialized centers and offices have been created on campus, through the University of Missouri research administration, and through consortium efforts.

### Botany Research

Instructional and research programs in systematic and evolutionary botany have been developed by a consortium of four area universities—UMSL, Washington University, St. Louis University, and Southern Illinois University-Edwardsville. The program operates in conjunction with the Institute for Systematic and Evolutionary Botany of the Missouri Botanical Garden, one of the principal centers for botanical research in the United States. Under the consortium, the faculties, facilities, and collections on the four campuses and at the garden are shared, including the large herbarium and library at the garden, greenhouse facilities, scanning and transmission electronmicroscopes, a tropical field research station in the Canal Zone, and the four universities' course offerings.

### Environmental Health Center

The Environmental Health Center at the Columbia campus serves as a system-wide mechanism for the stimulation and coordination of research, teaching, and public service in areas related to man's environment and its effect on public health and the quality of living. The center concentrates on two broad research activities: the Environmental Surveillance Center, which is concerned with study of human and swine birth defects and the environmental factors which may contribute to these defects; and the Environmental Trace Substances Center, concerned primarily with research, training, and analytical services relating to the assessment of the environment's chemical composition. The center's principal function is to stimulate and support environmental studies within the university system, but it also serves as a regional and national center for ecological investigation.

### Industrial Development Studies

The Office of Industrial Development Studies is a cooperative effort of the University of Missouri and the Division of Commerce and Industrial Development. The office, located on the Columbia campus, provides university research

capabilities in support of industrial development studies, both public and private. Research is performed in most instances by experts on all four campuses; some studies are partially or totally prepared by office staff members, all of whom have had practical experience in the field.

The center works in cooperation with the university's industrial extension agents to insure responsiveness to the interests, opinions, and needs of industry throughout the state. Drawing assistance from specialized research centers on the four campuses, the office provides services to industrial development organizations, governmental bodies, and private firms in such areas as market, product feasibility, plant locations, and urban-rural industrial studies.

### MASUA Traveling Scholars

The university is a member of the Mid-America State Universities Association, 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. Further information may be obtained from the Graduate School office.

### Medicine Research

The Sinclair Comparative Medicine Research Farm is a university-wide research facility located about five miles south of Columbia, Missouri. The farm offers both large and small animals as models for human health-related conditions in the study of chronic diseases and aging. Center staff members are working in the areas of biochemistry and nutrition, biostatistics, clinical medicine, genetics, microbiology, and pathology. Interested investigators and graduate students may use the Sinclair facility.

### Political Research

UMSL is a member of the Inter-University Consortium for Political Research, 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. The consortium is an interdisciplinary, interuniversity 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 UMSL

## Student Services

### Research Facilities

Computer Center provides a full range of 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.

#### Research Reactor

The Research Reactor is a university-wide facility located south of Columbia, Missouri. The facility, available for use by staff members and graduate students, 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. Seventeen research laboratories specifically designed for research involving radiation are associated with the reactor. The reactor provides a variety of experimental facilities, including four pneumatic tubes servicing seven laboratories, six beam ports, 12 high flux irradiation positions adjacent to the reactor, and a neutron radiography facility. A nuclear science group provides services in trace element research, radioisotope production, nuclear chemistry research, and activation analysis.

#### Social and Behavioral Sciences

The Social and Behavioral Sciences Laboratory provides a controlled and flexible experimental setting for teaching and research at UMSL. The laboratory incorporates both small group interaction and simulation facilities as well as consultation services, audio-visual, and closed circuit video facilities for teaching and research. Direct computer access is available with plans for the establishment of data archives. The laboratory is available to both students and faculty.

#### Water Resources Research

The Water Resources Research Center at the Columbia campus encourages and coordinates university-wide research into problems relating to preservation and development of adequate pure water supplies and to prepare specialists in the water resources field. Principal emphasis is given to implementation of the Federal Water Resources Research Act of 1964, which provides for allotment and matching grant funding by the United States Department of the Interior. Funds available through the center may be used for support of water research, both basic and applied, in a variety of related fields.

## Community Services

### Continuing Education-Extension

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

Through Continuing Education-Extension, the College of Arts and Sciences, School of Education, and School of Business Administration 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. Several interdisciplinary 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 service.

The College of Arts and Sciences and Continuing Education-Extension also sponsor the Center for Economic Education, see Specialized Centers and Facilities.

#### Business Administration

Continuing Education programs in business are offered in several areas, including economic and organizational development, management improvement, and individual and professional growth. Programs range from credit courses to brief special seminars designed for specific problems of current interest. Many programs are open to the public while others are specially designed for a specific industry or business.

The University Business Development Center (UBDC) exists as part of the School of Business Administration and the Extension Division, providing a vehicle to facilitate the planning and expansion of new and existing enterprises. The primary focus of the center is to provide

## Continuing Education - Extension

management and technical assistance to small and minority businesses.

### Education

The overall aim of School of Education 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 toward advanced degrees and 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 the Continuing Education-Extension division and the School of Education and serves in the 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 in this *Bulletin*.

### Special Programs

Special assistance for mature women students returning to school is provided through Continuing Education Programs for Women. Services include assistance in educational, vocational, and career planning, as well as short courses and workshops offered through the nationally recognized Discovery Program for Women. Special women's management programs are also available to assist business firms in complying with affirmative action requirements.

A 60-hour Supervisory Certificate Training Program is available for employees who want to upgrade their supervisory skills. An outstanding faculty team is drawn from both industry and education.

Vast numbers of people are reached through educational radio programs produced by Continuing Education-Extension at the University of Missouri-St. Louis. Under the auspices of the College of Arts and Sciences, an active group of volunteers produce a radio program for older adults, "Creative Aging." The program is broadcast weekly on the university's radio station, KWMU, with special programs receiving statewide distribution through the Missouri

Public Radio Association. Continuing Education-Extension also administers the SCA frequency on KWMU Radio, broadcasting educational radio programs daily.

### UMSL Lindbergh

Continuing Education-Extension offers selected graduate and undergraduate credit courses at UMSL Lindbergh, located at Lindbergh High School in south St. Louis County. In addition to UMSL Lindbergh, Continuing Education-Extension offered credit courses at 24 other metropolitan sites last year.

### UMSL Downtown

UMSL Downtown is Continuing Education-Extension's newest off-campus operation, located in the heart of the city's central business district at 522 Olive Street. UMSL Downtown offers both credit and noncredit programs tailored to meet the specific professional and personal interests of people who live or work downtown.

### UMSL West County

Each semester, a concentration of credit and noncredit courses are offered at Lafayette Senior High School in the Rockwood School District. Most of the courses are offered in the evenings; and like other UMSL satellite programs, the courses have the same academic quality standards as on campus courses.

### UMSL St. Charles

Each semester, both credit and noncredit courses are offered in the evenings and on weekends in St. Charles County. The St. Charles courses are offered in several convenient locations throughout the county. The University Extension Center located at Weldon Spring has additional information concerning UMSL opportunities in St. Charles County.

### J. C. Penney Building

General administrative support for the college and school divisions is provided through the Continuing Education-Extension management office located in the J. C. Penney Building.

## Degree Programs

### Undergraduate Studies

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

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

anthropology, p. 173  
art history, p. 64  
biology, p. 70  
chemistry, p. 79  
economics, p. 87  
English, p. 94  
French, p. 122  
German, p. 122  
history, p. 103  
mathematics, p. 111  
music, p. 132  
music history and literature, p. 132  
philosophy, p. 138  
physics, p. 144  
political science, p. 153  
psychology, p. 161  
sociology, p. 173  
Spanish, p. 122  
speech communication, p. 183

#### **Bachelor of General Studies (B.G.S.), p. 268**

#### **Bachelor of Music (B.M.), p. 132**

#### **Bachelor of Science**

applied mathematics, p. 112  
chemistry, p. 79  
economics, p. 87  
education, p. 226  
physics, p. 144

#### **Bachelor of Science in Administrative of Justice (B.S.A.J.), p. 60**

#### **Bachelor of Science in Business Administration (B.S.B.A.), p. 202**

#### **Bachelor of Science in Nursing (B.S.N.), p. 278**

#### **Bachelor of Social Work (B.S.W.), p. 169**

### Graduate Studies

Administered by the Graduate School, graduate study at UMSL embraces all study for degrees and certificates beyond the bachelor's degree.

From its beginnings, graduate education at UMSL 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; development of skill in the communication of knowledge. Responsive to the unique and comprehensive demands of the St. Louis region, 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 UMSL can be found on the following pages:

#### **Master of Accounting (MAcc) p. 204**

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

economics, p. 88  
English, p. 96  
history, p. 104  
mathematics, p. 114  
political science, p. 154  
psychology, p. 162  
sociology, p. 174

#### **Master of Business Administration (MBA), p. 203**

#### **Master of Education (M.Ed.), p. 221**

#### **Master of Public Policy Administration (MPPA), p. 263**

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

biology, p. 72  
chemistry, p. 80  
physics, p. 145

#### **Master of Science in Management Information Systems (M.S.M.I.S), p. 204**

#### **Doctor of Education (Ed.D.), p. 222**

#### **Doctor of Optometry (O.D.), p. 271**

#### **Doctor of Philosophy (Ph.D.)**

chemistry, p. 81  
psychology, p. 162



# Guide to Course Lists

Courses offered and a general outline of course content are included in each departmental section for the College of Arts and Sciences, in the School of Business Administration section, and in the sections for the School of Education in this *Bulletin*. The course descriptions are meant to provide students with pertinent information and in no way should be considered as offers to contract. The university reserves the right to cancel without notice any course listed in this *Bulletin* or in the *Schedule of Courses* for any semester or to withdraw any courses which do not have adequate enrollment at the close of registration.

## 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 09**, 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.

## Semester Guide

Courses offered by the College of Arts and Sciences and the School of Education indicate the semester in which they are customarily offered as follows:

**F** Fall semester

**W** Winter semester

**S** Summer (absence of this letter does not necessarily mean that the course is never offered in the summer)

**Alt. F** Alternate fall semester

**Alt. W** Alternative winter semester

**V** Variable

Denotation that courses are offered in a given semester may mean there are plans to offer it either in day or evening hours. This information is tentative and subject to change at any time without notice. It does not indicate offers to contract. For courses that are denoted as such consult the *Schedule of Courses*.

## General Education Requirement Courses

Courses which fulfill the university's general education requirements, as outlined in the Academic Policy section for undergraduate study (p. 20), are designated as follows:

**[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 UMSL Bookstore.



## General Information

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

Graduate study degree programs, administered through the Graduate School, are also offered in the following departments of the College of Arts and Sciences: biology, chemistry, economics, English, history, mathematical sciences, physics, political science, psychology, and sociology. (see pp. 29-38 for general information) 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 explained on pp. 19-20 of this *Bulletin*, 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 3-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 139**, Archaeology of Missouri  
**Anthropology 167**, World Prehistory  
**Anthropology 201**, Cultures of Mesoamerica  
**Anthropology 203**, Cultures of Southeast Asia  
**Anthropology 207**, Cultures of Native North America  
**Anthropology 209**, The Inca, Aztec, and Maya  
**Anthropology 211**, Cultures of Africa  
**Art 15**, Primitive Art

**Art 16**, North American Indian Art  
**Art 17**, African Art  
**Art 18**, Survey of Oriental Art  
**Art 19**, Pre-Columbian Art of Mexico and Central America

**History 61**, East Asian Civilization  
**History 62**, East Asian Civilization  
**History 71**, Latin American 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 Literature

**History 261**, Modern Japan: 1850 to the Present  
**History 262**, Modern China: 1800 to the Present  
**History 271**, History of Latin America: to 1808  
**History 272**, History of Latin America: since 1808  
**History 281**, West Africa Since 1800  
**History 282**, Crisis in Southern Africa  
**Music 9**, Non-Western Music  
**Music 10**, Non-Western Music  
**Philosophy 120**, Asian Philosophy  
**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 255**, Asian Comparative Politics  
**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. A.B., B.S., B.M., etc.) **in accordance** with the **College of Arts and Sciences policies** 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 constitute a complete degree program and do **not** include pass-fail courses.
- 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" on p. 19.**

# General Information

## Specific Baccalaureate Degree Requirements

**Bachelor of Arts (A.B.)** All A.B. 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 A.B. 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 the following language sequence: Language 1 and 2, Elementary level, and Language 101, Intermediate level (or Language 100, Scientific German or Russian).

**2** Students with **two recent years** of language study on the high-school level, with above-average performance, should be able to begin with Language 2 and then complete the sequence with Language 101 (or 100). Students with deficient backgrounds, however, may enroll in Language 1.

**3** Students with **four high-school units** in one foreign language are exempt from the foreign language requirement.

**4** Students with **less than four** high-school units in one foreign language, who have either excelled in their high-school language study or otherwise acquired language proficiency, may obtain exemption through examination. The foreign language proficiency examination is given in January and August. (Specific dates are announced in the *Course Schedule* or may be obtained from the admissions office.) Students with a grade less than passing must take Language 100 or 101.

**Note** Should a student obtain exemption, based on the proficiency exam, and then elect to take Course 1 or 2 in that language, he or she must finish the sequence through Language 100 or 101 in order to receive credit for Language 1 and/or 2. With the exception of native speakers, students are not permitted to take a course above 101 without taking the proficiency exam.

**5** **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.

**6** Students in German and Russian may substitute Scientific Language 100 for Language 101 whenever these courses are offered.

**7** 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 8 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 administration of justice, applied mathematics, chemistry, economics, physics, and applied physics (with a concentration in astrophysics possible). The requirements are generally the same as for the A.B. 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 Music (B.M.)** The requirements are the same as for the A.B. 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

Many departments have recently inaugurated minors. Please contact department offices for details.

## General Information

### Special Programs in the College of Arts and Sciences

#### Certificate Programs

Certificate programs are offered in Writing, in Women's Studies, and in East Asian, European, Latin American, and International Studies. For details, see the Certificate Programs.

#### Sophomore Honors Program

A unique Honors Program is available to forty freshmen who have completed at least twelve credit hours at UMSL and have a grade-point average of at least 3.10. Candidates enroll during the second semester of their freshman year in special courses that apply toward the university's general education requirements.

Over a period of several semesters, Honors candidates take seven courses (21 hours) selected from special offerings in English, history, philosophy, psychology, anthropology, art history, music, economics, sociology, and political science. Included in the seven course requirement is one interdisciplinary course entitled "Introduction to Scientific Thinking." Honors courses are limited to students admitted to the program and offer small classes with increased opportunities for participation, intellectual challenge, and interaction with faculty. Interested students should apply in the office of the dean, College of Arts and Sciences.



# Administration of Justice

## Faculty

**Allen E. Wagner**, Acting Chairperson; Assistant Professor\*  
Ph.D., Washington University  
**Henry Burns, Jr.**, Associate Professor\*  
Ph.D., Southern Illinois University-Carbondale  
**Joseph Cannon**, Associate Professor\*  
M.S.W., Ohio State University  
**Isaac Gurman**, Adjunct Associate Professor  
M.A., St. Louis University  
**Hon. Theodore McMillian**, Adjunct Associate Professor  
J.D., St. Louis University  
**Scott Decker**, Assistant Professor\*  
Ph.D., Florida State University  
**David O. Fischer**, Adjunct Assistant Professor  
LL.B., Cumberland Law School  
**Alphonso Jackson**, Adjunct Assistant Professor  
J.D., Washington University  
**George F. Meyer, Jr.**, Adjunct Assistant Professor  
J.D., Washington University  
**Howard Paperner**, Adjunct Assistant Professor  
J.D., University of Missouri-Kansas City  
**Ronald Scott**, Assistant Professor; Extension Specialist\*  
Ph.D., Southern Illinois University-Carbondale  
**Thea Sherry**, Adjunct Assistant Professor  
J.D., Washington University  
**Donna White**, Assistant Professor\*  
J.D., Washington University  
**Gary Keveles**, Instructor  
M.A., State University of New York at Albany  
**Edward Longinette**, Adjunct Instructor  
M.A., Webster College  
**Charles Mann**, Adjunct Instructor  
M.S., St. Louis University  
**Gerald F. O'Connell**, Adjunct Instructor  
M.A., Webster College  
**Herman Wood**, Adjunct Instructor  
M.S.W., Washington University

Administration of justice faculty are different. They are experienced in the "real world" and their education represents several academic disciplines. Theory and practice are both considered in conceptualizing justice and this factor 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, the local prosecuting attorney, a top-level, juvenile justice administrator, and the St. Louis public safety director are among this group. Merging theory with practice is a daily routine for these

supplemental faculty members, while full-time faculty continue to search for better merger techniques.

## 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) Criminal Justice Planning. Additionally, a graduate program leading to a Master of Arts in political science with a concentration in administration of justice is available.

**Cooperative Programs** One administration of justice faculty member holds an appointment as Research Fellow in the Center for Metropolitan Studies. Another has a joint appointment with the Arts and Sciences Continuing Education-Extension Division. Through this cooperative effort, workshops, projects, credit courses, and other special services are brought to the criminal justice community.

**Internships** Selected administration of justice majors are encouraged to participate in Administration of Justice 395, Field Placement, during their senior year. This two-semester 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.

## 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 pass-fail: Administration of justice courses or Sociology 30, Interpretation of Sociological Data; Sociology 120, Quantitative Techniques in Sociology; or Sociology 130, Research Methods. Additionally, substitutions which have been approved by departmental advisers for these courses may not be taken pass-fail.

## Administration of Justice

### 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, 4) Criminal Justice Planning.

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

**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**, Conflicting Perspectives  
**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 30**, Interpretation of Sociological Data  
**Sociology 326**, Criminology

**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 the 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  
**Sociology 130**, Research Methods

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

**Psychology 225**, Behavior Modification  
**Psychology 271**, Adolescent Psychology  
**Psychology 346**, Clinical Psychology  
**Psychology 365**, Tests and Measurement

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

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

**Etiology and Prevention** The required courses are the following:

**AOJ 205**, Juvenile Justice System  
**AOJ 310**, Community Approaches to the Prevention and Control of Crime and Delinquency  
**AOJ 330**, Correctional Institutions  
**AOJ 340**, Probation and Parole  
**AOJ 225**, Juvenile and the Law or **AOJ 227**, Urban Law: Poverty and the Justice System  
**Psychology 3**, General Psychology  
**Sociology 130**, Research Methods

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

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

**Criminal Justice Planning** The required courses are the following:

**Business Administration 104**, Introduction to FORTRAN Programming  
**Business Administration 224**, Introduction to Systems Programming  
**Business Administration 375**, Operations Research  
**Economics 301**, The Urban Environment and Planning  
**Mathematics 40**, Pre-Calculus  
**Mathematics 101**, Survey Calculus

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

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

# Administration of Justice

## Career Outlook

The career orientation of the administration of justice faculty and of the degree program prepare the graduate to work professionally for local, state, and federal agencies concerned with maintaining public safety by the prevention, 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.

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 pre-law students choose administration of justice as an undergraduate major. 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.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of the department or instructor.

### 70 Criminal Law and Procedure (3)

An analysis of substantive criminal law and its procedural aspects. [SS]

### 71 Evidence (3)

Fundamental questions of evidence and theory of proof, including hearsay, documentary proof, self-incrimination, relevance, and presumptions. [SS]

### 75 Crime and Punishment (3)

(Same as Psychology 75 and Sociology 75). An interdisciplinary course. An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior. [SS]

### 90 Freshman Seminar (3)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to 12 students. [SS]

### 99 The City (3)

(Same as Political Science 99, Psychology 99, and Sociology 99.) An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification and psychological implications of urban living. [SS]

### 101 Criminal Justice Processes and Institutions (5)

A survey of the historical development and the current status of American criminal justice. Processes, institutions and significant problems of the various components will be analyzed.

### 201 The Criminal Justice System: Conflicting Perspectives I (3)

Prerequisite: AOJ 101. An examination of the conflicting and converging needs and skills of three social roles necessary for a sound criminal justice system in a democratic society. The objectives, activities, and skills of the citizen, criminal justice professional, and social scientist will be identified and analyzed. [SS]

### 202 The Criminal Justice System: Conflicting Perspectives II (3)

Prerequisite: AOJ 201 or consent of instructor. An examination of competing social interests served by the criminal justice system, past and present. Attention will focus on the need for and the nature of a criminal law that serves the public interest and not private interests. [SS]

### 203 Regional Organization of Criminal Justice Resources (3)

Prerequisite: AOJ 70 and 101. Crime and criminal justice resources in relation to the development of metropolitan regions. Congruent and incongruent patterns of criminal and delinquent activity and criminal justice organization. Policy and planning considerations. [SS]

### 205 The Juvenile Justice System (3)

Prerequisite: AOJ 101 or consent of instructor. Intensive analysis of the social administration of juvenile justice within the U.S. Particular emphasis will be placed on the decision-making process of police, court and probation officials regarding apprehension and processing of juveniles. Recent Supreme Court decisions and citizen efforts to revise the Juvenile Code will also be examined. [SS]

### 215 Criminal Justice Data (3)

An analysis of data needs in criminal justice agencies. Emphasis will be placed upon data as it relates to administrative, policy-planning, and program evaluation requirements, as well as the ethical criteria for its release. [SS]

## Administration of Justice

### **225 The Juvenile and the Law (3)**

Prerequisite: Junior standing. A study of the relationship of the civil and administrative law as an instrument for the control and protection of juveniles. Subject matter will be discussed in relationship to the legally protected rights of juveniles. [SS]

### **227 Urban Law: Poverty and the Justice System (3)**

Prerequisite: AOJ 70 or equivalent, or consent of the instructor. Examination of administrative regulations and the civil law process as it affects the life of the urban and the rural and the poor. [SS]

### **250 Police Administration (3)**

Prerequisite: AOJ 101 or consent of instructor. Organization and administration of police systems; peculiar characteristics of police organizations and police personnel, relation of police departments to other public agencies; control and responsibility of police departments. In general, the application of generalizations from public administration to police systems. [SS]

### **251 Special Administrative Problems in the Administration of Justice (1-6)**

Prerequisite: Consent of instructor. Selected topics, approved by the faculty, to fill special agency education needs offered only in special seminars, workshops, conferences, and institutions in cooperation with the Continuing Education Extension Division. [SS]

### **260 Police-Community Relations (3)**

Prerequisite: AOJ 101 or consent of instructor. An analysis of current police-community relations in large central cities, and a study of the development of police-community relations units. An analysis of the internal and external problems involved in a successful program development. [SS]

### **290 Special Readings (1-6)**

Prerequisite: Consent of instructor. Individualized study under regular faculty supervision, designed to meet particular educational needs of selected students. [SS]

### **310 Community Approaches to Prevention and Control of Crime and Delinquency (3)**

Prerequisite: AOJ 101 and senior standing, or consent of instructor. An analysis of the rationale and the principles of community organizations as they seek to address the problems of crime and delinquency. Programs in the St. Louis Metropolitan Area will be used as case studies. [SS]

### **325 Criminal Law in Action (3)**

Prerequisite: AOJ 70 or equivalent, and senior standing or consent of instructor. An examination of the legal and social objectives of the criminal law and the diverse limitations of the exercise of police power. [SS]

### **330 Correctional Institutions (3)**

Prerequisite: AOJ 101 and senior standing, or consent of instructor. The correctional setting as an aspect of the criminal justice system. An analysis of the administrative involvement and a study of the modes of organization and management which seem applicable to these types of settings. [SS]

### **340 Probation and Parole (3)**

Prerequisite: AOJ 101 and senior standing, or consent of instructor. The historical development of the rehabilitative ideal of probation and parole. An analysis of the principles of probation and parole, both juvenile and adult. [SS]

### **351 Special Seminar on Problems in the Criminal Justice Process (1-6)**

Prerequisite: Consent of instructor. Advanced seminar dealing with selected subjects, approved by the faculty, to fill special agency educational needs. Offered only in specially designed education formats in cooperation with the Continuing Education-Extension Division. [SS]

### **360 Comparative Justice System (3)**

Prerequisite: AOJ 70 and 101 and senior standing. Analysis of the criminal justice systems of selected nations in an attempt to identify similarities and dissimilarities with American practice. Particular attention will be focused upon the police and corrections systems. [SS]

### **380 Seminar in Administration of Justice (3)**

Prerequisite: Sociology 130, AOJ 70 and 101 and senior standing, or consent of instructor. Study of selected special problems in the administration of justice. (May be repeated once for credit.) [SS]

### **395 Field Placement (3)**

Prerequisite: Sociology 30, AOJ 70 and 101, or consent of instructor. Field placement under faculty supervision, in administration of justice agencies. (Requires a two consecutive-semester commitment.) [SS]

### **399 Independent Study and Research (3)**

Prerequisite: Sociology 120, AOJ 70 and 101, and senior standing, or consent of instructor. Directed research and reading. May involve the performance of a research task in cooperation with an operating criminal justice agency. [SS]



# Art

## Faculty

**Michael D. Taylor**, Chairperson; Associate Professor  
Ph.D., Princeton University\*

**Marie Larkin**, Adjunct Professor  
Ed.D., Columbia University

**Sylvia Solochek Walters**, Associate Professor  
Director, Gallery 210  
M.F.A., University of Wisconsin-Madison\*

**Donald K. Arday**, Assistant Professor  
M.F.A., Syracuse University

**Janet C. Berlo**, Assistant Professor  
Ph.D., Yale University

**Mark J. Pascale**, Assistant Professor  
M.F.A., Ohio State University

**James M. Smith**, Assistant Professor  
M.F.A., University of Illinois

**Mary G. Wilson**, Assistant Professor  
Ph.D., Northwestern University\*

**Thomas Pickrel**, Instructor  
M.A., University of Kansas

**Jean Tucker**, Lecturer  
M.A., Washington University

**Nancy Follis**, Research Assistant  
B.F.A., Utah State

\*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 and the Shell Foundation. A department member received an award for good teaching from the Amoco 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 coursework leading toward an A.B. in art history. Some courses survey traditional areas of study in the history of art; others concentrate on especially 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 insure 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.

An increasing number of studio offerings are also available in the department. These will become part of a unique professional studio program now being developed in cooperation with departments in the St. Louis Community College. Currently, coursework is offered as enrichment to students majoring in art history and other fields. The faculty is concerned with the need to offer visual skills and insight to students of varied experience and background. Drawing, painting, and printmaking labs are 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 available in 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 pass-fail.

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



## Art

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. In the art department, nine hours of studio courses may be applied toward the required courses for the A.B. in art history.

### 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**, Art History Media Lab

**Art 395**, Senior Art History Seminar.

In addition to these specific requirements, majors must have at least one course in each of the following areas: Non-Western arts, Classical Art and Archaeology, Medieval, Renaissance, Baroque, and Modern, with choices to be made from Art 15, 16-19, 215, 225, 235, 245, 255, 315, 325, 326, 335, 345, 356, and 357. At least 9 credit hours must be taken in art history courses numbered 300 or above.

Nine hours in studio art may be included within the 45 credit maximum requirement. French or German is recommended for the foreign language requirement. Advisers will help students select studio art electives or plan for a studio art concentration.

### 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 is 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

**Two consecutive courses** (6 hrs.) in any single area to be selected from the following:

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

**A studio art elective:** one three-hour course

### 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 are prepared for careers in fine and applied arts. Opportunities exist in the graphic and advertising arts, in design of printed material, interiors, and fabrics. Artists can be used in all the design aspects of industry and the arts, depending upon specialized training and experience. An undergraduate education in studio art provides general enhancement to a liberal arts degree or may prepare a student for graduate work. Advanced degrees prepare a student for secondary or college teaching and for varied opportunities in galleries, museums, or business.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of instructor. For the nonmajor, any number of studio courses will be accepted as electives.

### Art History Courses

#### 5 Introduction to Art (3)

An introduction to major historical movements in Western art. [H]

# Art

## 15 Primitive/Tribal Arts (3)

A survey of the art of tribal people of Africa, Oceania, and the Americas from prehistoric times through the present. The relationship of art to religion, myth, festival, and social life will be considered, as well as the effects of acculturation on the arts. This course fulfills the non-Euro-American study requirement. [H]

## 16 North American Indian Art (3)

A detailed survey of the arts of North America from prehistoric times to the present. Cultures to be covered include: Moundbuilder, Northeast, Navajo, Pueblo peoples, Northwest Coast, and Eskimo. The relationship of art to religion, dance, philosophy, and social life will be explored. This course fulfills the non-Euro-American study requirement. [H]

## 17 African Art (3)

A survey of the tribal and traditional arts of Black Africa. The function and context of art among specific peoples such as the Yoruba, Dan, Dogon, Kuba, and Kongo will be discussed. Emphasis will be placed on dance, festival, and religion as the primary contexts of African art. Fulfills the non-Euro-American study requirement [H]

## 18 Survey of Oriental Art (3)

The study of the architecture, sculpture, and painting of India, China, Japan, and Southeast Asia, emphasizing art as a universal language that furthers our understanding of radically different cultures. This course fulfills the non-Euro-American study requirement [H]

## 19 Pre-Columbian Art of Mexico and Central America (3)

A survey of the arts of native peoples of Middle America before the coming of the Spaniards in 1519. The cultural context and meaning of sculpture, painting, architecture, and ritual among the Olmec. This course fulfills the non-Euro-American study requirement. [H]

## 33H Sophomore Honors Art (3)

Prerequisite: Standing in Sophomore Honors Program. Designed specifically for students in the Sophomore Honors Program. This discussion course introduces students to the study of art. Emphasis is placed on the critical understanding of works of art and on the literature of art history and theory. May be substituted for Art 5 as a prerequisite for advanced courses in art history. [H]

## 65 Photography and Society (3)

(Same as Interdisciplinary 65) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art.

## 79 Special Topics in Art History (1-3)

Selected topics in art history. This course may be repeated for credit. [H]

## 90 Freshman Seminar (3)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences [H]

## 105 Art Masterpieces (3)

Prerequisite: Art 5. Intensive studies of selected major monuments and works of major artists from throughout the history of art with special attention to the particular social and cultural factors surrounding their creation [H]

## 176 Women and the Visual Arts (3)

No prerequisites. Art 5 or Women's Studies recommended. Selected topics concerning women as creators, users, and subject matter of art. Great women artists in the Western world will be studied, as well as women weavers, potters, and sculptors in tribal society [H]

## 215 Classical Art and Archaeology of Greece and Rome (3)

Prerequisite: Art 5. A general survey of the development of material culture in Greece and Rome from the earliest times through the Hellenistic period and Roman Empire [H]

## 225 Medieval Art (3)

Prerequisite: Art 5. The art and architecture of the Middle Ages from the early Christian era through the late Gothic period. [H]

## 235 Renaissance Art (3)

Prerequisite: Art 5. Artists and architects in 14th, 15th, and 16th century Europe. Special attention will be given to innovations in Italy and their influence throughout Europe. [H]

## 245 Baroque Art (3)

Prerequisite: Art 5. Art and Architecture in both northern and southern Europe from 1600 to 1750 with emphasis on the contributions of individual artists. [H]

## 255 Modern Art (3)

Prerequisite: Art 5. European art of the nineteenth and twentieth centuries. [H]

## 258 American Art (3)

Prerequisite: Art 5. A survey of the art of the United States, both as an extension of the European tradition and for its original contribution. [H]

## 259 Modern Architecture (3)

Prerequisite: Art 5. A brief history and analysis of modern architecture, investigations of technological process, urban planning, and the dominating social attitudes which govern architectural development. [H]

## 265 History of Photography (3)

Prerequisite: Art 5 or consent of department. A study of photography: its historical development, an examination of it as an art medium, and its influence on the development of modern art. [H]

## Art

### **275 The Art of the Print (3)**

Prerequisite: Art 5. Dealing with the history of print forms: woodcuts, etchings, engravings, lithographs, silkscreens, monotypes, and mixed media. Special emphasis will be given to the importance of prints to the arts and artists of our time. [H]

### **290 Special Study (1-10) (F,W)**

Prerequisite: Junior or senior standing and consent of department and instructor. Independent study through readings, reports, or field research. [H]

### **295 Sophomore/Junior Seminar (3)**

Prerequisites: Art 5 and consent of instructor. Reading, discussion, and writing on topics to be announced. Course may be repeated with the consent of instructor.

### **303 Art History Media Lab (1)**

Prerequisite: Consent of instructor. Technical demonstration of and research into various materials and media used by the artist.

### **315 Studies: Tribal Arts (3)**

Prerequisite: One of the following: Art 15, 16, 17, 19 or permission of instructor. Intensive study of the arts of several tribal groups. Inquiry into the relationship between art and culture by means of an examination of myth literature, festival, and social life. Seminar format. May be repeated for credit with permission of adviser. [H]

### **325 Early Christian (3)**

Prerequisite: Art 215 or consent of adviser. The origins and development of Christian imagery prior to the fourth century, the Constantinian epoch and Byzantine developments to the death of Justinian. Attention will be paid to works of art and to the entire material culture of early Christianity. [H]

### **326 Monasteries, Cathedrals, and Preaching Churches (3)**

Prerequisite: Art 215 or consent of adviser. A study of chief monuments and characteristics of later medieval art, emphasizing their Christian institutional contexts. [H]

### **335 Artists and Theories of the Renaissance (3)**

Prerequisite: Art 235 or consent of adviser. Studies of selected 14th, 15th, and 16th century artists (eg. Giotto, Donatello, Jan van Eyck, Leonardo, Dürer, Michelangelo, Brueghel, etc.) and the ideas which are especially important in their work. [H]

### **345 The Age of Grandeur: Perspectives in Seventeenth and Eighteenth Century Art (3)**

Prerequisite: Art 245 or consent of instructor. A study of selected topics in Baroque and Rococo Art. The content of the course will vary, focusing on single areas, such as the Baroque in Rome, or on major artists such as Bernini, Rubens, and Rembrandt. May be repeated for credit with permission of instructor and adviser. [H]

### **356 Nineteenth-Century Art (3)**

Prerequisite: Art 255 or consent of adviser. Studies of selected formal and theoretical aspects of nineteenth-century European art. Typical topics: Neoclassicism, Realism, Impressionism. May be repeated for credit with consent of instructor. [H]

### **357 Twentieth-Century Art (3)**

Prerequisite: Art 255 or consent of adviser. A study of major stylistic and conceptual trends in European and American art of the twentieth century. May be repeated for credit with consent of instructor. [H]

### **365 Seminar in Photographic Studies (3)**

(Same as Interdisciplinary 365) Prerequisite: Interdisciplinary 65. Advanced special topics in photographic studies.

### **390 Special Study (1-10)**

Prerequisites: Junior/Senior standing and consent of department and instructor. Independent study through readings, reports, or field research. [H]

### **395 Senior Art History Seminar (3)**

Prerequisite: Senior standing in art history or consent of instructor. Intensive reading, discussion, and writing on topics to be announced. [H]

## Studio Courses

### **2 Introduction to Studio Art (3)**

An introduction to drawing, painting, and design in a beginning studio environment. This course is designed to provide basic skills and understanding of studio experience for the non-art major.

### **30 Ceramics I (3)**

An introduction to basic methods and theory of ceramics including work with hand-built construction, wheel techniques, and glazing. Lab fee.

### **40 Basic Drawing I (3) (F)**

An introduction to drawing through the study of the figure, object, and environment.

### **42 Figure Drawing I (3)**

Basic studies of the human form and anatomy from the model in a variety of drawing media. Lab fee required.

### **50 Basic Design I (3)**

Studio problems in the creative use and integration of the elements of two dimensional design: line, form, space, texture, and color.

### **60 Photography I (3) (F)**

An introduction to the techniques and aesthetics of black and white photography: the camera and the darkroom. One hour lecture and two, two and one-half-hour laboratory meetings weekly. Students must provide a camera with adjustable speeds and aperture and pay for their darkroom materials. Lab fee.

# Art

## **74 Special Topics in Studio (1-3)**

Selected topics in studio studies. This course may be repeated for credit.

## **134 Art Activities for Elementary School (3)**

(Same as ELE ED 179) A study of art principles and laboratory experiences with various media materials. Stresses curriculum planning and development of the elementary school program in art.

## **140 Basic Drawing II (3)**

Prerequisite: Art 40. The development of drawing skills and attitudes through continued observation and problems of invention. A further exploration of varied drawing materials and techniques including graphite, charcoal, conte crayon and inks.

## **142 Figure Drawing II (3)**

Prerequisite: Art 42. Continuation of Figure Drawing I. Lab fee required.

## **150 Basic Design II (3)**

An introduction to three-dimensional design. The study of structure-space relationships through basic composition problems. Studio Experiments with paper, plexiglas, light-weight wood, metal, linear media, and other materials.

## **160 Photography II (3)**

Prerequisite: Art 60. Continuation of Photography I at the intermediate level. Lab fee required.

## **210 Graphic Design I (3)**

Prerequisites: 140, 50 or consent of instructor. Introductory studio problems in layout, lettering and design with typographic elements.

## **211 Graphic Design II (3)**

Prerequisite: Art 210 or consent of instructor. Continuation of Graphic Design I.

## **250 Composition (3)**

Prerequisites: Art 50 and 150. An investigation of the use of formal design elements as used in historic and contemporary art. Weekly studio problems and discussions will concentrate on the skills, application and unifying effects of compositional elements on a variety of visual art forms.

## **270 Printmaking: Relief I (3)**

Prerequisites: Art 140, 50 or consent of instructor. An introduction to relief printmaking technique, materials, and theory. The course will include work in linoleum, wood, and other relief materials. Lab Fee required.

## **271 Printmaking: Relief II (3)**

Prerequisite: Art 270 or consent of instructor. A continuation of Art 270. Lab fee required.

## **272 Printmaking: Lithography I (3)**

Prerequisites: Art 140, 50, or consent of instructor. An introduction to printmaking skills and theory in stone and plate lithography. Studio problems in the use of materials and equipment. Attention will be given to individual development. Lab Fee required.

## **273 Printmaking: Lithography II (3)**

Prerequisite: Art 272. Continuation of Art 272. Lab fee required.

## **274 Printmaking: Photo Lithography I (3)**

Prerequisite: Art 60 or departmental consent. An introduction to printmaking skills and theory in stone and plate lithography with particular emphasis on the photographic applications of the process. Some attention will also be given to commercial application of the medium. Studio problems in the use of materials and equipment. Lab fee required.

## **280 Painting I (3)**

Prerequisites: Art 140, 50 or consent of instructor. An introduction to the use of oil and/or acrylic painting media. Studio problems to develop technical and expressive skills on various surfaces.

## **281 Painting II (3)**

Prerequisite: Art 280 or consent of instructor. Continuation of basic studio problems in painting media.

## **283 Watercolor Painting (3)**

Prerequisites: Art 140 and 50. Beginning problems in watercolor painting. Includes the study of traditional and contemporary approaches to color, color techniques, and treatment of papers.

## **310 Advanced Graphic Design (3)**

Prerequisites: Art 210 and 211. Advanced studio problems to further the understanding of design and its relationship to typographic elements, illustration, and communication. The course will encourage both conceptual and technical development of the designer. May be repeated for credit.

## **334 Contemporary Art Education: Craft and Theory (1-2)**

Prerequisite: Upper division standing or consent. Intensive study for advanced students and art teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit.

## **340 Advanced Drawing (3)**

Prerequisite: Art 40 and 140. This course offers studio problems designed to further the development of drawing skills in various media. Emphasis will be given to the study of drawing as an independent art form. Limited color will also be introduced. May be repeated for credit.

## Art

### **342 Advanced Figure Drawing (3)**

Prerequisites: Art 42 and 142. Advanced study of the human form and anatomy from the model in a variety of drawing media. May be repeated for credit. Lab fee required.

### **350 Advanced Design (3)**

Prerequisites: Design 50 and 150. Advanced studio problems in design materials. Use of two dimensional and three dimensional mixed media. Experimental use of materials and media will be introduced. May be repeated for credit. Lab fee required.

### **360 Advanced Photography (3)**

Prerequisite: Art 160. Advanced studio problems in photography. Concentration on techniques and esthetics. May be repeated for credit. Lab fee.

### **372 Advanced Lithography (3)**

Prerequisites: Art 272 and 273. Continuing studies in

lithography with problems in black and white, photolithography and/or color. May be repeated for credit. Lab fees required.

### **380 Advanced Painting (3)**

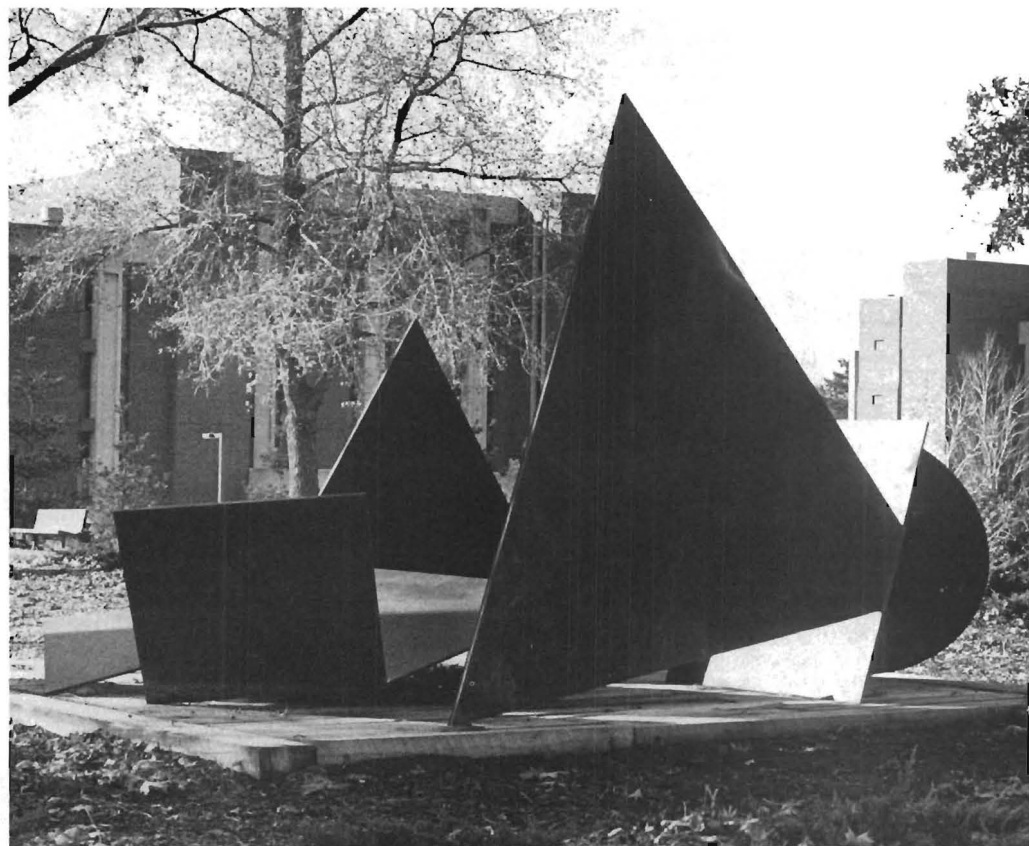
Prerequisite: Art 281 or consent. Advanced studio problems in painting media. Attention paid to individual development of theory, expression, and technique. May be repeated for credit.

### **390 Special Study (1-10)**

Prerequisites: Junior/Senior standing and consent of department and instructor. Independent study through readings, reports, or field research. [H]

### **393 Senior Studio Seminar (3)**

Prerequisite: Senior Standing. Weekly critiques and discussions of technical and professional issues. Includes preparation for the senior exhibition.



# Biology

## Faculty

**Martin Sage**, Chairperson; Professor\*

Ph.D., Nottingham University

**Robert S. Bader**, Professor\*; Dean, College of Arts and Sciences

Ph.D., University of Chicago

**Arnold B. Grobman**, Professor\*; Chancellor

Ph.D., University of Rochester

**Peter H. Raven**, Adjunct Professor\*

Ph.D., University of California-Los Angeles

**Monroe W. Strickberger**, Professor\*

Ph.D., Columbia University

**John E. Averett**, Associate Professor\*

Ph.D., University of Texas-Austin

**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

**Charles R. Granger**, Associate Professor\*

Ph.D., University of Iowa

**Donald E. Grogan**, Associate Professor\*

Ph.D., University of Missouri-Columbia

**Lon A. Wilkins**, Associate Professor\*

Ph.D., Florida State University

**Vinod Anand**, Adjunct Assistant Professor\*

Ph.D., University of Punjab, India

**Robert Bolla**, Assistant Professor\*

Ph.D., University of Massachusetts-Amherst

**William G. D'Arcy**, Adjunct Assistant Professor\*

Ph.D., Washington University

**Alwyn Gentry**, Adjunct Assistant Professor\*

Ph.D., Washington University

**Peter Goldblatt**, Adjunct Assistant Professor\*

Ph.D., University of Cape Town, South Africa

**Anne Gregory**, Assistant Professor\*

Ph.D., Brandeis University

**Zuleyma T. Halpin**, Assistant Professor\*

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**James H. Hunt**, Assistant Professor\*

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**Peter Stacey**, Visiting Assistant Professor

Ph.D., University of Colorado-Boulder

**Jane A. Starling**, Assistant Professor\*

Ph.D., The William Marsh Rice University

**Teresa Thiel**, Assistant Professor\*

Ph.D., Case Western Reserve University

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**Candide Cooper**, Assistant Instructor

A.B., University of Missouri-St. Louis

\*members of Graduate Faculty



## College of Arts and Sciences

# Biology

### General Information

**Degrees and Areas of Concentration** The biology department offers work leading to the A.B. in biology with teacher certification and the B.S. in secondary education with a major in biology.

Biology staff members are engaged in teaching and research in areas ranging from bacteriology 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. Majors also can pursue indepth studies in specific areas through advanced courses, seminars, and individualized research programs. Students are encouraged to attend a summer session, usually between their junior and senior years, at a field biology station. Many of these stations offer financial support through summer fellowships.

The biology department also offers work leading to the M.S. in biology. Graduate studies are offered in a broad range of areas including genetics, molecular and cellular biology, ecology, plant systematics, animal behavior, development, and biochemistry. A number of teaching assistantships are available for qualified applicants.

Program objectives are to provide the research-oriented training and education necessary for students to enter doctoral programs in biology; to develop professional biologists qualified to function in responsible technical positions; and to provide secondary school and junior college biology teachers with the professional training necessary to maintain and improve their teaching effectiveness.

**Facilities** Department facilities include research and teaching laboratories, environmental chambers, a greenhouse, animal care rooms, and a large array of supporting equipment such as an ultracentrifuge, electron microscope, and amino acid analyzer. 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 botany with Washington University, St. Louis University, Southern Illinois University-Edwardsville, and Missouri Botanical Gardens.

### Undergraduate Studies

#### General Education Requirements

Students must satisfy the university and college general education requirements. See p. 19 and p. 56 in this *Bulletin*. Biology courses may be used to meet the university's science and mathematics area requirement.

Since many graduate schools require proficiency in French, German, or Russian, it is recommended that students satisfy the college's foreign language requirements with one of these languages. Biology majors may substitute another language in consultation with their advisers.

**Pass-Fail Option** Up to 24 credit hours may be taken pass-fail. Excluded from this option are biology courses other than Biology 289, Seminar, and Biology 290, Research, and required courses in chemistry, physics, mathematics, or psychology.

#### Degree Requirements

**Bachelor of Arts in Biology and Bachelor of Science in Education: Biology Major** All biology majors must take at least 33 credit hours in biology including the following **biology** courses. (13 hours)

- 10**, Introductory Biology
- 224**, Genetics
- 276**, Biological Chemistry
- 289**, Seminar

Considerable flexibility is available in choosing the remaining biology courses, but at least **one** course must be taken in each of the following areas:

#### Area 1 Cellular and Molecular:

- 210**, Cell Structure and Function
- 216**, Microbiology
- 235**, Development
- 310**, Cell Physiology
- 317**, Immunobiology
- 326**, Molecular Biology
- 350**, Plant Physiology



# Biology

## Area 2 Organismal:

- 213, Vertebrate Physiology
- 235, Development
- 250, Biology of Plants
- 264, Invertebrate Biology
- 280, Animal Behavior
- 381, Biosystematics

## Area 3 Population and Ecology

- 220, General Ecology
- 280, Animal Behavior
- 342, Population Biology
- 346, Evolution

Courses satisfying a requirement in one of these areas may not be counted for that purpose in another area. Students must also complete three biology laboratory courses and 5 hours of electives in biology at the 200 level or above in addition to those satisfying other requirements.

Biology majors may take the following 100-level **biology** courses:

- 110, The Biology of Man
- 115, Human Heredity and Evolution
- 116, Microbiology and Man
- 120, Environmental Biology
- 150, Plants and Civilization

These courses **do not count** toward the 33 credit hours required for a major but they will be included in the 45 credit hour maximum that a student can take in his major.

**Transfer Students** Off-campus transfer students must satisfactorily complete at least 12 credit hours of UMSL biology coursework (including 2 laboratories) at the 200 level or above before receiving an A.B. 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



## Biology

**Note** Many dental and medical schools require an additional semester of organic chemistry. Students should inquire if this additional requirement can be filled by the biological chemistry course.

**Also required:**

**Mathematics 31**, Elementary Statistical Methods  
or **Psychology 101**, Psychological Statistics  
**Mathematics 101**, Survey Calculus or its equivalent  
**Physics 11**, Basic Physics  
**Physics 12**, Basic Physics

Additional work in chemistry, mathematics, and physics is recommended.

### Graduate Studies

#### Admission Requirements

In addition to the Graduate School admission requirements (see p. 29 in this *Bulletin*) applicants should have completed undergraduate biology courses in genetics and biochemistry, and one course in each of the following areas: cellular-molecular, organismal, and population-ecology. Courses in organic chemistry, college physics, and calculus are also required, and a course in statistics is highly recommended.

Applicants must submit completed application and personal data forms, three letters of recommendation from undergraduate faculty, and transcripts of all previous work.

#### Degree Requirements

In addition to the general master's degree requirements, students must complete a minimum of 30 graduate credit hours as follows: 15 or more credits at the 400-level; no more than 10 credits for research (Biology 490); and at least 4, but no more than 8, credits of graduate seminar (Biology 489). **Biology 401 (Current Topics in Biology) is required and should be taken within the first year of graduate study.**

**Thesis** Students must complete either an experimental or library thesis and defend it in an oral examination before the thesis committee.

**Advisers** Students are responsible for finding permanent thesis advisers. This should be done as soon as students decide upon the specialization area. Students, with their advisers,

then recommend an appropriate research 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. Research committees are also responsible for approving the thesis.

### Career Outlook

The biology degree programs, undergraduate and graduate, are designed to prepare the student for further training. The undergraduate degree is designed to prepare the student for professional training in areas such as medicine, dentistry, veterinary medicine, optometry, and related areas, or for further graduate training in research. The Master of Science program is an extension of this 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 high school and junior college biology teachers with training necessary to maintain and improve their teaching effectiveness.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department or instructor.

\*Starred prerequisites may be taken concurrently with listed offering.

#### 1 General Biology (3)

Emphasis on fundamental principles of biology. Biology 1 can be applied toward fulfillment of the general education requirement in science. Biology 1 does not satisfy the prerequisite requirements of other courses in biology at the 200 level or above. Students who plan to pursue a career in medicine or one of the medical-oriented professions should enroll in Biology 10 rather than Biology 1. Three hours lecture per week. [SM]

#### 3 General Biology Laboratory (2)

Prerequisite: \*Biology 1. Laboratory course to accompany Biology 1. Biology 3 can be used to fulfill the general education requirements in a laboratory science. Biology 3 does not meet the prerequisite requirements for other courses in biology. Three and one-half hours laboratory per week. [SM]

# Biology

## 10 Introductory Biology (5)

Prerequisites: Math 02 and English 09 or their equivalent. A one semester prerequisite for students intending to major in biology or take biology courses at the 200 level or above. This course offers an introduction to some of the biological properties and relationships of organisms, both plant and animal. The laboratory work emphasizes an experimental approach to biological processes. Three hours lecture, two and one-half hours of laboratory, and one hour of discussion per week. [SM]

## 90 Freshman Seminar (3)

Prerequisite: Freshman standing and high school biology. Topics to be announced for each section. Weekly seminars and individual conferences. Sections limited to 12-15 students. [SM]

## 110 The Biology of Man (3)

Prerequisite: Biology 1 or 10. Lectures and assigned readings concerning man's characteristics as a primate and his changing relationship to the environment. Discussions of aggression, sexuality, modern medicine, human evolution, environmental exploitation, and other topics of current interest. Three hours lecture per week. [SM]

## 111 Issues in Geriatric Health Care (2)

A course designed to acquaint the student with aspects of chronic disease frequent in later life, as well as a synopsis of biological aging processes. Disease symptomology, aspects of health maintenance, and medical intervention with an older adult population will be discussed. In addition, issues in health care delivery will also be explored.

## 113 Human Physiology and Anatomy I (4)

Prerequisite: Biology 1 or its equivalent. The basic aspects of the structure of the healthy human body and how it functions. Special emphasis is on how the human body adapts itself to its environment and how changes affect physiological activities. Three hours lecture and 2 hours laboratory per week. [SM]

## 114 Human Physiology and Anatomy II (4)

Prerequisite: Biology 113. A continuation of Biology 113. A study of the basic aspects of human physiology and anatomy. Three hours lecture and 2 hours laboratory per week. [SM]

## 115 Human Heredity and Evolution (3)

Prerequisite: Biology 1 or 10. The study of heredity and evolution with special reference to human populations. Three hours lecture per week. [SM]

## 116 Microbiology and Man (3)

Prerequisite: Biology 1 or its equivalent. A survey of microbial structure, genetics, and physiology, with special emphasis on their interaction with man. Transmission and control of such organisms will be discussed in relation to maintenance of health. Three hours lecture per week. [SM]

## 118 Microbiology and Man Laboratory (2)

Prerequisite: Biology 116. Standard techniques for identification, growth, and control of microorganisms. Three and one-half hours laboratory per week. [SM]

## 120 Environmental Biology (3)

Prerequisite: Biology 1 or 10. An examination of the biological basis of current environmental problems, with emphasis upon resources, energy, pollution, and conservation. Three hours lecture per week. [SM]

## 150 Plants and Civilization (3)

Prerequisite: Biology 1 or 10. A study of man's use and dependency on plants. Primary topics of discussion will center on the origin of agriculture and its influence on the development of nations, the origin and evolution of food crops, drug and medicinal plants, and problems in feeding the world's population. Three hours lecture per week. [SM]

## 210 Cell Structure and Function (3)

Prerequisites: Biology 10 and Chemistry 11 (or Chemistry 1 plus 9). General cell biology, stressing cell structure and ultrastructure, as related to cell function. Three hours lecture per week. [SM]

## 213 Vertebrate Physiology (3)

Prerequisite: Biology 10 and Chemistry 11 (or Chemistry 1 plus 9). The basic functional aspects of organ systems in relation to physiochemical properties of protoplasm. Three hours lecture per week. [SM]

## 215 Vertebrate Physiology Lab (2)

Prerequisite: \*Biology 213. Instrumental and experimental studies in physiology. Three and one-half hours laboratory per week. [SM]

## 216 Microbiology (3)

Prerequisites: Biology 10 and Chemistry 11 (or Chemistry 1 plus 9). A study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours lecture per week. [SM]

## 218 Microbiology Laboratory (2)

Prerequisite: \*Biology 216. Experimental studies and procedures of microbiological techniques. Three and one-half hours laboratory per week. [SM]

## 220 General Ecology (3)

Prerequisite: Biology 10. An examination of the relationships between living organisms and their environment. Three hours lecture per week. [SM]

## 222 General Ecology Laboratory (2)

Prerequisites: Biology 220\* required and a general statistics course strongly recommended. An analysis of factors influencing the abundance and distribution of living organisms. Three and one-half hours laboratory per week. [SM]

## Biology

### **224 Genetics (3)**

Prerequisites: Biology 10 and Chemistry 11 (or Chemistry 1 plus 9). The fundamental principles of inheritance, including classical genetic theory as well as recent advances in the molecular basis of heredity. Three hours lecture per week. [SM]

### **226 Genetics Laboratory (2)**

Prerequisite: \*Biology 224. Laboratory to accompany Biology 224. Three and one-half hours laboratory per week. [SM]

### **235 Development (3)**

Prerequisite: Biology 10 and 224. Basic principles of development from the point of view of growth, morphogenesis, and differentiation. Three hours lecture per week. [SM]

### **237 Development Laboratory (2)**

Prerequisite: \*Biology 235. Laboratory to accompany Biology 235. Three and one-half hours laboratory per week. [SM]

### **250 Biology of Plants (3)**

Prerequisite: Biology 10. A general survey of the plant groups from algae through angiosperms. Morphology, reproduction and central physiological concepts unique to the plant kingdom. Three hours lecture per week. [SM]

### **252 Biology of Plants Laboratory (2)**

Prerequisite: \*Biology 250. Examination of representatives of the plant kingdom and experimentation in plant physiology. Three and one-half hours laboratory per week. [SM]

### **264 Invertebrate Biology (3)**

Prerequisite: Biology 10. Development, structure, function, and interrelationship of invertebrate animals with particular attention to phylogenetic aspects. Three hours lecture per week. [SM]

### **266 Invertebrate Biology Laboratory (2)**

Prerequisite: \*Biology 264. Laboratory to accompany Biology 264. Dissection and analysis of invertebrates with an emphasis on structure and function. Three and one-half hours laboratory per week. [SM]

### **276 Biological Chemistry (3)**

Prerequisite: Chemistry 261 and Biology 10. The chemistry and function of the living cell and its constituents, and the interactions and conversions of intracellular substances. Three hours lecture per week. [SM]

### **278 Biological Chemistry Laboratory (2)**

Prerequisite: \*Biology 276. Experiments designed to illustrate biochemical principles and modern biochemical procedures. Three and one-half hours laboratory per week. [SM]

### **280 Animal Behavior (3)**

Prerequisite: Biology 10. The study of invertebrate and vertebrate behavior, including developmental, genetic, and ecological aspects of behavior; behavior interactions within and between populations. Three hours lecture per week. [SM]

### **282 Animal Behavior Laboratory (2)**

Prerequisite: \*Biology 280. Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours laboratory per week. [SM]

### **285 Methods of Teaching Biology in Secondary Schools (3)**

(Same as SEC ED 245) Prerequisite: SEC ED 213 and a near-major in biology. A study of the scope and sequence of the life science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. To be taken concurrently with student teaching. [SM]

### **286 Laboratory in Teaching the Life Sciences (2)**

Discussion, development, utilization and evaluation of equipment, materials and techniques applicable to instruction in the life sciences. To be taken concurrently with Biology 285 or SEC ED 245. [SM]

### **289 Seminar (2)**

Required of all biology majors during a semester of their senior year. Presentation of selected papers by students. [SM]

### **290 Research (1-10)**

Prerequisite: Generally restricted to junior or senior standing with consent of instructor. Research (laboratory and/or library) in an area selected by student in consultation with faculty member. Credit arranged. [SM]

### **300 Radiation Safety in Biological Research (2)**

Prerequisite: Consent of instructor. A description of the basic principles of radiation safety and the more important numerical data upon which the practice of radiation safety is based. Topics include the interaction of radiation with matter, biological effects of radiation, operation of field and laboratory instruments, and control of exposure. Both ionizing and non-ionizing radiation will be discussed. Two hours lecture/demonstration per week.

### **305 Morphology of Nonvascular Plants (3)**

Prerequisite: Biology 250 or consent of instructor. An intensive study of algae through the mosses and liverworts, stressing relationships between the groups. Field studies and phytocology stressed. Three hours lecture per week. [SM]

# Biology

## **306 Morphology of Vascular Plants (3)**

Prerequisite: Biology 250 or permission of instructor. An intensive study of ferns through angiosperms, stressing relationships between the groups. Field studies and phytoecology stressed. Three hours lecture per week. [SM]

## **307 Nonvascular Plant Laboratory (2)**

Prerequisite: \*Biology 305. Laboratory to accompany Biology 305. Three and one-half hours laboratory per week. [SM]

## **308 Vascular Plant Laboratory (2)**

Prerequisite: \*Biology 306. Laboratory to accompany Biology 306. Three and one-half hours laboratory per week. [SM]

## **310 Cell Physiology (3)**

Prerequisite: Biology 276 (Biology 210 recommended). A study of cellular functions and their relationship to the structural and chemical properties of cellular components. Areas discussed: the cell and its environment, energy flow, exchange of materials across membranes, information transfer within and between cells, and cellular aspects of movement. Three hours lecture per week. [SM]

## **311 Physiology of Aging (3)**

Prerequisite: Biology 10 and 213, or equivalent or consent of instructor. An overview of the aging process in animal populations with special emphasis on physiological changes that occur with human aging. Current theories as to the mechanism of aging are considered and critically evaluated in view of recent research findings. Premature aging diseases and age-related diseases are discussed. [SM]

## **313 Comparative Animal Physiology (3)**

Prerequisite: Biology 213. The unity and diversity of physiological mechanisms found throughout the animal kingdom. Three hours lecture per week. [SM]

## **314 Environmental Physiology (3)**

Prerequisite: Biology 213. Physiological responses of animals to environmental changes. Adaptation of organisms to various environments. [SM]

## **315 Comparative and Environmental Physiology Laboratory (2)**

Prerequisite: Biology 313 or 314. An open ended laboratory course to accompany either Biology 313 or 314. [SM]

## **317 Immunobiology (3)**

Prerequisite: Biology 276 and Chemistry 261. The fundamental principles and concepts of immunology and immunochemistry. Emphasis on the relation of immunological phenomena to biological phenomena and biological problems. Three hours lecture per week. [SM]

## **319 Immunology Laboratory (2)**

Prerequisite: \*Biology 317. Basic experimental procedures in immunology. Introduction to experimental evidence underlying concepts of immunology. Three and one-half hours laboratory per week. [SM]

## **320 Neurophysiology (3)**

Prerequisite: Biology 310 or consent of instructor. A study of cellular neurophysiology including initiation, propagation, and transmission of nervous signals. Three hours lecture per week. [SM]

## **322 Neurophysiology Laboratory (2)**

Prerequisite: \*Biology 320 and consent of instructor. Experiments designed to accompany Biology 320. Techniques and special research problems emphasized. [SM]

## **326 Molecular Biology (3)**

Prerequisite: Biology 224 and 276. A discussion of the current concepts of molecular biology as they apply to understanding genetic regulation of DNA, RNA, and protein synthesis and function in the cell. Three hours lecture per week. [SM]

## **330 Advanced Development (3)**

Prerequisite: Biology 235. A discussion of experimental approaches as applied to the analysis of development. Three hours lecture per week. [SM]

## **332 Advanced Development Laboratory (2)**

Prerequisite: \*Biology 330. Instruction and practice in the application of experimental techniques to the study of development. Three and one-half hours laboratory per week to be arranged. [SM]

## **334 Virology and Microbial Genetics (3)**

Prerequisite: Biology 216 and 224. A comparative study of the structure, reproduction, and genetics of viruses and an analysis of the mechanisms of variation in viruses and bacteria. Three hours lecture per week. [SM]

## **336 Virology and Microbial Genetics Laboratory (2)**

Prerequisite: Biology 218 or equivalent and \*Biology 334. Laboratory to accompany Biology 334. Three and one-half hours laboratory per week to be arranged. [SM]

## **342 Population Biology (3)**

Prerequisite: Biology 224 (Biology 220 recommended). The structure, operation, and evolution of populations. Three hours lecture per week. [SM]

## **344 Population Biology Laboratory (2)**

Prerequisite: \*Biology 342. Laboratory to accompany Biology 342. Three and one-half hours laboratory per week, and/or field studies to be arranged. [SM]

## **346 Evolution (3)**

Prerequisite: Biology 224 and Chemistry 261. The

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course and mechanisms of organic evolution, covering topics ranging from biochemical evolution to comparative anatomy and population genetics. [SM]

### **348 Animal Societies and Aggregations (3)**

Prerequisite: Biology 220, 280, or 242 and junior standing. Studies of natural selection and evolution with specific reference to animal groups. Critical examination of group selection, altruism, and kin selection. Survey of social insects and vertebrate societies. Two hours lecture, one hour discussion per week. [SM]

### **350 Plant Physiology (3)**

Prerequisite: Biology 250 and 276. An examination of the physiological processes associated with plant growth and development. Three hours lecture per week [SM]

### **352 Plant Physiology Laboratory (2)**

Prerequisite: \*Biology 350. Laboratory to accompany Biology 350. Three and one-half hours laboratory per week. [SM]

### **360 Techniques in Electron Microscopy (5)**

Prerequisite: Biology 210 and consent of instructor. Discussion of electron microscopy and its associated techniques. Students will learn techniques associated with the preparation of materials for electron microscopy and learn to operate and perform minor servicing of the electron microscope. Two hours of lecture per week and seven hours laboratory per week to be arranged. [SM]

### **364 Adaptive Radiation of the Vertebrates (3)**

Prerequisite: 10 hours of biology and upper-division standing. An examination of the adaptive radiation and consequent physiology, behavior, and ecology of the vertebrates. Three hours lecture per week. [SM]

### **366 Adaptive Radiation of the Vertebrates Laboratory (2)**

Prerequisite: \*Biology 364. A study of the biological characteristics of vertebrate animals conducted in the laboratory and the field. Three and one-half hours laboratory or field studies per week, or three weeks daily during pre-session. [SM]

### **370 General and Comparative Endocrinology (3)**

Prerequisite: Biology 213 (Biology 276 recommended). A survey of chemical coordinating mechanisms with special emphases on the evolutions of hormonal control systems. Three hours lecture per week. [SM]

### **372 General and Comparative Endocrinology Laboratory (2)**

Prerequisite: \*Biology 370. An introduction to the techniques and procedures used in endocrine research. Three and one-half hours laboratory per week. [SM]

### **376 Advanced Biological Chemistry (3)**

Prerequisite: Biology 276. Topics include control of cellular metabolism, membrane transport mechanisms of action enzymes and hormones, and enzyme kinetics. Three hours lecture per week. [SM]

### **378 Advanced Biological Chemistry Laboratory (2)**

Prerequisite: Biology 278 or consent of instructor. Independent projects related to analytical and metabolic control, using advanced analytical and synthetic procedures. Three and one-half hours laboratory per week. [SM]

### **380 Advanced Animal Behavior (3)**

Prerequisite: Biology 280 (Biology 220 recommended). Advanced topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics will include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, the ecology of social systems, competition, and the evolution of behavioral isolating mechanisms. Three hours lecture per week. [SM]

### **381 Biosystematics (3)**

Prerequisite: Biology 220. Mechanisms of speciation, hybridization, polyploidy, and other evolutionary phenomena utilizing current and classical literature in systematics. Three hours lecture per week. [SM]

### **382 Advanced Animal Behavior Laboratory (2)**

Prerequisite: \*Biology 380. Advanced observational and experimental studies of animal behavior in the field and laboratory. [SM]

### **383 Biosystematics Laboratory (2)**

Prerequisite: \*Biology 381 or equivalent. Techniques in the analysis of systematic and evolutionary questions. Three and one-half hours laboratory per week. [SM]

### **384 Behavioral Genetics (3)**

Prerequisite: Biology 224 and 280 or equivalent. The genetic analysis of behavioral characteristics. Three hours lecture per week. [SM]

### **392 Selected Topics (1-10)**

Prerequisite: Junior standing and consent of instructor. Selected topics in biology. The topics will vary each semester. Topics offered for the following semester will be available in the departmental office. Credit arranged. May be taken more than once for credit. [SM]

### **395 Field Biology (2-5)**

Prerequisite: Three courses in biology and consent of instructor. Intensive study of the flora and fauna of selected areas of the North American continent including a 10-day field trip during spring recess and associated laboratory work. The area studied will be announced in the schedule of courses. Note: There is a specific fee charged for this course. [SM]

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## **396 Marine Biology (3)**

Prerequisite: Biology 264 (Biology 266 recommended). A survey of the major groups of marine plants and animals and their interactions in the various North American marine communities. Three hours lecture per week. [SM]

## **398 Marine Biology Laboratory (2)**

Prerequisite: \*Biology 396 and consent of instructor. Intensive laboratory and field study of selected North American marine communities. Consult the instructor for the area to be visited. Students must pay their own travel and living expenses. [SM]

## **401 Current Topics in Biology (1)**

Prerequisites: Graduate standing. An introduction to advanced topics in biology as seen through the eyes of the faculty. Faculty members will discuss current research in their area of interest, and will review research being conducted in our department. One and one-half hours of lecture and discussion per week. Required of all graduate students.

## **417 Advanced Immunology (3)**

Prerequisite: Biology 317, Immunobiology. Advanced consideration of techniques for measuring antigen-antibody interaction; immuno-genetics as applied to cellular immunity and transplantation; evolution of the immune response.

## **442 Population and Community Ecology (3)**

Prerequisite: Biology 220 or 342 or their equivalent. Studies of the structure and organization of natural communities stressing the abundance and distribution of species, the regulation of species diversity, and the evolution of demographic parameters in populations. Three hours lecture per week. [SM]

## **474 Hormones, Pheromones, and Behavior (3)**

Prerequisites: Biology 213 and 280 required, Biology 370 recommended. This course will survey the hormonal and pheromonal control of behavior in both invertebrates (annelids, arthropods, and molluscs) and vertebrates (from fish to primates). Particular attention will be given to organizational and activational effects of hormones on sexual, parental, and aggressive behaviors. Interactions between hormonal, pheromonal, and neural control of behavior will be discussed. Three hours lecture per week. [SM]

## **485 Problems in Teaching College Biology (3)**

(Same as ADU ED 435) Prerequisite: Teaching experience, 30 semester hours in biology, and consent of instructor. Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered with respect to current research findings. [SM]

## **489 Graduate Seminar (2)**

Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process. [SM]

## **490 Graduate Research in Biology (1-10)**

Research in area selected by student in consultation with faculty members. May be taken for a maximum of 10 hours. [SM]

## **492 Topics in Biology (2-5)**

Indepth studies of selected topics in contemporary biology. May be repeated. Three hours lecture per week. [SM]





## Chemistry

### Faculty

**Lawrence Barton**, Chairperson, Associate Professor\*

Ph.D., University of Liverpool

**Alan F. Berndt**, Professor\*

Ph.D., California Institute of Technology

**Eric Block**, Professor\*, Director of Graduate Studies

Ph.D., Harvard University

**Joyce Y. Corey**, Professor\*

Ph.D., University of Wisconsin

**M. Thomas Jones**, Professor\*, Associate Dean of the College of Arts & Sciences

Ph.D., Washington University

**David W. Larsen**, Professor\*

Ph.D., Northwestern University

**Robert W. Murray**, Professor\*

Ph.D., Yale University

**Jordan Bloomfield**, Adjunct Professor

Ph.D., Massachusetts Institute of Technology

**Eric G. Brunngraber**, Adjunct Professor†

**Joseph Feder**, Adjunct Professor

Ph.D., Illinois Institute of Technology

**Robert I. Stearns**, Adjunct Professor

Ph.D., Tulane University

**Charles W. Armbruster**, Associate Professor\*

Ph.D., Washington University

**James S. Chickos**, Associate Professor\*

Ph.D., Cornell University

**Eugene R. Corey**, Associate Professor\*

Ph.D., University of Wisconsin

**David L. Garin**, Associate Professor\*

Ph.D., Iowa State University

**Harold H. Harris**, Associate Professor\*

Ph.D., Michigan State University

**Dennis C. Owsley**, Adjunct Associate Professor

Ph.D., University of California-Riverside

**Rudolph E. K. Winter**, Associate Professor\*

Ph.D., The Johns Hopkins University

**Gordon K. Andersen**, Assistant Professor

Ph.D., University of Glasgow

**Jane A. Miller**, Assistant Professor\*

Ph.D., Tulane University

**James P. Riehl**, Assistant Professor\*

Ph.D., Purdue University

**Donna G. Alway**, Visiting Assistant Professor

Ph.D., University of Missouri-St. Louis

**John Gutweiler**, Visiting Assistant Professor

Ph.D., St. Louis University

**Sudhir K. Agarwal**, Research Associate

Ph.D., Lucknow University

**Robert Cabaniss**, Glassblower

**Joseph Kramer**, Electronics Technician

**Ken Owens**, Supervisor of Chemistry Stores

**Norman Windsor**, Electronics Technician

\*members of Graduate Faculty

†primary appointment, Missouri Institute of Psychiatry

### General Information

**Degrees and Areas of Concentration** The chemistry department offers courses leading to the A.B. 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 A.B. in chemistry with teacher certification; and, in cooperation with the School of Business Administration, the A.B. 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.

The chemistry department also offers work leading to the M.S. degree in chemistry, with or without a thesis, and the Ph.D. degree in 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 17 full-time and 6 part-time members.

### 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 A.B. 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.

**Pass-Fail Restrictions** Chemistry majors may not take required chemistry, mathematics, or

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physics courses pass-fail nor may B.S. degree candidates take the 6 elective hours in science on this option. No freshman may take Chemistry 11, Introductory Chemistry I, and Chemistry 12, Introductory Chemistry II, pass-fail regardless of major.

## 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: (32 hours)

- 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 in 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 32 hours required for the A.B. 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 6 elective hours from astronomy, biology, chemistry, mathematics, or physics. They are encouraged to take Chemistry 290, Chemical Research. At least 3 of these elective hours must be in chemistry at the 200 level or above.

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**, Analytical Geometry and Calculus I
- Mathematics 175**, Analytical Geometry and Calculus II
- Mathematics 201**, Analytical Geometry and Calculus III
- Physics 111**, Physics: Mechanics and Heat
- Physics 112**, Physics: Electricity, Magnetism and Optics

and one physics laboratory course preferably Physics 201, Elementary Electronics I.

**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 A.B. 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. Physics 1, Foundations of Modern Physical Theory, and Chemistry 371, Biochemistry, are recommended.

**Bachelor of Arts in Chemistry with Teacher Certification** Students must complete the A.B. in chemistry requirements as well as the following courses:

- ED FND 111**, The School in Contemporary Society
- SEC ED 213**, Techniques of Secondary School Teaching
- SEC ED 290**, Secondary School Student Teaching
- ED PSY 312**, The Psychology of Teaching and Learning
- Chemistry 280**, Methods of Teaching Chemistry in Secondary Schools
- Psychology 3**, General Psychology
- Psychology 271**, Adolescent Psychology

**Bachelor of Arts in Chemistry with a Business Option** The following suggested program has been prepared in cooperation with the business school for students seeking careers in chemical sales, market research, and so forth. In addition to the A.B. in chemistry requirements, the following core program is suggested:

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**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 options:

### 1 Marketing Management

**Business Administration 206**, Basic Marketing  
**Business Administration 275**, Marketing Intelligence  
**Business Administration 301**, Buyer Behavior

### 2 Financial Management

**Business Administration 204**, Financial Management  
**Business Administration 334**, Investments  
**Business Administration 350**, Financial Policies

### 3 Accounting

**Business Administration 145**, Managerial Accounting  
**Business Administration 340**, Intermediate Accounting  
**Business Administration 345**, Cost Accounting

## Graduate Studies

### Admission Requirements

Individuals with at least the equivalent of an A.B. 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 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 UMSL, 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.

### 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.

### 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 admission to the Ph.D. degree program can be considered.

A minimum of 30 hours is required, including 3 hours in Chemistry 489, Chemistry Colloquium. No more than 3 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 thesis.

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A maximum of 12 hours of Chemistry 490 may be applied toward the required 30 hours. At least 9 hours must be at the 400 level, excluding Chemistry 490. A maximum of 9 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. See pp. 29-35 in this *Bulletin* for information.

**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 6 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 reside 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.

**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 non-dissertation work. The 21 hours cannot include Chemistry 324, Instrumental Analysis, Chemistry 341, Inorganic Chemistry I, Chemistry 343, Inorganic Reactions, Chemistry 419, Advanced Reading in Chemistry, or Chemistry 489, Chemistry Colloquium, but should include one from each area: organic, inorganic, and physical chemistry. (Chemistry 341 may not be used to satisfy the core requirement in inorganic chemistry.)
- 2 Pass eight cumulative examinations.
- 3 Satisfactorily demonstrate scientific proficiency in French, German, or Russian. Students may satisfy this requirement by completing Scientific Language 100 in one of the foreign languages required, with a grade of C or better, or the equivalent; receipt of a score acceptable to the department from the GRE in one of the languages required, or satisfactory performance on a language examination administered by the department.
- 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.

## 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

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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.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department. \*Starred prerequisites may be taken concurrently with listed offering.

#### 1 General Chemistry I (3)

Prerequisite: Mathematics 02 or equivalent may be taken concurrently. A broad introductory survey of chemical principles. Chemistry 1 plus Chemistry 9 is equivalent to Chemistry 11 and this alternative may be attractive to students who are not mathematically prepared for Chemistry 11. Chemistry 1 and Chemistry 2 will ordinarily satisfy chemistry requirements in nursing, chiropractic, forestry, physical therapy, and related professions. No student may take both Chemistry 1 and Chemistry 10 for credit. Chemistry majors may not include both Chemistry 1 and Chemistry 11 in the 120 hours required for graduation. Three hours lecture per week. [SM]

#### 2 General Organic Chemistry (3)

Prerequisite: Chemistry 1. A short course in organic chemistry with biochemical applications. Recommended for students in nursing, forestry, chiropractic, physical therapy, and related professions. This course should not be taken by majors in the physical or biological sciences. Chemistry majors may not include Chemistry 2 in the 120 hours required for graduation. Three hours lecture per week. [SM]

#### 3 General Chemistry Laboratory (2)

Prerequisite: Chemistry 1 or Chemistry 10 may be taken concurrently. Experiments to acquaint students with chemistry in the laboratory. No student may take both Chemistry 3 and Chemistry 9 for credit. [SM]

#### 4 Laboratory in General Organic Chemistry (2)

Prerequisite: Chemistry 2 may be taken concurrently. Experiments to introduce the student to organic and biochemistry. These will include studies of the properties of organic compounds and introduce the student to methods of synthesis and analysis.

#### 9 General Chemistry II (3)

Prerequisites: Chemistry 1 and Math 40 may be taken concurrently. Additional work on the topics of Chemistry 1, with emphasis on quantitative materials. Introduction to the chemical laboratory. Chemistry 1 plus Chemistry 9 is equivalent to Chemistry 11 for science majors. Chemistry majors who receive credit for Chemistry 1 and Chemistry 9 may not also include Chemistry 10 or Chemistry 11 in the 120 hours required for graduation. No student may take both Chemistry 3 and Chemistry 9 for credit. Two hours lecture per week, three and one-half hours lab or one hour discussion on alternate week. [SM]

#### 10 Chemistry in Society (3)

A survey of chemistry and its relevance to contemporary problems, including an introduction to important chemical principles as applied to air and water pollution, the chemistry of living systems, population, energy production, and other topics. Chemistry 10 does not satisfy the prerequisites of any course except Chemistry 3. No student may take both Chemistry 1 and Chemistry 10 for credit. Chemistry majors may not include Chemistry 1, 9, 10, and 11 in the 120 hours required for graduation. [SM]

#### 11 Introductory Chemistry I (5) (F,W)

Prerequisite: Mathematics through college algebra and trigonometry (may be taken concurrently). Presents an introduction to the fundamental laws and theories of chemistry. Laboratory experiments are designed to demonstrate some aspects of qualitative and quantitative analysis and to develop skills in laboratory procedures. Chemistry majors may not include both Chemistry 1 and 11 nor both Chemistry 10 and 11 in the 120 hours required for graduation. Three hours lecture and one hour discussion per week; one hour laboratory lecture, three hours laboratory weekly. [SM]

#### 12 Introductory Chemistry II (5) (F,W)

Prerequisite: Chemistry 11 or advanced placement. Lecture and laboratory are a continuation of Chemistry 11. Three hours lecture and one hour discussion per week; one hour laboratory lecture, three hours laboratory weekly. [SM]

#### 13 Special Topics in Introductory Chemistry (Credit arranged)

Prerequisite: Consent of instructor. A lecture or laboratory course to assist transfer students in meeting the requirements of Chemistry 11 and 12. [SM]

#### 122 Quantitative Analysis (3) (F,W)

Prerequisite: Chemistry 12. Principles and practice of elementary quantitative analytical chemistry. Laboratory work will emphasize instrumental techniques, electrochemistry, and some spectrophotometry. One and one-half hours lecture and four and one-half hours laboratory weekly. [SM]

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## 190 Energy (3)

(Same as Physics 190) Prerequisite: Junior standing. Perspectives and approaches to the energy problem from a physical and social science viewpoint. The course will involve lectures given by physical and social scientists and also assisted research by students of various aspects of energy production, conversion, use, environmental impact, and policy determination. [SM]

## 202 Introduction to Chemical Literature (1) (W)

Prerequisite: Chemistry \*262. The course will familiarize the student with the literature of chemistry and its use. One hour lecture per week. [SM]

## 231 Physical Chemistry I (3) (F,W)

Prerequisites: \*Chemistry 122, \*Mathematics 201, and Physics 111 (or equivalent). Principles of physical chemistry including thermodynamics, theory of gases, phase equilibria, kinetics, crystal structure, spectroscopy, and quantum mechanics. Three hours lecture per week. [SM]

## 232 Physical Chemistry II (3) (F,W)

Prerequisite: Chemistry 231. Continuation of Chemistry 231. Three hours lecture per week. [SM]

## 233 Laboratory in Physical Chemistry I (2) (F,W)

Prerequisite: \*Chemistry 231. Experiments designed to illustrate principles introduced in Chemistry 231. One hour lecture and four and one-half hours laboratory per week. [SM]

## 234 Laboratory in Physical Chemistry II (2) (F,W)

Prerequisites: Chemistry \*232 and 233. Experiments designed to illustrate principles introduced in Chemistry 232. One hour lecture and four and one-half hours laboratory per week. [SM]

## 261 Structural Organic Chemistry (3) (F,W)

Prerequisite: Chemistry 12. An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours lecture per week. [SM]

## 262 Organic Reactions (3) (F,W)

Prerequisite: Chemistry 261. A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours lecture per week. [SM]

## 263 Techniques of Organic Chemistry (2) (F,W)

Prerequisite: Chemistry 261 or consent of instructor. An introduction to laboratory techniques and procedures of synthetic organic chemistry. One hour lecture and four and one-half hours laboratory per week. [SM]

## 264 Synthetic and Analytical Methods of Organic Chemistry (2) (F,W)

Prerequisites: Chemistry \*262 and 263. Advanced techniques: synthesis, separation, and identification of

organic compounds by classical and instrumental techniques. One hour lecture and four and one-half hours laboratory per week. [SM]

## 280 Methods of Teaching Chemistry in Secondary School (3) (F,W)

(Same as SEC ED 240) Prerequisites: SEC ED 213 and a near-major in the subject matter. A study of the scope and sequence of the science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. To be taken concurrently with student teaching.

## 289 Seminar (1 or 2) (F,W)

Prerequisite: \*Chemistry 202. Presentation of papers by students, faculty, and invited speakers. All majors must enroll for credit during their senior year. If taken during the day, the student must enroll for two semesters, one credit per semester. If taken in the evening, the student must enroll for one semester, and will receive two credits. [SM]

## 290 Chemical Research (Credit arranged) (F,W)

Prerequisite: Consent of instructor. Independent laboratory and library study, in conjunction with a faculty member, of fundamental problems in chemistry. [SM]

## 310 History of Chemistry (3)

Prerequisite: Chemistry 12 or consent of instructor. The development of chemistry, including early theories of matter, alchemy, iatrochemistry, the period of Lavoisier, and selected topics from the 19th and 20th centuries. Three hours lecture per week. [SM]

## 324 Instrumental Analysis (3) (F,W)

Prerequisite: Chemistry 233. Modern instrumental methods, including nuclear magnetic resonance, electron spin resonance, mass spectrometry, spectrophotometry, x-ray diffraction, and others. Two hours lecture and three and one-half hours laboratory per week. [SM]

## 325 Qualitative Organic Analysis (3)

Prerequisite: Chemistry 264. Laboratory and instrumental methods for the systematic identification of organic compounds. One hour lecture and seven hours laboratory per week. [SM]

## 331 Advanced Physical Chemistry (3)

Prerequisite: Chemistry 232. Study of advanced theoretical and experimental problems in modern physical chemistry. Selected topics such as statistical mechanics, properties of solids, reaction dynamics, molecular orbital theory, and spectroscopic methods may be included. Three hours lecture per week. [SM]

## 333 Thermodynamics (3) (F)

Prerequisite: Chemistry 232. Selected advanced topics



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including solid-state, non-equilibrium, and statistical thermodynamics. Three hours lecture per week. [SM]

### **336 Introduction to Quantum Chemistry (3) (W)**

Prerequisite: Chemistry 232 or consent of instructor. A brief but quantitative introduction to the application of quantum mechanics to problems in chemistry, covering the uncertainty principle, operators, solution of Schrodinger's equation for simple systems, perturbation theory, variation methods, interaction of radiation with matter, atomic and molecular structure, and theory of collisions. Three hours lecture per week. [SM]

### **341 Inorganic Chemistry I (3) (W)**

Prerequisite: Chemistry \*232 and \*262. A systematic study of the structure and properties of the elements and their compounds, with emphasis on the correlation of chemical properties with theoretical concepts. Three hours lecture per week. [SM]

### **342 Inorganic Chemistry II (3) (F)**

Prerequisite: Chemistry 341. Continuation of Chemistry 341 with emphasis on such topics as metals, non-aqueous solvents, chemical dynamics, organometallic chemistry, chemistry of the less common elements, and certain frontier areas. Three hours lecture per week. [SM]

### **343 Inorganic Reactions (2) (F)**

Prerequisite: \*Chemistry 341. The more sophisticated techniques of physical and analytical chemistry will be used to study inorganic compounds and their reactions. One hour lecture and four and one-half hours laboratory per week. [SM]

### **352 Nuclear Chemistry (3)**

Prerequisite: Chemistry 232. Properties of radioactive nuclei, nature of radioactivity, nuclear reactions, and applications of nucleonics to chemistry. Three hour lecture per week. [SM]

### **361 Advanced Organic Chemistry (3) (W)**

Prerequisite: Chemistry 262. Contemporary developments in the study of the structure of carbon compounds and the mechanism of their reactions. Selected topics such as natural products, heterocyclic compounds, stereochemistry, aromaticity, reaction intermediates, and photochemistry will be included. Three hours lecture per week. [SM]

### **363 Advanced Organic Synthesis (2)**

Prerequisite: Chemistry 264. Advanced synthetic methods of organic chemistry. One hour lecture and seven hours laboratory per week. [SM]

### **366 Physical Organic Chemistry (3) (F)**

Prerequisite: Chemistry \*262 and \*232. Advanced topics in the theory of organic chemistry, including conformational analysis, reaction kinetics and

mechanisms, and transition state theory. Three hours lecture per week. [SM]

### **371 Biochemistry (3) (F)**

Prerequisite: Chemistry 263. The isolation, chemical characterization, and function of the structural and catalytic components of living cells and subcellular particles. Three hours lecture per week. [SM]

### **372 Advanced Biochemistry (3) (W)**

Prerequisite: Chemistry 371. Selected advanced topics in the chemistry of life processes. Three hours lecture per week. [SM]

### **373 Biochemical Techniques (2) (F)**

Prerequisite: \*Chemistry 371. Laboratory study of biochemical processes in cellular and subcellular systems with emphasis on the isolation and purification of proteins (enzymes) and the characterization of catalytic properties. One hour lecture and three and one-half hours laboratory per week. [SM]

### **374 Advanced Biochemistry Laboratory (2) (W)**

Prerequisite: Chemistry 372 and 373. (Latter may be taken concurrently). Continuation of Chemistry 373. Laboratory to accompany Chemistry 372. One hour lecture and three and one-half hours laboratory per week. [SM]

### **380 The Teaching of Chemistry in Colleges and Universities (1)**

Prerequisite: Consent of instructor. A study of the history of the teaching of chemistry and the methods of instruction and evaluation used in the discipline.

### **381 Special Topics (1-10)**

Prerequisite: Consent of instructor. A reading and seminar course in selected advanced topics. [SM]

### **414 Molecular Spectroscopy (3)**

Prerequisite: Chemistry 232. A broad treatment of the interaction of electromagnetic radiation with matter, emphasizing the unity of such interactions. Interpretation of molecular structure in terms of molecular, electronic, and geometric structure and dynamics. Description and interpretation of physical techniques applied to chemistry. Three hours lecture per week. [SM]

### **415 Organometallic Chemistry (3)**

Prerequisite: Consent of instructor. A systematic study of the compounds containing a carbon-metal or a carbon-metalloid bond. Emphasis will be placed upon the structural types and chemical reactivity of this class of compounds. Topics will also include the role of organometallic compounds in synthesis and their catalytic behavior. Three hours lecture per week. [SM]

### **416 Chemical Applications of Group Theory (3)**

Prerequisite: Chemistry 232. A brief introduction to the



# Chemistry

fundamental relationships of group theory. Application of group theory to molecular orbital theory, molecular vibrations, and molecular spectra. Three hours lecture per week. [SM]

## 417 Environmental Chemistry (3)

Prerequisite: Consent of instructor. Selected topics in the chemistry of the environment, including air and water pollution. Subjects to be discussed include photochemical smog, gaseous and particulate contamination, biodegradability of chemicals, and chemical effects of contaminants on living species. Three hours lecture per week. [SM]

## 419 Advanced Reading in Chemistry (1)

Prerequisite: Admission to the Ph.D. Program. Reading and examinations in the sub-disciplines of chemistry. Enrollment must begin after completion of any course deficiencies.

## 431 Advanced Chemical Calculations (3)

Prerequisites: Mathematics 201 and Chemistry 232. Advanced application of analytical techniques to chemical problems; complex variables, linear algebra, and series techniques. Three hours lecture per week. [SM]

## 433 Statistical Mechanics (3)

Prerequisites: Chemistry 333 and 431. Consideration of topics of chemical-physical interest including thermophysical properties of fluids and solids, Fermi-Dirac and Bose-Einstein fluids, theory of fluctuations, and irreversible processes. Three hours lecture per week. [SM]

## 434 Interaction of Electromagnetic Radiation and Matter (3)

Prerequisite: Chemistry 436. Treatment of the theoretical description of interaction between atoms and molecules and electromagnetic fields. Includes such topics as electromagnetic field theory, spin systems in electromagnetic fields, time-dependent perturbation theory, emission and absorption of radiation, and selected applications to chemical and physical systems. Three hours lecture per week. [SM]

## 436 Quantum Chemistry II (3)

Prerequisites: Chemistry 336 and 431. Advanced theoretical concepts; angular momentum, atomic and molecular structure. Three hours lecture per week. [SM]

## 439 Special Topics in Physical Chemistry (3)

Prerequisite: Consent of instructor. Selected topics in physical chemistry; may be taken more than once for credit. [SM]

## 441 Typical Element Chemistry (3)

Prerequisite: Chemistry 342. Chemistry of the main group elements and their compounds including such topics as electron deficient compounds, acids, bases, and non-aqueous solvents, catenation and inorganic polymers, the solid state, organo-typical element chemistry, and energetics. Three hours lecture per week. [SM]

## 442 Coordination Chemistry (3)

Prerequisite: Chemistry 342. The chemistry of the coordination compounds of the transition metals including such topics as kinetics and mechanisms of reaction, stereochemistry, ligand field theory, stability, and organotransition element chemistry. Three hours lecture per week. [SM]

## 443 Physical Inorganic Chemistry (3)

Prerequisites: Chemistry 342, 414, and 416. Study of physical concepts with emphasis on physical methods applied to inorganic systems, spectral and magnetic properties of coordination compounds, and application of bonding theories to inorganic chemistry. Three hours lecture per week. [SM]

## 448 Problem Seminar in Inorganic Chemistry (1)

Prerequisite: Consent of the Inorganic staff. Problems from the current literature, presentations and discussions by faculty and students

## 449 Special Topics in Inorganic Chemistry (1-3)

Prerequisites: Consent of instructor. Selected topics in inorganic chemistry; may be taken more than once for credit. [SM]

## 463 Stereochemistry (3)

Prerequisites: Chemistry 361 or 366. A study of molecular geometry and relationships in space between atoms and groups in a molecule. Topics to be covered include optical isomerism, conformational analysis, asymmetric synthesis, and topology. Three hours lecture per week. [SM]

## 464 Organic Photochemistry (3)

Prerequisites: Chemistry 361 and 366. A study of the synthetic and theoretical aspects and applications of light induced reactions. Topics to be covered include primary photo-physical processes, reaction types, and photosensitization. Three hours lecture per week. [SM]

## 465 Chemistry of Natural Products (3)

Prerequisite: Chemistry 361. The chemistry and physiological action of natural products; methods of isolation, determination of structures, synthesis, and biosynthesis. Three hours lecture per week. [SM]

## 468 Problem Seminar in Organic Chemistry (1-3)

Prerequisite: Consent of the organic chemistry staff. Problems from the current literature, presentations, and discussions by faculty and students. Up to three credits may be applicable in the M.S. or Ph.D. program. [SM]

## 469 Special Topics in Organic Chemistry (3)

Prerequisite: Consent of instructor. Advanced topics of special current interest. May be taken more than once for credit. [SM]

## 489 Chemistry Colloquium (1)

Presentation of papers by students, faculty, and invited speakers. One hour per week.

## 490 Graduate Research in Chemistry (1-10). [SM]

## Economics

### Faculty

**William E. Mitchell**, Chairperson; Associate Professor\*

Ph.D., Duke University

**Robert Loring Allen**, Professor\*

Ph.D., Harvard University

**Elizabeth M. Clayton**, Professor\*

Ph.D., University of Washington

**Joseph P. McKenna**, Professor\*

Ph.D., Harvard University

**Thomas R. Ireland**, Associate Professor\*

Undergraduate Coordinator

Ph.D., University of Virginia

**Sharon G. Levin**, Associate Professor\*

Ph.D., University of Michigan

**Donald Phares**, Associate Professor\*

Ph.D., Syracuse University

**Robert L. Sorensen**, Associate Professor\*

Graduate Coordinator

Ph.D., Virginia Polytechnic Institute

**Herbert D. Werner**, Associate Professor\*

Ph.D., University of California-Berkeley

**Douglas H. Heinson**, Assistant Professor

Associate Undergraduate Coordinator

Ph.D., University of Iowa

**Henry Mullally**, Assistant Professor of Geography

Ph.D., McMaster University

**Heydar Pourian**, Assistant Professor; Associate

Graduate Coordinator

Ph.D., University of Wisconsin-Milwaukee

**William B. Walstad**, Assistant Professor

Director, Center for Economic Education

Ph.D., University of Minnesota

**Michael B. Domplierre**, Instructor

M.A., University of Michigan

**Sarapage McCorkle**, Visiting Instructor

M.A., University of Missouri-St. Louis

**Kathleen Phares**, Visiting Instructor

M.A., University of Missouri-St. Louis

\*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 A.B. in economics provides a flexible, liberal arts orientation for students seeking careers in general business or government. The program, however, also gives students opportunities to prepare for graduate professional training as economists by incorporating mathematics and other specialized courses. The B.S. in economics places more emphasis upon the statistical and quantitative aspects of economics to prepare students for careers in economic research and forecasting.

The economics faculty considers research an integral part of good teaching. Research projects have dealt with housing, transportation, employment, taxation, zoning, Latin America, the Soviet Union, international trade flows, agriculture, energy, consumer economics, economic history, and public choice. The departmental emphasis is applied, rather than theoretical, strengthening undergraduate education and giving students a chance to help in research.

The economics department also offers courses on the undergraduate level in geography and home economics.

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 coursework 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.

# Economics

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.

## Undergraduate Studies

### General Education Requirements

All undergraduate economics majors must meet the university and College of Arts and Sciences general education requirements. B.S. degree candidates, however, do not need to fulfill the college's foreign language requirement. A.B. candidates 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.

**Pass-Fail Option** Courses outside the major field and Economics 51, Principles of Microeconomics and Economics 52, Principles of Macroeconomics may be taken pass-fail.

### Degree Requirements

**Bachelor of Arts in Economics** Candidates for the A.B. degree must take at least 30, but no more than 45, hours in economics. At least 24 hours must be above the 100-level. 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 are:

**Business Administration 140**, Fundamentals of Financial Accounting  
**Mathematics 31**, Elementary Statistical Methods or **Business Administration 131**, Elementary Statistics

Requirements outside the economics department should be completed before the end of the sophomore year.

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

The department encourages students to complete the minimum 30 hours in economics and then develop as much breadth as possible in related fields. Students interested in general business or investments might select courses in business administration, particularly finance. Courses in history, philosophy, or political science might be selected by students interested in public administration.

### Bachelor of Science in

**Economics** Candidates for the B.S. degree must complete at least 30 hours, but no more than 45, in economics. At least 24 hours must be above the 100 level. 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

Also required are:

**Business Administration 140**, Fundamentals of Financial Accounting  
**Mathematics 31**, Elementary Statistical Methods or **Business Administration 131**, Elementary Statistics  
**Mathematics 80**, Analytic Geometry and Calculus I  
**Mathematics 175**, Analytic Geometry and Calculus II  
**Mathematics 201**, Analytic Geometry and Calculus III  
**Mathematics 122**, Computers and Programming or **Business Administration 104**, Introduction to FORTRAN programming

Elective courses in economics for B.S. degree candidates should broaden the student's preparation in applied fields such as urban economics, public finance, international trade and finance, economic development, labor, and industrial organization.

## Economics

Students interested in graduate study should seek the advice of their undergraduate adviser in order to comply with the entrance requirements of the graduate school they plan to attend.

### Graduate Studies

#### Admission Requirements

Application for admission may be submitted at any time, although classwork 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 will have to be completed in addition to the regular M.A. requirements. In addition to the general admission requirements of the Graduate School, applicants must have successfully completed 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 6 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 I

**Economics 493**, Seminar in Economic Research II

Also required are any **two** of the following:

**Economics 420**, Advanced Topics in Quantitative Economics and Policy

**Economics 430**, Advanced Topics in International Economics

**Economics 460**, Advanced Topics in Industrial Economics

**Economics 470**, Advanced Topics in Urban Economics

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

Economists study public policy issues such as inflation, unemployment, taxation, and energy, as well as decision-making in business and households. Many UMSL graduates in economics have entered careers in banking, industry, and government. Others have continued their study of economics in graduate schools. Economics also has proved to be an advantageous major for many pre-law students. Some course work in accounting, statistics, and mathematics is required of all economics majors. Moreover, within economics, a variety of courses will meet your needs for career preparation, special skill competencies, and general knowledge of economics in business or public life.

The M.A. degree in economics is designed to prepare candidates for positions as professional economists. Career opportunities are available in economic research and operational areas in banks or other financial institutions, in businesses, international organizations, and various governmental agencies; in junior-college teaching; and in sales administration, production control, urban planning, and international government operations.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to page 55 in this *Bulletin*. Prerequisites may be waived by consent of department.

#### **40 Introduction to the American Economy (3) (F,W)**

Prerequisite: None. Introduction to economic analysis and problems through an examination of the development and operations of the American economy; study of its evolution, institutions, and principal problems. Economics 40 does not substitute for Economics 51 or 52. [SS]

# Economics

## 51 Principles of Microeconomics (3) (F,W)

Prerequisite: Math 02 or equivalent recommended. Introduction to the determinants of household demand, production cost, and market prices. Applies the principles of individual decision-making behavior to understanding goods, services, and resource markets. [SS]

## 52 Principles of Macroeconomics (3) (F,W)

Prerequisite: Economics 51. Introduction to the determination of levels of and changes in aggregate income, output, employment, and price level. Applies economic principles of choice to the formulation and achievement of public policies that affect national employment, income distribution, and economic growth. (Credit allowed for Economics 50 or 52 but not both. Where Economics 52 is a prerequisite, Economics 50 may be substituted.) [SS]

## 90 Freshman Seminar (3)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to 12 students. [SS]

## 200 Macroeconomics for the School Curriculum (1-3)

Prerequisite: Upperclass or graduate standing in School of Education. Analysis of forces affecting the national economy, with emphasis on income determination, employment, money and banking, and international trade and finance. Special reference to topics included in elementary and secondary school social science curricula. [SS]

## 201 Microeconomics for the School Curriculum (1-3)

Prerequisite: Upperclass or graduate standing in School of Education. Analysis of market forces, with emphasis on business firms, households, and productive-factor markets, price determination, and resource allocation. Special reference to topics included in elementary and secondary school social science curricula. [SS]

## 214 Economics of Environment (3)

Prerequisite: Economics 51. Study of the physical and biological environment as the ultimate economic resource; economic and scientific basis and implications of environmental use; analysis of water, air, and solid waste discharges as well as environmental and organismic disruption, deterioration, and depletion; costs of environmental contamination and maintenance; conservation and restoration; environmental planning and policy. [SS]

## 215 Economics of Energy (3) (W)

Prerequisite: Economics 51. Analytical, institutional, and empirical study of world production and use of energy from primary resource to retail markets. Focus on supply and demand, technology, market organization and operations, environmental impact, and public policy. [SS]

## 216 Public Finance (3) (F)

Prerequisite: Economics 51. The nature and scope of public finance. Analysis of expenditure, revenue, and financial administration of the government, with emphasis on current problems. [SS]

## 218 Social Choice In Political-Economic Systems (3)

Prerequisite: Economics 51. A study of the mechanisms of social choice from the standpoint of individual and political party maximization of personal objectives. This area draws on work done by sociologists, political scientists, and economists. [SS]

## 220 Money and Banking (3) (F,W)

Prerequisite: Economics 51; Economics 52 recommended. Factors influencing bank reserves and the money supply. Ability of the Federal Reserve System and the Treasury to control these factors. Introduction to monetary theory; integration of monetary phenomena with national income theory. Analysis of current policy issues. [SS]

## 221 Financial Markets and Institutions (3)

(Same as Business 221) Prerequisite: Economics 51 and 52. Demand, supply, and flow of funds in the macrofinancial system, determinants of the structure of interest rates, the impact of monetary and other governmental policies on interest rates, securities, prices, and flows of funds. Examines types and historical development of financial intermediaries, including their regulatory environment, decision-making within individual intermediaries, and how their portfolio decisions affect flows of funds in the economy. [SS]

## 230 International Economic Analysis (3) (W)

Prerequisite: Economics 40, 51, or 52. Elementary trade and payments analysis; balance of payments; international economics problems; concentration on fundamentals of analysis and problems. [SS]

## 231 International Finance (3) (F)

Prerequisite: Economics 40, 51 or 52. Introduction to international monetary systems, foreign exchange markets, financing of international transactions, the international position of the dollar. [SS]

## 233 Multinationals, Oil, OPEC (1)

Prerequisite: Economics 51. Analysis of the development of the world oil industry, multinational oil companies, the Organization of Petroleum Exporting Countries, and oil markets. How prices and export levels are determined, the economic influence of the companies and OPEC, and policies of oil-importing countries. [SS]

## 238 Comparative Economic Systems (3) (W)

Prerequisite: Economics 40, 51, or 52. Comparative study of economic organization, growth, and welfare in different national economies such as the United States, the Soviet Union, and France. [SS]

## Economics

### **239 The Soviet Economy (3)**

Prerequisite: Economics 40, 51, or 52. Intensive analysis of the Soviet economy as a case study in central planning. Growth and development of the Soviet economy in historical perspective, and prospects for future evolution and structural change. [SS]

### **240 Economic Development (3)**

Prerequisite: Economics 40, 51, or 52. Survey of economic growth as applied to underdeveloped countries. Analysis of development policies with emphasis on specific case studies. [SS]

### **241 American Economic Development (3)**

Prerequisite: Economics 40, 51, or 52. Economic analysis and interpretation of the evolution of the principal developments, institutions, and structural characteristics of the economic system of the United States. [SS]

### **242 European Economic Development (3)**

Prerequisite: Economics 40, 51, or 52. Economic analysis and interpretation of the evolution of the principal developments, institutions, and structural characteristics of the economic systems of Europe. [SS]

### **243 Latin American Economic Development (3)**

Prerequisite: Economics 40, 51, or 52 or consent of instructor. Economic analysis and interpretation of the evolution of the principal developments, institutions, and structural characteristics of the economic systems of Latin America. [SS]

### **250 Intermediate Economic Theory:**

#### **Macroeconomics (3) (F,W)**

Prerequisite: Economics 51 and 52. Study of national income, expenditure, and the forces determining the level of economic activity. Special emphasis on the theory of income determination and its application to public policy. [SS]

### **251 Intermediate Economic Theory:**

#### **Microeconomics (3) (W)**

Prerequisite: Economics 51 and 52. Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition. [SS]

### **253 Managerial Economics (3)**

(Same as Business Administration 253) Prerequisite: Economics 51 and either Mathematics 80 or 101. Application of microeconomic theory to the decision-making process in the business firm. Discussion of cost behavior, price, and output determination under various competitive conditions, as well as factors affecting wages, interest, and profits. [SS]

### **256 The Consumer and the Economy (3) (F,W)**

Prerequisite: Economics 51. This course will present a brief sketch of the historical development of consumption patterns in the United States and their interaction with methods of market competition. Theories of consumer behavior, including economic,

behavioral, and cultural approaches to consumption decisions, will be evaluated. The course will examine problems of consumer choice and the management of personal finances in today's economy. Topics to be considered include budgeting, the use of credit, improving buying practices, savings, insurance, and personal investment planning. The course will analyze ways in which the consumer function can be performed more efficiently, including the development of consumer education and the role of government in consumer protection. [SS]

### **260 Labor Economics (3) (F)**

Prerequisite: Economics 40, 51, or 52. Forms of labor organization, state and federal labor legislation, and policies of labor unions. Emphasis on an application of economic theory to the relations of labor and business. [SS]

### **270 Urban and Regional Economics (3) (F)**

Prerequisite: Economics 40, 51, or 52. A survey of factors affecting the location of economic activity, industrial diversity, determinants of urban growth, the role of urban public economy, and the management of the urban environment. [SS]

### **287 The World Food Problem (3)**

Prerequisite: Economics 40 or 51 or consent of instructor. An introduction to the world's food problem and an examination of the economic and political problems in distributing basic foodstuffs among the earth's people. [SS]

### **301 The Urban Environment and Planning (3)**

Prerequisite: Junior standing or 12 hours in social science. A survey of the development of urban America and the associated crises, of the origins and early practice of planning, and role of the profession in modern society. Federal and state programs that affect urban development through the planning profession, and current changes in the practice of planning. [SS]

### **302 Systems Analysis for Urban Planning Problems (3)**

Prerequisite: Junior standing and Economics 51 and 52 or consent of instructor. Applications of systems analysis to the planning program. Emphasis upon Planning Programming and Budgeting (PPB), costing, cost-benefit, cost effectiveness studies, and information systems for urban planning and decision-making, covers review and evaluation techniques. [SS]

### **304 Survey Research Practicum (3)**

(Same as Political Science 304 and Sociology 304) Prerequisite: Junior standing and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results. [SS]

# Economics

## **317 Public Finance: State and Local (3)**

Prerequisite: Economics 51 and 52. A study of expenditure, taxation, and financial administration of state and local governments, with emphasis on problems of current interest. Special attention given to research methods, as well as financial relations between various levels of government. [SS]

## **321 Money (3)**

Prerequisite: Economics 52 and 220. Demand for money; determination of interest rates, prices, and income; decision-making under conditions of uncertainty; term structure and interest rates. Other topics of mutual interest. [SS]

## **331 International Economic Analysis (3)**

Prerequisite: Economics 51 or 52. Theory of international trade and payments, foreign exchange, and balance of payments analysis; integration of commercial policy, international monetary, and liquidity analysis. [SS]

## **345 Population Economics (3)**

Prerequisite: Economics 51 and 52. A systematic study of the forces influencing the attributes, character, distribution, and growth of population; emphasis on economic considerations. [SS]

## **350 Special Readings (1-6)**

Prerequisite: Consent of instructor. Grade point of 3.0 or higher in economics. Unscheduled, independent directed readings on topics mutually acceptable to student and instructor. Maximum credit limited to 6 hours. [SS]

## **351 Mathematical Economics (3)**

Prerequisite: Economics 251 and Mathematics 101. Introduction to the development and use of mathematical models in economics. Decision and game theory. Selected topics in mathematical economics. [SS]

## **355 Business and Government (3)**

Prerequisite: Economics 51. Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines, and competition considered. [SS]

## **356 Industrial Organization (3)**

Prerequisite: Economics 51. Analysis of the economic factors influencing industrial structure and the conduct and performance associated with various market structures. [SS]

## **363 Adjustment of Labor Disputes (3) (W)**

Prerequisite: Economics 51 or equivalent. The principles of conflict resolution, including government techniques such as mediation, fact finding, arbitration,

injunctions, and seizure. Application of these techniques under the Taft-Hartley Act and Railway Labor Act. Case studies of industries, including coal, oil, railroads, steel, aerospace. A detailed examination of the operation of the labor market under non-competitive conditions. [SS]

## **364 Manpower Policies (3)**

Prerequisite: Economics 51 and 52. Analysis of the allocation of human resources with emphasis on the economic theory of labor markets in both the short and the long run. Discussion of the operation of the labor market in specific occupations. [SS]

## **365 Economic Statistics and Econometrics (3) (F,W)**

Prerequisite: Economics 51 and 52 and Mathematics 31 or Business 131. Mathematics 80 or 101 recommended. Application of statistical techniques to economic research problems. [SS]

## **366 Econometrics (3)**

Prerequisite: Economics 365. Continuation of Economics 365. [SS]

## **368 Analysis of Business Conditions (3)**

(Same as Business 368) Prerequisite: Economics 220. Discussion of factors affecting economic conditions, short-term fluctuations in business activity, and plans and policies for economic stabilization. Emphasis on problems and techniques of forecasting aggregate and industry demand.

## **371 Urban Transportation (3)**

Prerequisite: Economics 51. Role of transportation in the past, present, and future development of urban areas will be treated with particular emphasis on urban passenger transportation and its present and future role and importance in urban areas. However, nonurban and nonpassenger transportation questions and problems will also be considered. Urban transportation planning procedures and techniques will be discussed and criticized. The policy aspects of the course will concentrate on possible and appropriate investment and pricing policies for federal, state, and local governments in dealing with various urban transportation problems. [SS]

## **380 History of Economic Thought (3)**

Prerequisite: Economics 51 and 52. The evolution of economic thought from the ancients through post-Keynesian theory. [SS]

## **401 Macroeconomic Analysis (3) (F)**

Prerequisite: Economics 250 or equivalent. Aggregate economic theory, including analysis of the determinants of income, output, employment, and prices. Employment and price-level effects of consumer and investment demand, the money supply and interest rates, and government policies.



## Economics

### **402 Microeconomic Analysis (3) (W)**

Prerequisite: Economics 251 or equivalent. A rigorous, basic survey of microeconomic comparative statics. Detailed examination of demand and supply, product and factor markets. Partial equilibrium in competitive, imperfectly competitive, and monopolistic markets.

### **420 Advanced Topics in Quantitative Economics and Policy (3)**

Prerequisite: Regular graduate student status and consent of graduate student coordinator. Concepts and problems in quantitative economics and policy. Offered in alternate years.

### **421 Public Sector Microeconomics (3) (F)**

Prerequisite: Economics 251. Survey of economics of bureaucracy, fiscal federalism, entrepreneurship in not-for-profit organizations, benefit cost analysis, tax welfare, property rights, and externalities.

### **430 Advanced Topics in International Economics (3)**

Prerequisite: Regular graduate student status and consent of graduate student coordinator. Recent literature and problems in international economics. Offered in alternate years.

### **460 Advanced Topics in Industrial Economics (3)**

Prerequisite: Regular graduate student status and consent of graduate student coordinator. Concepts and problems in industrial economics. Offered in alternate years.

### **470 Advanced Topics in Urban Economics (3)**

Prerequisite: Regular graduate student status and consent of graduate student coordinator. Concepts and problems in urban economics. Offered in alternate years.

### **492 Seminar in Economic Research I (3)**

Prerequisites: Regular graduate student status and consent of graduate student coordinator. Research methods applied to economics. Develop efficiency and skill in conducting research and report writing.

### **493 Seminar in Economic Research II (3) (W)**

Prerequisite: Economics 492. Continuation of Economics 492.

Survey of the major regions of the world. Designed to give the student an awareness of the character of each of these major regions through the interrelationships of the various attributes of place. [SS]

### **210 Urban Geography (3) (F)**

Prerequisite: Sophomore standing. An in-depth examination of urban growth, the location and basis of cities, and the internal spatial structure of cities provide

### **211 Location Theory (3)**

Prerequisite: Mathematics 80 or 101 and Economics 51. A survey of industrial location theory, agriculture location theory, and central place theory; programming formulations of location models; spatial competition; location-allocation problems; and non-economic approaches to locational analysis. [SS]

### **220 Social Geography (3) (W)**

Prerequisite: Sophomore standing. Topics presented in a spatial (geographic) framework include the diffusion of innovations, population (distribution, problems, and solutions), settlement patterns, migration, poverty, and urban-social problems (e.g., race and residential choice).

## Home Economics

### **83 Clothing Selection (3)**

Prerequisite: None. A study of clothing design elements and principles and their application to clothing selection as related to the requirement of various figure size, type, skin tone, age and sex.

### **130 Nutrition in Health (3)**

Prerequisite: None. A study of dietary nutrients essential for health, proper selection of foods to provide them and current issues affecting them.

### **181 History of Fashion and Costume (3)**

An illustrated lecture presentation to gain insight into fashion as a kaleidoscopic portrayal of society and idiomatic style changes from Ancient Egypt to the present. The course will cover the history of fashion as a definitive subject, and will describe how costume reflects social, cultural, and political events of each period.

### **186 Fashion Merchandising (3)**

A survey course of fashion merchandising with an emphasis on retail principles, operations, and practices in the many sectors of fashion marketing. Specific application through case studies, problems, and field projects may be included.

## Geography

### **101 Introduction to Geography (3) (F)**

Prerequisite: Math 02 or equivalent. An introduction to geography as a social science. The identification and explanation of order in the human landscape. A survey of the social, political, economic and psychological factors which influence geographic patterns. [SS]

### **102 World Regions (3) (W)**

Prerequisite: None (Geography 101 is recommended).

# English

## Faculty

**Charles Larson**, Chairperson; Associate Professor\*

Ph.D., Indiana University

**B. Bernard Cohen**, Professor\*

Ph.D., Indiana University

**Charles T. Dougherty**, Professor\*

Ph.D., University of Toronto

**William C. Hamlin**, Professor\*

Ph.D., University of Missouri-Columbia

**Eugene B. Murray**, Professor\*

Ph.D., Columbia University

**Peter Wolfe**, Professor\*

Ph.D., University of Wisconsin

**David Carkeet**, Associate Professor\*

Ph.D., Indiana University

**Richard M. Cook**, Associate Professor\*

Ph.D., University of Michigan

**Marcia A. Dalbey**, Associate Professor\*

Ph.D., University of Illinois

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**Bruce L. Liles**, Associate Professor\*

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Ph.D., Harvard University

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Ph.D., New York University

**Jane Williamson**, Associate Professor\*

Ph.D., Bryn Mawr College

**Sylvia Cook**, Assistant Professor\*

Ph.D., University of Michigan

**Alice Brand**, Visiting Assistant Professor

Ed.D., Rutgers University

**Jerome Grollman**, Visiting Assistant Professor

M.H.L., Hebrew Union College

**Martha Baker**, Instructor

M.A., Central Missouri State University

**Karen Becker**, Instructor

M.A., Kansas State University

**Adam Casmler**, Visiting Instructor

M.A., University of Notre Dame

**Jane Flinn**, Instructor

M.A., University of Pennsylvania

**Karlene Gentile**, Instructor

M.A., University of Missouri-Columbia

**John Hennies**, Visiting Instructor

M.A., Purdue University

**Lynn Lamphear**, Instructor

M.A., University of Missouri-St. Louis

**Lauren Lepow**, Visiting Instructor

Ph.D., University of Connecticut

**Joy Lowery**, Visiting Instructor

M.A., Southern Illinois University at Edwardsville

**Sue Ellen Meyer**, Instructor

M.A., St. Louis University

**Jane Parks-Clifford**, Instructor

M.A., University of Missouri-Columbia

**Jennifer Randisi**, Visiting Instructor

Ph.D., State University of New York at Stony Brook

**Susan Tierney**, Visiting Instructor

M.A., Southern Illinois University-Edwardsville

**Howard Schwartz**, Instructor

M.A., Washington University

**Howard Benoit**, Lecturer

Ph.D., University of Pennsylvania

**Elie Chapman**, Lecturer

M.A., Murray State University

**Sally Jackoway**, Lecturer

M.A., Washington University

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## General Information

**Degrees and Areas of Concentration** The English department offers or participates in the offering of the A.B. in English, the A.B. in English with certification for secondary teaching, and the B.S. in secondary education with a major in English. There is a special program for those students who are taking an A.B. with a double major, and there is a minor in English. The department sponsors a set of four courses in library science. Additionally, the department offers a Certificate in Writing to students with any major in the University 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 three areas of study offered by the department: English literature, American literature, and linguistics.

## 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**, English Composition

**10**, Composition

**22**, Traditional Grammar

## English

**65**, Honors Exposition  
**115**, Feature Writing  
**116**, News Writing  
**160**, Advanced Expository Writing  
**161**, Technical Writing  
**162**, Business and Industrial Writing  
**262**, Curriculum and Methods of Teaching English

The college's foreign language requirement may be met in any language.

**Pass-Fail Option** English majors may take any English course on pass-fail **except** the following:

**09**, English Composition  
**10**, Composition  
**65**, Honors Exposition  
**160**, Advanced Expository Writing  
**262**, 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, English Composition; English 10, Composition; English 65, Honors Exposition; and the courses in Library Science. Required English courses include:

**1** Any **two** courses from the following sequence:

**131**, English Literature I  
**132**, English Literature II  
**133**, Introduction to Poetry  
**134**, Introduction to Drama  
**135**, Introduction to Fiction

**2** English 160, Advanced Expository Writing (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's Tragedies and Romances  
**338**, Shakespeare's 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 6 hours of English taken on a pass-fail 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 pass-fail) hours in English courses at the 200 level or above with an average of 2.0 or better in these courses.

Transfer students majoring in English must complete at UMSL a minimum of 12 graded hours in English courses at the 200 level or above with an average of 2.0 or better in these courses.

Work in 100-level courses provides a background in literary history and forms and the means for discussing literary issues, on paper and orally. Thus, the department recommends that students take the English 131-135 sequence by the end of the sophomore year.

# English

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 a Double Major**

For those students who are graduating with a double major, the requirements for an A.B. in English are: Each English major must complete a minimum of 30, but no more than 45, hours in English **exclusive** of English 09, English Composition; English 10, Composition; and English 65, Honors Exposition. The 30 hours must include at least 15 graded (i.e., not pass-fail) hours in English courses at the 300 level, with an average of 2.0 or better in these courses.

Transfer students majoring in English with a double major must complete at UMSL a minimum of 12 graded hours in English courses at the 300 level with a grade-point average of 2.0 or better in these courses.

## **Bachelor of Arts in English with Certification for Secondary Education**

In addition to the requirements for the A.B. in English, students must meet the following requirements for secondary certification:

- 1 Two courses in American literature.
- 2 English 262, Curriculum and Methods of Teaching English (taken concurrently with student teaching).
- 3 A minimum of 12 hours in composition, rhetoric, grammar, and linguistics. The following courses may be counted toward the 12-hour total:

**English 10**, Composition  
**English 65**, Honors Exposition  
**English 160**, Advanced Expository Writing

**Note:** English 160, Advanced Expository Writing is **required**. English 22, Traditional Grammar, may not be counted toward fulfilling the certification requirement.

In addition, students must complete 6 hours from the following:

**English 220**, Development of the English Language  
**English 221**, American Dialects  
**English 321**, English Phonology and Dialectology  
**English 322**, Modern English Grammar

Courses in professional education listed as requirements under the secondary education department are also required for secondary certification.

## **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 A.B. 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, English 10, and English 65. At least 12 of these hours must be at the 200 or 300 level. Every student taking a minor in English must consult with an advisor in the English Department in order to ensure a coherent program of studies. The G.P.A. in courses for the minor must be 2.0 or better.

## **Certificate Program in Writing**

A student may receive a Certificate in Writing by completing a total of eighteen hours in writing courses chosen from the following:

**English 160**, Advanced Expository Writing  
**English 161**, Technical Writing  
**English 115**, Feature Writing  
**English 116**, News Writing  
**English 161**, Technical Writing  
**English 162**, Business Writing  
**English 50**, Short Story Writing  
**English 51**, Poetry Writing  
**English 251**, Advanced Creative Writing  
**English 230**, Writing Literary Criticism  
**Speech 212**, Writing for Radio and Television  
**English 295**, Seminar in Writing (This seminar 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.)

Courses taken to fulfill requirements for the Writing Certificate may not be taken on pass/fail.

## English

### Graduate Studies

#### Admission Requirements

To enter the graduate program in English, a candidate must satisfy the requirements both of the Graduate School (see p. 29 in this *Bulletin*) and of the Department of English. A candidate should have a bachelor's degree, with at least twenty-four 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; 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.

At the outset of the program, students must take English 400, Introduction to Graduate Study, 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 UMSL graduates in English are working in journalism, editing, advertising, public relations, and other fields that place a premium upon creation and interpretation of the written word. Numerous recent English majors have successfully entered law school.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

English 10, Composition, or its equivalent, is a general prerequisite for all English courses numbered 131 and above. This, and other specific prerequisites, may be waived by consent of the department.

#### Composition

##### 09 Basic Writing (3) (F,W)

A review of elementary principles of writing expository prose. Special attention is given to sentence clarity, organization, the clear and orderly development of ideas, and good diction. The course does not fulfill the university requirement in communicative skills. **No credit toward any degree.**

##### 10 Freshman Composition (3) (F,W)

Prerequisite: Satisfactory performance on Essay Proficiency Test or a grade of C or better in English 09. Theory and practice of writing expository prose. Does not count toward the major in English.

##### 50 Short Story Writing (3) (F,W)

Prerequisite: English 10 or equivalent. Theory and practice of writing the short story. [H]

##### 51 Poetry Writing (3) (F,W)

Prerequisite: English 10 or equivalent. Theory and practice of writing poetry. [H]

# English

## **65 Honors Exposition (3) (F,W)**

Prerequisite: Honors qualification on Essay Proficiency Test. May not be taken in addition to English 10. Practice in expository writing, with readings in literature and related fields on topics to be announced each semester. Does not count toward the major in English.

## **115 Feature Writing (3) (F,W)**

Prerequisite: English 10 or equivalent. Readings from quality feature writing in the best American papers and magazines. Emphasis upon newspaper feature writing, magazine article writing, and book reviewing. Practical application in writing feature articles for newspapers and magazines.

## **116 News Writing (3)**

Prerequisite: English 10 or equivalent. Readings from quality reporting in the best American papers. Basic news writing, reporting, style, techniques of interviewing. Practical application in writing news and news feature articles for newspapers.

## **160 Advanced Expository Writing (3) (F,W)**

Prerequisite: Completion of English 10 composition requirements by Essay Proficiency Test, grade of C or better in English 10, or the equivalent. Development of the writer's style and critical and analytical capabilities. Course offers an introduction to research methods. Course fulfills the general education requirement in Communicative Skills. For English majors this course is a prerequisite or corequisite to 300-level English courses. May not be taken pass-fail.

## **161 Technical Writing (3)**

Prerequisite: English 10 or equivalent. The major elements of industrial technical writing. Writing assignments include technical definitions, abstracts and summaries, mechanism descriptions, instructions, process analyses, technical reports and proposals. Emphasis is placed on clarity, conciseness, organization, format, style and tone. The course includes an introduction to research methods and documentation. All readings are selected from industrial material. Fulfills the University requirement for a junior level course in communicative skills, subject to the approval of the student's major department.

## **162 Business Writing (3)**

Prerequisite: English 10 or equivalent. The major elements of business writing. Writing assignments include business correspondence (inquiry, complaint, employment letters, etc.), reports (informal, travel, periodic, etc.), proposals (sales, etc.), analysis (marketing research, etc.), and writing for business house organs (company newsletters, etc.). Emphasis is placed on clarity, conciseness, organization, format, style and tone. The course includes an introduction to research methods and documentation. All readings are selected from business material. Fulfills the University requirement for a junior-level course in communicative skills, subject to the approval of the student's major department.

## **230 Writing Literary Criticism (3)**

Prerequisite: Two college courses in literature. Intensive training in the writing of literary criticism, with some attention to bibliography and to methods of research in literature. [H]

## **251 Advanced Creative Writing (3)**

Prerequisite: English 50, 51, or instructor's permission. Course is limited to students with experience as writers. Workshop in poetry and fiction writing. [H]

## **295 Seminar in Writing (3)**

Prerequisite: English 10 or equivalent. Course is limited to students who are completing their Certificates in Writing. Topics will generate individual projects from each member of the seminar. Enrollment limited to twelve.

## Language

### **22 Traditional Grammar (3)**

An introduction to the basic terms and concepts of traditional grammar, beginning with the parts of speech and moving to more complex structures such as participles, gerunds, and clauses. Includes an introduction to conventions of formal usage. May not count toward the six hours in grammar and linguistics required for secondary certification.

### **220 Development of the English Language (3) (F,W)**

An historical survey of the English language with primary emphasis on the development of modern English from earlier periods of the language. [H]

### **221 American Dialects (3)**

A study of dialects in the United States, including regional and social variation, formal and informal styles, the concept of a standard dialect, and the use of dialect in literature.

### **322 Modern English Grammar (3)**

A detailed study of modern English sentence structure in terms of current theories of linguistic description, with special emphasis on transformational grammar. [H]

## Literature

### **12 Literary Types (3) (F,W)**

The student is introduced to the various literary types, including poetry, drama, fiction, and the essay. [H]

### **13 Topics in Literature (3) (F,W)**

This course will introduce the student to selected literary topics and/or genres. Each semester the department will announce topics and course content. Topics such as alienation, justice, and the absurd, and genres such as science fiction and contemporary drama are typical possibilities. [H]

## English

### 14 Short Subjects (1)

A course on special, limited subjects in literature, language, or writing. Content will vary from semester to semester. Subject matter may include, for example, Shakespeare's sonnets, the novels of Tolkien, Wertmüller's films, or any other topics suitable for treatment in a one-hour course. Since the topics of English 14 may change each semester, the course may be repeated once for credit if the topic is substantially different.

### 17 American Literary Masterpieces (3) (F,W)

An introduction to major themes and works in American literature from the nineteenth century to the present. Selected works from Hawthorne, Poe, Melville, Whitman, Twain, James, Frost, Hemingway, Faulkner, O'Connor, Plath, and Bellow. [H]

### 33 Sophomore Honors (3)

Discussions based on the careful reading of a number of significant creative works that form part of the literary heritage of Western civilization, from antiquity to the present day. Limited to students in the Sophomore Honors program.

### 120 Classical Literature in Translation (3)

The civilization of ancient Greece and Rome as reflected by their major creative writers in some of their principal works: the epics of Homer and Vergil; the plays of Aeschylus, Sophocles, Euripides, Aristophanes, Plautus, Terence and Seneca; the lyrics of Sappho and Catullus; the satire of Petronius; and Ovid's rendering of the classical myths. [H]

### 123 Jewish Literature (3)

This course will examine the traditional Jewish literature of the Bible and later legends found in the Talmud and Midrash and will also consider later phases of Jewish literature, both sacred and secular. These will include Medieval folklore and Hasidic tales. [H]

### 124 Literature of the New Testament (3)

A comprehensive understanding of the New Testament, its literary background and significance for Western civilization. [H]

### 125 Literature of the Old Testament (3) (F)

Prerequisite: Sophomore standing or consent of instructor. A comprehensive understanding of the Old Testament, its literary background and significance for Western civilization. [H]

### 126 Continental Medieval Masterpieces in Translation (3)

A survey of masterworks of the early and later Middle Ages, to include the *Divine Comedy*, *Nibelungenlied*, *Song of Roland*, *El Mio Cid*, selections from Chretien de Troyes, Boccaccio's *Decameron*, and Machiavelli's *The Prince*. [H]

### 127 Survey of European Literature from 1650 to the Second World War (3)

Works of continental writers such as Molière, Goethe, Dostoevsky, Ibsen and Kafka, read in translation. [H]

### 128 The Contemporary World in Literature (3)

Selected American, British, and Continental literature since the Second World War. [H]

### 131 English Literature I (3) (F,W)

The development of English literature from the Middle Ages through the eighteenth century. Reading and analysis of representative works of selected major writers. [H]

### 132 English Literature II (3) (F,W)

The development of English literature during the nineteenth and twentieth centuries. Reading and analysis of representative works of selected major writers. [H]

### 133 Introduction to Poetry (3) (F,W)

A close study of poems, with special emphasis on the varieties of poetic form, and the means of interpretation and evaluation. The works studied will be primarily English and American, and from at least three different centuries. [H]

### 134 Introduction to Drama (3) (F,W)

A close study of major dramatic works in various modes, to introduce the student to the forms and techniques of dramatic literature. The works studied will be primarily English and American, and from at least three different centuries. [H]

### 135 Introduction to Fiction (3) (F,W)

A close study of major prose fiction, with particular attention to the varieties of fictional forms and techniques. The works studied will be primarily English and American, and from at least three different centuries. [H]

### 171 American Literature I (3) (F,W)

Representative selections from American authors from the middle of the seventeenth century to the middle of the nineteenth century. [H]

### 172 American Literature II (3) (F,W)

Representative selections from American authors from the middle of the nineteenth century to the present. [H]

### 210 Themes and Forms in Literature (3)

The study of particular literary ideas, modes, and genres, and their significance. Topics announced in advance by the department. Since the topics of English 210 may change each semester, the course may be repeated for credit if the topic is substantially different. [H]



# English

## 270 Afro-American Literature (3) (F,W)

A survey of prose, poetry, and drama by Black Americans from the period of enslavement through the Negro Renaissance to the present. [H]

## 280 Topics in Women and Literature (3) (F,W)

An examination of the role of women in literature, either as figures in literary works or as writers. Specific topics to vary from semester to semester. Since the topics of English 280 may change each semester, the course may be repeated for credit if the topic is substantially different. [H]

## 310 Continental Fiction (3)

The development of the European novel in the nineteenth and twentieth centuries. Representative works of writers such as Balzac, Flaubert, Dostoevsky, Tolstoy, Kafka, and Proust, read in translation. [H]

## 315 Literary Criticism (3)

Historical survey of the principles of literary criticism from Plato to the present. [H]

## 324 Chaucer (3)

The course concentrates on the poetry of Geoffrey Chaucer, including the *Canterbury Tales*, early poetic works, and *Troilus and Cressida*. All readings are in the original Middle English. [H]

## 325 Medieval English Literature (3)

A survey of Old and Middle English literature from *Beowulf* to Malory's *Morte D'Arthur*, exclusive of Chaucer. All works are read in modern English translations. [H]

## 332 Elizabethan Poetry and Prose (3)

Spenser, Sidney, Wyatt, and the other poets of the later sixteenth century. The origin and development of prose fiction. [H]

## 337 Shakespeare: Tragedies and Romances (3) (F,W)

The development of Shakespeare's concept of tragedy and tragicomedy from *Titus Andronicus* to *The Tempest*. The plays will be related to the social and literary milieu of the period. [H]

## 338 Shakespeare: Comedies and Histories (3)

Shakespeare's early work for the theatre with some attention to the sonnets and longer poems. An historical background for a study of all the plays, including discussions of Elizabethan society, the world of the stage, and Shakespeare's biography. [H]

## 339 Tudor and Stuart Drama (3)

A survey of the dramatic writings of the period from the interludes of John Heywood to the closing of the theatres in 1642, with particular attention to the plays of Marlowe, Jonson, Webster, and Ford. Though Shakespeare will not be studied in this course,

connections between his works and those of his contemporaries will be discussed. [H]

## 342 Early Seventeenth Century Poetry and Prose (3)

Donne, Jonson, Marvell, Bacon, and other poets and essayists of the metaphysical, cavalier and baroque schools, exclusive of Milton. [H]

## 345 Milton (3)

All the minor poems and the three longer poems with some attention to the major prose. Milton and his relation to the politics, theology, and literature of the seventeenth century. [H]

## 346 Restoration and Eighteenth-Century Drama (3)

The principal tragedies and comedies from Dryden to Sheridan, including the plays of Congreve, Farquhar, Rowe, Gay, Fielding, Goldsmith, among others. [H]

## 352 Age of Dryden and Pope (3)

The beginnings of English neo-classic literature in the Restoration and its development through the first half of the eighteenth century, focusing on Dryden, Swift, and Pope. [H]

## 353 Age of Johnson (3)

The breakdown of neo-classic spirit and the introduction of the 'new' poetry and novel. Consideration of Fielding, Johnson, Thompson, Young, Goldsmith, Sheridan, and others. [H]

## 364 The Eighteenth-Century English Novel (3)

The origins and early development of the English novel, from Defoe to Jane Austen. [H]

## 365 The Nineteenth-Century English Novel (3)

The later development of the English novel, from Scott to Conrad. [H]

## 368 Early Romantic Poetry and Prose (3)

The English Romantic Movement with special emphasis on the early writers—Blake, Wordsworth, and Coleridge. Additional readings in selected prose writers and minor poets. [H]

## 369 Later Romantic Poetry and Prose (3)

The English Romantic Movement with special emphasis on the later writers—Byron, Shelley, and Keats. Additional readings in selected prose writers and minor poets. [H]

## 371 Prose and Poetry of the Victorian Period (3)

Critical readings of selections from Tennyson, Browning, Arnold, and others, in addition to selections from the major prose writers. [H]

## 372 The Later Nineteenth Century (3)

Poetry, drama, and fiction of the period between 1870 and the First World War. Hardy, Hopkins, Conrad, Shaw, Wilde, Yeats, and others. [H]

## English

### **373 Selected Major American Writers I (3)**

American literature of the nineteenth century: Emerson, Thoreau, Hawthorne, Melville, Whitman, and others. [H]

### **374 Selected Major American Writers II (3)**

American literature of the late nineteenth and early twentieth centuries: James, Twain, Stephen Crane, Dreiser, and others. [H]

### **375 American Fiction to World War I (3)**

Development of the novel and short story in America. [H]

### **376 Modern American Fiction (3)**

The novel and short story in America since World War I. There may be some attention to British and Continental influences. [H]

### **383 Modern British Fiction (3)**

Critical reading and analysis of British fiction of the twentieth century. There may be some attention to American and Continental influences. [H]

### **384 Modern Poetry (3)**

Critical reading and analysis of poetry of the late nineteenth and early twentieth centuries: Yeats, Eliot, Frost, Williams, and others. [H]

### **385 Modern Drama (3)**

British, American, and European drama of the last 100 years: the well-made play, the problem play, verse drama, new definitions of tragedy, the angry theater, and theater of the absurd. [H]

### **386 Poetry Since World War II (3)**

Reading and analysis of contemporary poetry. [H]

### **400 Introduction to Graduate Study in English (3) (F)**

A course especially designed to prepare students to perform effectively in graduate classes in English. The course is concerned with basic bibliographical tools; terminology, both technical and historical; various approaches to the study of literature, such as intrinsic analysis of a literary work, the relationships of biography to literary study, and the relevance of other disciplines (psychology or philosophy, for example) to literature; and the writing of interpretive and research essays. Throughout the semester a balance between criticism and research is maintained.

### **410 Modern Linguistics (3)**

Prerequisite: None. A study of selected topics in the structure of the English language, combining readings in current linguistics publications with original research.

### **415 Literary Criticism (3)**

An examination of selected theories of literature.

### **420 Old English (3)**

Elements of Old English grammar and reading exercises from Anglo-Saxon literature.

### **421 Studies in Middle English Literature (3)**

Special topics in English literature before 1500.

### **430 Renaissance Literature (3)**

Special topics in English literature from 1500 to 1660.

### **450 Eighteenth-Century Literature (3)**

Studies in Augustan poetry and prose, including drama and fiction, with emphasis on background and major figures.

### **460 Studies in Poetry (3)**

Study of a few selected British and American poets.

### **465 Studies in Fiction (3)**

Study of a few selected British and American novelists and short story writers.

### **467 Studies in Drama (3)**

Study of a few selected British and American dramatists.

### **470 Nineteenth-Century Literature (3)**

Special topics in English Romanticism, in Victorian life and thought, and in the development of the novel and of poetry between 1797 and 1914.

### **475 American Literature Before 1900 (3)**

Prerequisite: None. Selected American writers or topics from the Colonial period to 1900.

### **476 Twentieth-Century American Literature (3)**

Prerequisite: None. Selected American writers or topics from 1900 to the present.

### **480 Twentieth-Century British Literature (3)**

Prerequisite: None. Selected British and Commonwealth writers of the twentieth century.

### **495 Seminar in Special Topics (3)**

Special topics which are not covered in other graduate-level English courses.

### **497 Independent Reading (1-3)**

Directed study in areas of English for which courses are not available.

### **499 Master's Essay (3)**

Preparation of a concise essay equivalent in length to a substantial article in which the student demonstrates ability to do research, to offer perceptive criticism and evaluation, and to write clearly and effectively.

# English

## Special Offerings

### 90 Freshman Seminar (3)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to 12 students. [H]

### 250 Special Studies (1-3) (F,W)

Prerequisite: A course in area of proposed work and consent of instructor. Individual work, with conferences adjusted to needs of the student. May not be used to meet specific English department distribution and language requirements. May be repeated for a maximum total of four hours credit. [H]

### 262 The Curriculum and Methods of Teaching English (3) (F,W)

(Same as SEC ED 232) Prerequisite: SEC ED 213 and a near-major in the subject matter. A study of the scope and sequence of the English courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of English. To be taken concurrently with student teaching.

### 390 Seminar (3)

Prerequisite: Consent of instructor. Intensive reading, critical discussion, and writing on topics to be announced by the department. Since the topics of English 390 may change each semester, the course may be repeated for credit if the topic is substantially different. Enrollment limited to 12 students. [H]

## Library Science

### 220 Introduction to Cataloging (3)

Cataloging of books using Anglo-American cataloging rules and the Dewey classification. Does not count toward the major in English.

### 221 Selection and Acquisition of Library Materials (2)

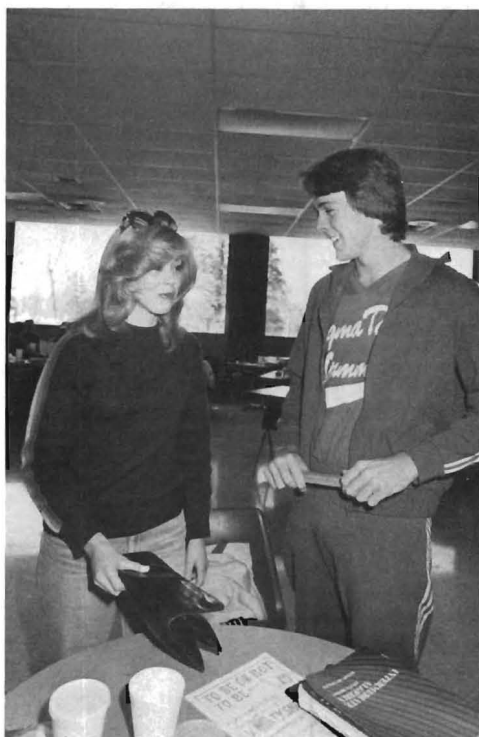
Introduction to types of materials in library; their source of supply, evaluation, selection sources, as well as acquisitions routines and procedures. Does not count toward the major in English.

### 222 Introduction to Reference (3)

Introduction to reference materials and procedures including automated reference sources. Does not count toward the major in English.

### 223 Administration of School Libraries/Media Centers (3)

Operational objectives and functions of school learning resource centers including physical facilities, personnel standards. Does not count toward the major in English.



## History

### Faculty

**Louis S. Gerteis**, Chairperson; Associate Professor\*

Ph.D., University of Wisconsin

**Richard H. Mitchell**, Professor\*

Ph.D., University of Wisconsin

**James Neal Primm**, Professor\*

Ph.D., University of Missouri-Columbia

**George F. Putnam**, Professor\*

Ph.D., Harvard University

**Arthur H. Shaffer**, Professor\*

Ph.D., University of California-Los Angeles

**Everett Walters**, Professor Emeritus

Ph.D., Columbia University

**Mark A. Burkholder**, Associate Professor\*; Associate Dean, College of Arts and Sciences

Ph.D., Duke University

**Roy Gene Burns, Jr.**, Associate Professor\*

Ph.D., University of Missouri-Columbia

**Jerry M. Cooper**, Associate Professor\*

Ph.D., University of Wisconsin

**Walter Ehrlich**, Associate Professor\*

Ph.D., Washington University

**Paul Corby Finney**, Associate Professor\*

Ph.D., Harvard University

**Susan M. Hartmann**, Associate Professor\*

Ph.D., University of Missouri-Columbia

**Winston Hsieh**, Associate Professor\*

Ph.D., Harvard University

**Charles P. Korr**, Associate Professor\*

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**William S. Maltby**, Associate Professor\*

Ph.D., Duke University

**Howard S. Miller**, Associate Professor\*, Graduate Coordinator

Ph.D., University of Wisconsin

**Richard W. Resh**, Associate Professor\*

Ph.D., University of Wisconsin

**James L. Roark**, Associate Professor\*

Ph.D., Stanford University

**Steven W. Rowan**, Associate Professor\*

Ph.D., Harvard University

**Blanche M. Touhill**, Associate Professor\*, Associate Vice Chancellor for Academic Affairs

Ph.D., St. Louis University

**John A. Works, Jr.**, Associate Professor\*

Ph.D., University of Wisconsin

**John R. Gillingham**, Assistant Professor\*

Ph.D., University of California-Berkeley

**Steven C. Hause**, Assistant Professor\*

Ph.D., Washington University

**George P. Rawick**, Lecturer

Ph.D., University of Wisconsin

\*members of Graduate Faculty

### General Information

The study of history, in addition to providing background for all other subjects and disciplines, is the core of a liberal 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 historical discipline.

**Degrees and Areas of Concentration** The history department offers work in Asian, African, European, Latin American and United States history from ancient to modern times. At the bachelor's level the department offers several degree programs for the A.B. in history, and, in cooperation with the School of Education, the A.B. 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 general areas of emphasis in Latin American, European, Asian and United States history. In addition, the department participates in several cooperative programs with the National Park Service and the Federal Records Administration.

### Undergraduate Studies

#### General Education Requirements

History majors must meet the university and college general education requirements (see pp. 19-20 and p. 56). History courses that will satisfy the university's social science requirement are:

**History 3**, American Civilization

**History 4**, American Civilization

**History 107**, 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 pass-fail.

# History

## Levels of Courses

The history department has categorized courses as follows:

### Level I: Introductory Courses/Surveys

The courses numbered 1 through 99 are designed to introduce beginning students to broad areas of historical study. There are no prerequisites.

### Level II: Introductory Courses/General Interest

Courses numbered 100 through 199 are designed for students with a general interest in history. There are no prerequisites.

### Level III: Specialized Courses

Courses numbered 200 through 399 are designed for all students in the upper division who desire to pursue in detail the study of a particular historical period or topic.

## 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:

**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 293**, Senior Seminar

### Also required:

A minimum of **18 hours** at Level III, distributed as follows:

1. **One** Level III course in **United States history**, pre-1865
2. **One** Level III course in **United States history**, post-1865
3. **One** Level III course in **European history**, pre-1715
4. **One** Level III course in **European history**, post-1715
5. **One** Level III course in **Non-Euro-American history**
6. **One** additional Level III course

No more than 45 hours may be taken in history, and a minimum of 36 hours must be C or better work.

## Minor in History

Students may minor in history by taking **18 hours** of history courses as follows:

1. **One** Level I or Level II course in **each** of the following areas: United States history, European history, and Non-Euro-American history
2. **One** Level III course 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 discipline of breadth, it can be combined with serious work in any other discipline. Students could take courses in the humanities, social sciences, languages, and the natural sciences as complements to the history program. Students should consult with faculty advisers to select courses suited to their individual interests.

## Bachelor of Arts with Teacher Certification

See the School of Education description.

## Bachelor of Science in Education: Emphasis in Social Studies

The requirements are the same as for the A.B. 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 School of Education section.

## Graduate Studies

Two programs of study leading to the M.A. in history are offered by the history department. One program emphasizes breadth of historical knowledge acquired through graduate coursework, while the other emphasizes research competence through writing a master's thesis. Both programs offer intermediate training for students wishing to continue in doctoral programs, advanced training for those preparing for teaching careers, and disciplined advanced work for students with avocational interests in history.

## History

The general study areas for the degree are European (including Britain), United States, East Asian, and Latin American history. Within these general areas students may specialize in the following fields: Europe to 1715, Europe 1715-present; China and Japan, United States to 1865, United States after 1865, and Latin America.

### Admission requirements

In addition to the general requirements of the Graduate School, applicants must meet several requirements of the history department. The applicant's baccalaureate studies need not have been in history, but they must show high academic potential. Normally, only students with a 3.2 grade-point average in their major and 3.0 overall are admitted, and most successful applicants have higher grades. All applicants should perform satisfactorily on the Graduate Record Examination aptitude test; the advanced test in history is optional. All applicants must submit three letters of recommendation, preferably from former teachers. Finally, all applicants must submit a sample of their written work. This sample need not be academic work, and its length is not a consideration. The Graduate Committee of the history department bases its decisions of admission upon the undergraduate transcript, the GRE scores, the letters of recommendation, and the sample of written work.

### Degree Requirements

**Master of Arts in History** Candidates should take 30 hours of graduate work at the 400 level; no more than 9 hours may be in history or related fields at the 300 level. Candidates selecting European or United States history must take two fields within that area. Before completing 15 hours, students must decide whether to pursue the research papers option or thesis option for the remainder of their program.

Before receiving the M.A. degree, students must demonstrate competence in a foreign language or in quantitative methods as applied to history. Competence in a foreign language may be shown by the candidate's performance on the GSFLT examination. Competence in quantitative methods may be certified by a grade of B in a program of study chosen in consultation with the Graduate Committee.

### Research Papers Option

At least 21 hours must be taken in 400-level reading courses within the department, and at least 3 of those hours must be outside the student's general area. Certain 400-level reading courses, designated by asterisks in the course schedule, may be taken for either 3 or 5 hours. To receive 5 credit-hours, students must write a substantial research paper, normally not to exceed 25 pages in length, in addition to regular coursework. Students electing the research paper option must take two of these 5-hour courses. They may elect to take other asterisked courses for 3 hours credit.

### Thesis Option

At least 15 hours must be taken in 400-level reading courses within the department, and at least 3 of these hours must be outside the student's general area. Students electing the thesis option may enroll in 400-level courses designated by asterisks in the course schedule for 3 credit hours, but may not write the research paper in such courses.

The core of the thesis program is a 6-hour, year-long seminar in which students write an original thesis based principally on primary sources. The maximum length for the thesis normally does not exceed 100 pages of text. Students receive a grade for their 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 students following consultation with the major professor. One member of the committee must be outside the student's general area, and one may be from outside the history department.

The advisory committee administers an oral examination on the thesis during the candidate's last semester of residence. The committee decides by majority vote whether a student shall pass, fail, or have the option to repeat the examination at a later date. Students may not take the examination more than twice. The second examination must be held no less than one and no more than two semesters from the date of the first examination. Summer session may be counted as a semester under this provision, but students should be aware of the difficulties involved in gathering faculty committees during the summer.

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## Career Outlook

Graduates with degrees in history generally seek employment in the fields of teaching, civil service, and social service. Growing public interest in local history and genealogy is creating new employment opportunities in museums, archives, and historic preservation agencies. Skills in research and writing also prepare history graduates for careers in law, public relations, and advertising, and for a broad spectrum of job opportunities in the communications industry.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

### 3 American Civilization (3)

Evolution of the cultural tradition of the Americas from the earliest times to the mid-nineteenth century with emphasis on the relationship of ideas and institutions to the historical background. Course fulfills the state requirement. [SS]

### 4 American Civilization (3)

Continuation of History 3 to the present. Course fulfills the state requirement. Either History 3 or 4 may be taken separately. [SS]

### 31 Topics in European Civilization: The Emergence of Western Europe to 1715 (3)

Lectures and discussions on the development of Western European society and tradition from approximately 1000 to 1715. [SS]

### 32 Topics in European Civilization: 1715 to the Present (3)

Lectures and discussions on the development of Western European society and tradition from 1715 to the present. [SS]

### 33 Honors Western Civilization (3)

Prerequisite: Admission to sophomore honors program. A survey of major topics in the history of western civilization from the ancient world to the twentieth century will be presented with emphasis upon discussion of readings in original documents and excerpts from major works of the past in all fields. [SS]

### 61 East Asian Civilization (3)

The development of Asian civilization from earliest times to the Manchu conquest. [SS]

### 62 East Asian Civilization (3)

Continuation of History 61 with emphasis on the Asian

response to the Western Incursion. Either History 61 or 62 may be taken separately. [SS]

### 71 Latin American Civilization (3)

A survey of selected topics important in the development of Latin America from pre-Columbian times to the twentieth century. [SS]

### 81 African Civilization to 1800 (3)

Introduction to African cultural history from the emergence of Early Man to the abolition of the Atlantic slave trade. [SS]

### 82 African Civilization since 1800 (3)

Survey of African initiative and response in the period spanning the loss and reassertion of independence. History 81 or 82 may be taken separately. [SS]

### 100 Topics in History (1-3)

A seminar on special topics in history to be determined by the field and interests of the instructor. [SS]

### 101 History of Women in Comparative Cultures (3)

An introduction to the historical development of women's status in a variety of cultures and periods within the areas of Africa, Europe, the Far East, Latin America, and the Middle East. The course analyzes women's political, economic, familial, and sexual roles and the economic, demographic, ideological, and political forces which promoted change and continuity in those roles. [SS]

### 103 Sport and Society (3)

The course looks at organized sport in Western society as a form of social history. Some attention is paid to the period from the early Olympic games through the end of the eighteenth century. The major part of the course will deal with the role of organized team sport in post-industrial (since 1870) Great Britain and the United States. It also attempts to compare the social structure and values of the two societies.

### 107 The History of Missouri (3)

Lecture and readings. Seventeenth-century Spanish and French explorations and interaction with the Indians; settlement and organization of the Louisiana territory; lead mining and the fur trade; the Louisiana Purchase; the Missouri territory; the struggle for statehood and slavery; ante-bellum politics; banking and internal improvements; westward expansion; Civil War and Reconstruction; post-war agrarian politics; industrialization; Irish, German, and southern European immigration; the Progressive reforms—political and economic changes; and twentieth-century social changes and political developments. [SS]

### 109 War and Society in the Modern World, 1415 to the Present (3)

A survey of Western military history and its effect on the social, political, and economic structures of society.



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### **112 United States Diplomatic History (3)**

An analysis of the development, formulation, and implementation of United States foreign policy, including the role of the president, Congress, Department of State, and other agencies. Reference will be made to the interdependence of domestic and foreign problems and policies. [SS]

### **113 American Military History (3)**

A study of American military institutions from colonial times to the present. The impact of the military upon American social, political, and economic life, as well as civilian attitudes toward the services. [SS]

### **120 Black History in the United States (3)**

The experience of black people in America from the period of the slave trade to the twentieth century, beginning with the areas and cultures of West Africa. The development and importance of slave trade; the institutionalization of slavery; black resistance to bondage; the role of blacks during the Civil War and Reconstruction period; the rise of segregation and disfranchisement of blacks; the testing of laws; and the protest and revolutionary movements of today. [SS]

### **130 Ancient Civilization (3)**

Selected topics in the history of the Ancient Near East, Greece, and Rome. [SS]

### **144 Christianity: Jesus to Martin Luther (3)**

A review of the main trends of doctrinal and institutional development in the Christian Church from the origins of the religion until the Protestant Reformation, stressing the Western Catholic tradition. [SS]

### **155 Slavic Civilization (3)**

The historical development of the Western Slavs (Poles, Czechs, and Slovaks), the Southern Slavs (Croats, Serbs, and Bulgarians), and the Eastern Slavs (Russians and Ukrainians). The course covers the history of the Slavic peoples from the beginnings to the present day. Emphasis is placed on the triumph of national self-consciousness (nineteenth century), independence (1918-45), and Communist era (1945 to the present). [SS]

### **162 The Chinese Revolution: Readings in Literature (3)**

An introduction to the Chinese Revolution in modern times—to cover its historical and social roots, the passions and the theories used by revolutionaries. Since literature both reflects and is used in the revolutionary process, systematic readings will be directed to biographies, short stories, novel selections, poems, travelogues, and essays. To be supplemented with movie films and slide studies. [SS]

### **168 Photohistory (3)**

American life from 1839 to the present as recorded by the camera; the role of photography in the development

of modern American culture; techniques for the interpretation of photographic documents. The course format includes lectures, discussions, and independent research.

### **200 Topics in History (3)**

A course dealing with special interest topics at the 200-level, determined by the field and availability of instructors and student interest. The course may be repeated for credit with the consent of the instructor. [SS]

### **255 Curriculum and Methods of Teaching History and Social Studies (3)**

Prerequisites: SEC ED 213 and a near-major in the subject matter. A study of the scope and sequence of the history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of history and social studies. May not be counted toward a major in history. To be taken concurrently with student teaching.

### **261 Modern Japan: 1850 to Present (3)**

The economic, social, and political development of modern Japan. [SS]

### **262 Modern China: 1800 to Present (3)**

The economic, social, and political development of modern China. [SS]

### **271 History of Latin America: to 1808 (3)**

Latin America from the American civilizations to 1808, stressing social, political, and economic institutions in the Spanish colonies. [SS]

### **272 History of Latin America: Since 1808 (3)**

Emphasis on the attainment of political independence and social, political, and economic developments of the nineteenth and twentieth centuries in Latin America. [SS]

### **281 West Africa Since 1800 (3)**

Analysis of change in the savanna/forest societies occasioned by Islamic reform and the end of the slave trade; the imposition of colonial rule and African response; growth of nationalist protest; and post-independent development. [SS]

### **282 Crisis in Southern Africa (3)**

Historical roots of apartheid and black nationalism in South Africa and Rhodesia/Zimbabwe. Foundation of white African societies; Khoisan resistance; the Mfecane and African state formation; the mineral revolution; colonialism versus autonomy; and the current confrontation of rival ideologies. [SS]

### **293 Senior Seminar (3)**

Prerequisite: Consent of department. Required for all

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senior history majors who are candidates for graduation with honors. Recommended for all history majors planning to attend graduate school. Directed readings, research, and writing.

## **300 Selected Topics in History (3)**

Prerequisite: Junior standing or consent of instructor. A course on special topics in history to be determined by the field, availability of instructors, and interest of students. The course may be repeated for credit with the consent of the instructor. [SS]

## **301 United States History: Colonial America to 1763 (3)**

Prerequisite: Junior standing or consent of instructor. English background of colonization; rise of distinctive New England and Southern societies; and English colonial policy to the Peace of Paris. [SS]

## **302 United States History: Revolution and the New Nation, 1763-1815 (3)**

Prerequisite: Junior standing or consent of instructor. The American Revolution and the creation of the new nation. The young republic and the development of the first American party system. [SS]

## **303 United States History: Nationalism and Sectionalism, 1815-1860 (3)**

Prerequisite: Junior standing or consent of instructor. The Era of Good Feelings, the Age of Jackson, Manifest Destiny, and the political and social developments of the ante-bellum period relating to the growth of sectionalism and the developing antislavery crusade. [SS]

## **304 United States History: 1860-1900 (3)**

Prerequisite: Junior standing or consent of instructor. The Civil War; Reconstruction; and industrial and urban expansion and their impact on American life. [SS]

## **305 United States History: 1900-1940 (3)**

Prerequisite: Junior standing or consent of instructor. The economic, political, and social developments and crises of the mature industrial United States. The growing importance of foreign relations. [SS]

## **306 United States History: 1940 to the Present (3)**

Prerequisite: Junior standing or consent of instructor. The economic, political, and social developments and crises of the post-industrial United States. The role of foreign affairs in American life. [SS]

## **311 Topics in American Constitutional History (3)**

Prerequisite: Junior standing or consent of instructor. Origins and development of the principal institutions and ideas of the American constitutional system; the role of the Constitution and the Supreme Court in the growth of the nation; important Supreme Court decisions; great American jurists and their impact upon the law; historical background to current constitutional issues. [SS]

## **314 American Foreign Policy Since 1941 (3)**

Prerequisite: Junior standing or Consent of Instructor. A study of the change in American foreign policy since Pearl Harbor. Particular attention to the Truman Doctrine, the Cold War, the Vietnam War and normalization with China. [SS]

## **320 History of Feminism in Western Society (3)**

Prerequisite: Junior standing or consent of instructor. History of feminist movement and feminist thought on the status of women, family, work, and sexuality in the United States, Great Britain, Western Europe, and Russia, as well as the relationship between feminist theory and the feminist movement. [SS]

## **321 History of Women in the United States (3)**

Prerequisite: Junior standing or consent of instructor. Development of women's economic, political, and social role in the United States with special emphasis on the nineteenth and twentieth centuries. Women and work; women and the family; women and reform movements; women and education; feminist theorists and activists; and images of women. [SS]

## **327 History of the American South (3)**

Prerequisite: Junior standing or consent of instructor. Southern society and culture and the South's relationship with the nation. [SS]

## **330a The Ancient World: Israel (3)**

Prerequisite: Junior standing or consent of instructor. Survey of Israel's history from the formation of the people to the final revolt under Simon Bar Kochba (132-135 C.E.). [SS]

## **330b The Ancient World: The History of Greece to the End of the Hellenistic Period (3)**

Prerequisite: Junior standing or consent of the instructor. A survey-lecture course, beginning with the Aegean in the Bronze Age; Hellenic Civilization from the eighth through the fifth centuries B.C.; the Hellenistic World down to the first century B.C. [SS]

## **330c The Ancient World: Rome (3)**

Prerequisite: Junior standing or consent of instructor. Survey of Roman history from its beginning to 565 A.D.

## **330d History of the Church: Early Christianity (3)**

Prerequisite: Junior standing or consent of instructor. Brief introduction to Jewish, Greek, and Roman antecedents. Christian beginnings, and the emergence of Christian traditions, to the Council of Nicea (325 A.D.). [SS]

## **330e History of the Church: The Middle Ages (3)**

Prerequisite: Junior standing or consent of instructor. A topical study of the Christian Church in Europe as an autonomous and central institution from the sixth century through the Reformation Crisis. Special attention will be given to the relations between the Church and the

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secular world, and the contributions of medieval Christianity to the development of European institutions and ideas. [SS]

### **330f Medieval England (3)**

Prerequisite: Junior standing or consent of instructor. A brief summary of the Anglo-Saxon heritage and the impact of the Norman Conquest, followed by an investigation of institutional, social, and legal evolution of the Realm of England. English development will be viewed in its European context. [SS]

### **330g Europe in the Early Middle Ages (3)**

Prerequisite: Junior standing or consent of instructor. The end of the Roman Empire as a universal entity; the successor states of the Mediterranean and Northern Europe; the emergence of a Western Christendom under the Franks; the development of feudal states; the Gregorian reforms; the Crusades; and the revival of education and learning in the twelfth century. [SS]

### **330h Europe in the High and Late Middle Ages (3)**

Prerequisite: Junior standing or consent of instructor. Medieval society at its political, economic, and intellectual zenith; the crisis of the later Middle Ages; the papal schism and the development of national particular churches with Catholicism; and the rise of estate institutions. [SS]

### **331a The Age of the Renaissance (3)**

Prerequisite: Junior standing or consent of instructor. The Italian and Northern Renaissance as a distinct age; political, socio-economic, intellectual, religious, and artistic movements attending the decline of medieval society and the transition to the early modern period. [SS]

### **331b The Age of Reformation (3)**

Prerequisite: Junior standing or consent of instructor. Religious, intellectual, political, and socio-economic developments of the sixteenth century. [SS]

### **331c Tudor-Stuart England (3)**

Prerequisite: Junior standing or consent of instructor. The course deals with the political, social, economic, and cultural development in England from 1509 to 1714. Major topics include the consolidation of the monarchy, the causes and impact of the English Reformation, the Revolutions of the seventeenth century, and the rise of Parliamentary power, and the increasing importance of England as a force in international politics. [SS]

### **331d Material Life in Pre-Industrial Europe, 1350-1850 (3)**

Prerequisite: Junior standing or consent of instructor. The course centers on the daily life of Europeans in the years prior to the industrial revolution. Nutrition, health, housing, and patterns of energy consumption are examined. Special attention is devoted to agriculture, but the development of metallurgy, shipbuilding, and the

cloth trade are stressed together with the financial and commercial mechanisms that supported them. The evolution of social and political structures in response to changes in the conditions of material life are analyzed in detail. [SS]

### **332a History of Spain (3)**

Prerequisite: Junior standing or consent of instructor. A survey of Spanish history from the fifteenth century to the present, emphasizing its period of imperial greatness and examining the effects of empire on national development. [SS]

### **332b Russian History from the Beginning to 1861 (3)**

Prerequisite: Junior standing or consent of instructor. A survey of the development of the Russian state in its Kievan, Muscovite, and Romanov forms, in connection with social-economic forces. Special attention is paid to the development, maturation, and elimination of Russian serfdom.

### **332c Modern France: To 1870 (3)**

Prerequisite: Junior standing or consent of instructor. French history during the period in which she was the greatest power in Europe. Topics discussed include the monarch during the "old regime," the enlightenment, the French Revolution, the Napoleonic wars, nineteenth-century instability and revolution, daily life and popular culture, and the economic development of France. [SS]

### **332d The Rise of the Modern British State (3)**

Prerequisite: Junior standing or consent of instructor. A political, social, and economic study of Great Britain from 1714 to the present day. Particular attention will be given to the topics of revolution, reform, and the welfare state. [SS]

### **332e Europe from the French Revolution to World War I, 1789-1914 (3)**

Prerequisite: Junior standing or consent of instructor. The major political, social, economic, and diplomatic developments in Europe from the origins of the French Revolution to World War I. Topics include the French Revolution, Napoleon, the concert of Europe, the industrial revolution, the unification of Germany and Italy, the Bismarckian system, the growth of socialism, and the origins of World War I. [SS]

### **333a Contemporary France: Since 1870 (3)**

Prerequisite: Junior standing or consent of instructor. History of Republican France. Topics discussed include the creation of a liberal-democratic government; the scandals and crises of the Third Republic; the Dreyfus affair; the rise of imperialism, socialism, and feminism; the impact of World War I, the popular front; defeat; collaboration, and resistance during World War II; and the reestablishment of France as an important power. [SS]

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## **333b Germany in the Modern Age (3)**

Prerequisite: Junior standing or consent of instructor. The course deals with whether or not the Third Reich should be considered the culmination of German history. Problems of national unification, economic development, representative government, and cultural modernism will be considered. [SS]

## **333c Russian History from 1861-Present (3)**

Prerequisite: Junior standing or consent of instructor. A survey of the social, economic, political, and cultural characteristics of Romanov Russia in the last decades of its existence, the Revolutions of 1917, and the development of the Soviet State and social order.

## **333d Europe in the Twentieth Century (3)**

Prerequisite: Junior standing or consent of instructor. The impact of World Wars I and II and the search for equilibrium. [SS]

## **333e Contemporary Europe, 1939-Present (3)**

Prerequisite: Junior standing or consent of instructor. A survey of the main social, economic, political, military, and cultural trends since the onset of World War II.

## **390 Special Readings (1-10)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. [SS]

## **405 Introduction to Historical Agencies (3)**

A survey of the varieties, purposes, and functions of historical agencies in American culture. To be team-taught by members of the department and adjunct faculty from area historical agencies.

## **410 Studies in Historical Agencies (3)**

Specialized studies in various aspects of historical agency activity, such as museology, archives and manuscripts, site interpretation, and historic preservation. Specific topics will be announced each semester; the course may be repeated for credit if the topic is not a duplication of a course taken previously.

## **415 Practicum in Historical Agencies (1-6)**

Participation as a staff worker in the practical operation of an historical agency in the St. Louis metropolitan area. Students will design their programs in consultation with the department and the staff of the participating historical agency.

## **419 Readings in East Asian History (3 or 5)**

Directed readings and writing on selected topics and areas in East Asian history.

## **430 Readings in European History (3 or 5)**

Directed readings and writing on selected topics and areas in European history.

## **450 Readings in American History (3 or 5)**

Directed readings and writing on selected topics and areas in American history.

## **460 Readings in Latin American History (3 or 5)**

Directed readings and writing on selected topics and areas in Latin American history.

## **470 Readings in African History (3 or 5)**

Directed readings and writing on selected topics and areas in African history.

## **490 Thesis Seminar (2-6)**

Research and writing on a selected topic in history.

## Mathematical Sciences

### Faculty

**Frederick Wilke**, Chairperson; Associate Professor\*  
Ph.D. University of Missouri-Columbia  
**Edward Z. Andaloite**, Associate Chairperson; Associate 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  
**Jerrold Siegel**, Professor\*  
Ph.D. Cornell University  
**Grant V. Welland**, Professor\*, Coordinator of Classical Applied Math  
Ph.D. Purdue University  
**William Connett**, Associate Professor\*  
Ph.D. University of Chicago  
**Richard Friedlander**, Associate Professor\*,  
Coordinator of the Mathematics Education Section  
Ph.D. University of California-Los Angeles  
**Marjory Johnson**, Associate Professor  
Ph.D. University of Iowa  
**Wayne L. McDaniel**, Associate Professor\*  
Ph.D. St. Louis University  
**Gerald Peterson**, Associate Professor\*  
Coordinator of Computer Science  
Ph.D. University of Utah  
**Stephen Selesnick**, Associate Professor  
Ph.D. University of London  
**Alan L. Schwartz**, Associate Professor\*  
Ph.D. University of Wisconsin  
**Douglas Clarkson**, Assistant Professor;  
Coordinator of Statistics  
Ph.D., University of California-Los Angeles  
**Ronald Dotzel**, Assistant Professor  
Ph.D. Rutgers University  
**Walter L. Griffith, Jr.**, Assistant Professor\*  
Ph.D. Harvard University  
**Rama Akkaraju**, Instructor  
M.A.  
**John Antognoli**, Instructor, Coordinator of Evening Mathematics  
M.A.  
**William Brubaker**, Instructor  
M.S.  
**Sara Crews**, Instructor  
M.A.  
**Niceta Labrador**, Instructor  
M.A.  
**Mark Nugent**, Instructor; Assistant Dean, College of Arts and Sciences  
M.S.  
**Gillian Raw**, Instructor  
M.A.  
**Paul Schneider**, Instructor  
M.A.  
**Cynthia Siegel**, Instructor  
M.S.

**Mary Stephen**, Instructor  
M.A.

**Wayne Summers**, Instructor  
M.S.

**Robert Zahn**, Instructor  
M.S.

\*members of Graduate Faculty

## General Information

**Degrees and Areas of Concentration** The mathematical sciences department offers work leading to the A.B. in mathematics, the B.S. in applied mathematics, 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: computer science; statistics; and classical applied mathematics.

The program leading to the A.B. in mathematics is flexible, providing a broad introduction to the important branches of mathematics, but giving students the depth necessary to successfully pursue graduate study. The B.S. in applied mathematics provides a solid foundation for the student interested in applications of mathematics, including computer-related mathematics. The B.S. in education introduces students to those branches of mathematics most relevant to teaching secondary-school mathematics.

The mathematical sciences department also offers work leading to the M.A. in mathematics. The program is designed to insure 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 in 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

## Undergraduate Studies

### General Education Requirements

All majors must satisfy the university and appropriate school or college general education requirements. The College of Arts and Sciences' foreign language requirement for the A.B. degree must be met in German, French, or Russian. All mathematics courses except Mathematics 02 and 03 may be used to meet the university's general education breadth of study requirement in science and mathematics.

**Pass-Fail Restrictions** Majors in mathematical sciences may not take mathematics courses pass-fail. Students considering graduate study should consult with their advisers about taking work pass-fail.

### 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.

**Bachelor of Arts in Mathematics and Bachelor of Science in Secondary Education with emphasis in Mathematics** Candidates for either the A.B. degree or the B.S. in education are required to complete the following course work:

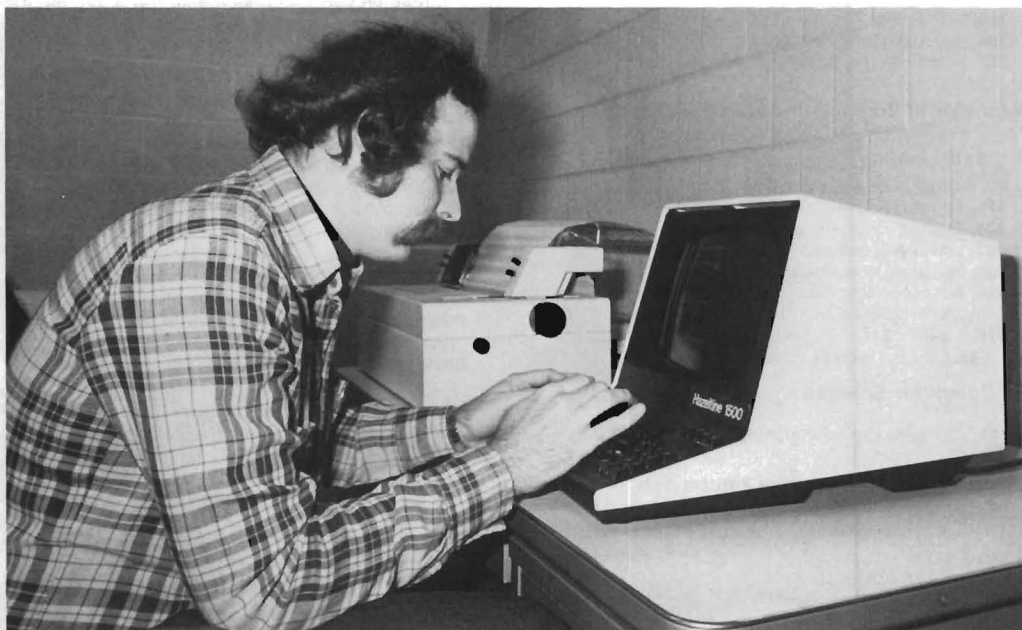
**1 All of the following mathematics courses:**

- 80**, Analytic Geometry and Calculus I
- 175**, Analytic Geometry and Calculus II
- 201**, Analytic Geometry and Calculus III
- 202**, Linear Algebra and Differential Equations
- 250**, Introduction to Modern Mathematics
- 345**, Linear Algebra

**2 One of the following two-semester sequences in either the mathematics or probability and statistics area:**

#### Mathematics Area

- 310** and **311**, Advanced Calculus I and II
- 323** and **324**, Numerical Analysis I and II
- 340** and **341**, Introduction to Abstract Algebra I and II



## Mathematical Sciences

### Probability and Statistics Area

**320** and **321**, Mathematical Statistics I and II

### 3 One of the following courses in mathematics:

- 310**, Advanced Calculus I
- 311**, Advanced Calculus II
- 316**, Functions of a Complex Variable
- 380**, Introduction to Topology

### 4 One course each from **two** of the following areas:

#### 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

#### Geometry and Logic

- 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
- 201**, Analytic Geometry and Calculus III
- 202**, Linear Algebra and Differential Equations
- 250**, Introduction to Modern Mathematics
- 310**, Advanced Calculus or **340**, Introduction to Abstract Algebra (option a and b)
- 310** or **340** or **316**, Functions of a Complex Variable or **345**, Linear Algebra (option c)

#### 2 Computer Science

- 122**, Computers and Programming

### 3 All the courses in **either** 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

**327**, The Calculus of Variations

**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
- 320**, Mathematical Statistics I
- 321**, Mathematical Statistics II
- 330**, Multivariate Analysis
- 333**, Nonparametric Methods in Statistics

Also required are these **computer science** courses:

- 222**, Programming Techniques
- 242**, Data Management

One further course in mathematical sciences, numbered above 250, and two related area courses should be chosen with the approval of the adviser.

c) **Computer Science Option** The following courses in **computer science** are required:

- 222**, Programming Techniques
- 229**, Introduction to Computer Hardware
- 322**, Data Structures
- 328**, Languages and Compilers
- 376**, Operating Systems

Also required are:

- Business Administration 224**, Introduction to Systems Programming
- Business Administration 305**, Computer Systems

and three further courses in mathematical sciences, numbered above 250, at least one of which must be in computer science or numerical analysis.

### Related Area Requirements

In order to broaden student understanding of the sources and uses of mathematics, the



# Mathematical Sciences

department requires work in areas related to mathematics as follows:

**A.B. and B.S. in Education** Candidates are required to complete all courses in any two of the groups below.

**B.S. in Applied Mathematics** Candidates must complete all courses in any two of the areas or may substitute the language requirement for the A.B. degree for one related area.

**Restrictions** Students in either the computer science or statistics emphasis area 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 choosing group 9 must satisfy group 9 requirements with Physics 221, Mechanics and Physics 223, Electricity and Magnetism.

## Related Area Courses

### 1 Biology:

- 224, Genetics
- 226, Genetics Laboratory

### 2 Biology:

- 342, Population 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.

### 3 Chemistry:

- 11, Introductory Chemistry I
- 12, Introductory Chemistry II

### 4 Chemistry:

- 231, Physical Chemistry I

and another 200-level or above chemistry course.

### 5 Two of the following computer science courses:

- Mathematics 222**, Programming Techniques
- Mathematics 322**, Data Structures
- Business Administration 224**, Introduction to Systems Programming

### 6 Two of the following economics courses:

- 345, Population Economics
- 351, Mathematical Economics
- 365, Economic Statistics and Econometrics
- 366, Econometrics

### 7 Philosophy:

- 160, Formal Logic
- 260, Advanced Formal Logic
- 280, Philosophy of Science

### 8 Physics:

- 111, Physics: Mechanics and Heat
- 112, Physics: Electricity, Magnetism, and Optics

### 9 Physics:

- 221, Mechanics
- and another 200-level or above physics course.

### 10 Psychology:

- 301, Advanced Statistics and Experimental Design (for B.S. in secondary education majors only)

### 11 Business Administration:

- 375, Operations Research
- 385, Operations Research II or 487, Advanced Operations Research Applications

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 201, 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 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

## Mathematical Sciences

### 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 thirty hours of work including:

a) the following **mathematics** courses:

**310**, Advanced Calculus

**340**, Introduction to Abstract Algebra I

**345**, Linear Algebra

b) Fifteen hours of mathematics 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 6 hours of Mathematics 490, Master's Thesis.

Up to 6 hours in courses outside of mathematics, 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 Mathematical Sciences 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. During the past academic year, the department received more than twice as many requests for secondary-school teachers in mathematics as it graduated. A number of graduates in mathematics have elected careers in business and other related fields where they have found their logical and analytical skills to be well-rewarded.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

All introductory courses in mathematics, other than Mathematics 02, 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 Math 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.

Prerequisites may be waived by consent of department.

### Mathematics

#### 02 Fundamentals of Algebra (4) (F,W)

Prerequisite: One year of high-school algebra. A review of ninth grade algebra and an introduction to other topics of elementary algebra, including exponents and radicals, linear and quadratic functions and their graphs, systems of equations. **No credit toward any degree.**

#### 03 Trigonometry (2)

Prerequisite: One and one-half units of high school algebra or Mathematics 02. This is a remedial course in trigonometry designed for the student who intends to study calculus and has not had high school trigonometry. It is recommended that this course be taken concurrently with Mathematics 30. **No credit toward any degree.** (Note: Students wishing to take

# Mathematical Sciences

this course may find it advisable to contact the Associate Chairperson of the department).

## **15 Mathematics: Ideas and Structures (3)**

Prerequisite: A satisfactory score on the mathematics placement examination. An introduction to the spirit of mathematics and to modern mathematical thought. Course is designed for the student who does not intend to major in mathematics or science. [SM]

## **30 College Algebra (4) (F,W)**

Prerequisites: Three units of high school mathematics or the equivalent **and** a satisfactory score on the mathematics placement examination. Topics in algebra and probability, polynomial functions, the binomial theorem, logarithms, exponentials, solutions to systems of equations. Credit not granted for both Mathematics 30 and 40. Mathematics 40 is recommended for mathematics and science majors. [SM]

## **40 Pre-Calculus Mathematics (5) (F,W)**

Prerequisites: Three units of high school mathematics including one and one-half units of algebra or the equivalent, **and** a satisfactory score on the mathematics placement examination. Topics from algebra and trigonometry for the student who plans to take further work in mathematics. Polynomial functions; the binomial theorem, mathematical induction; the logarithmic, exponential, trigonometric, and inverse trigonometric functions. [SM]

## **50 Structure of Mathematical Systems I (3) (F,W)**

Prerequisite: 45 hours of college credit and a satisfactory score on the mathematics placement examination. A study of mathematical systems, elementary logic, natural numbers, sets, and construction of integers. Recommended for elementary education students. [SM]

## **80 Analytic Geometry and Calculus I (5) (F,W)**

Prerequisite: Mathematics 40; or four units of high school mathematics covering the equivalent material and a satisfactory score on the algebra-trigonometry placement examination. Introduction to analytic geometry, differential calculus, and integral calculus. Mathematics 80, 175, and 201 form the calculus sequence. [SM]

## **101 Survey Calculus (4) (F,W)**

Prerequisite: Mathematics 40 or 30 or a satisfactory score on the mathematics placement examination. Introduction to plane analytic geometry and study of the basic techniques of differential and integral calculus with application to various areas. No credit for mathematics majors. Credit not granted for both Mathematics 80 and 101. [SM]

## **102 Finite Mathematics I (4) (F,W)**

Prerequisite: Same as for Mathematics 101. Introductory logic and set theory, partitions and counting problems, elementary probability theory, stochastic processes. Markov chains, vectors and matrices, linear programming, and game theory. [SM]

## **151 Structure of Mathematical Systems II (3) (F,W)**

Prerequisite: Mathematics 50. A continuation of Mathematics 50 to include a study of the rational and real number systems. An intuitive study of elementary geometry. Introduction to the deductive theory of geometry. Recommended for elementary education students. [SM]

## **175 Analytic Geometry and Calculus II (5) (F,W)**

Prerequisite: Mathematics 80. Selected topics from plane analytic geometry and calculus. [SM]

## **201 Analytic Geometry and Calculus III (5) (F,W)**

Prerequisite: Mathematics 175. Solid analytic geometry and selected topics in calculus. [SM]

## **202 Linear Algebra and Differential Equations (3)**

Prerequisite: Mathematics 201. Linear algebra of finite dimensional vector spaces; linear maps, matrices, determinants, linear differential equations of first order, linear differential equations with constant coefficients, variation of parameters, Wronskian. [SM]

## **203 Finite Mathematics II (3)**

Prerequisite: Mathematics 102. A continuation of Mathematics 102. Linear programming and game theory, application of combinatorial mathematics. A student cannot receive credit for both Mathematics 203 and Business Administration 375. [SM]

## **245 Matrix Algebra with Applications (3)**

Prerequisite: Mathematics 30 or 40. An introduction to matrices and linear algebra with applications. Topics will include operations with matrices, inversion of matrices, solutions of systems of equations, determinants, and eigenvalues. [SM]

## **250 Introduction to Modern Mathematics (3) (F,W)**

Prerequisite: Mathematics 201. Set algebra, equivalence relations, partitions, functions, development of algebraic and topological properties of the real numbers. [SM]

## **301 Differential Equations (3)**

Prerequisite: Mathematics 250. A theoretical approach to ordinary differential equations intended for the student majoring in mathematics. Existence of solutions of linear differential equations and systems of differential equations. [SM]

## **303 Applied Mathematics II (3)**

Prerequisite: Mathematics 202 or 301. Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems. [SM]

## **304 Applied Mathematics III (3)**

Prerequisite: Mathematics 202 or 250. Matrices and characteristic values, vector analysis, analytic functions of a complex variable, Taylor and Laurent series, residues, conformal mapping. [SM]

## Mathematical Sciences

### **306 Applied Differential Equations (3)**

Prerequisite: Mathematics 202. Series solutions to ordinary differential equations, numerical methods, Laplace transforms, differential systems, stability, applications to physics, engineering, and biology. [SM]

### **310 Advanced Calculus I (3) (F)**

Prerequisite: Mathematics 250 or consent of department. Limits, continuity, and differentiability of functions of one and several variables, sequences and series, the Riemann Stieltjes integral. [SM]

### **311 Advanced Calculus II (3) (W)**

Prerequisite: Mathematics 310. Continuation of Mathematics 310. [SM]

### **316 Functions of a Complex Variable (3)**

Prerequisite: Mathematics 202 or 250. Complex numbers and their geometrical representation, point sets, analytic functions of a complex variable, complex integration, Taylor and Laurent series, residue theorem, conformal mapping. [SM]

### **323 Numerical Analysis I (3)**

Prerequisite: Mathematics 202 or concurrent enrollment and a knowledge of FORTRAN. Solutions of equations, interpolation and approximation, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers. [SM]

### **324 Numerical Analysis II (3)**

Prerequisite: Mathematics 323 or consent of instructor. Topics chosen from: The numerical solution of systems of linear equations; the eigenvalue/eigenvector problem; numerical solution of Partial Differential Equations (PDE); numerical solution of Stiff Ordinary Differential Equations (ODE); boundary value problems; sparse matrix methods; approximation theory; optimization theory; digital filters; integral equations. [SM]

### **327 The Calculus of Variations (3)**

Prerequisite: Mathematics 202 and 310. Methods for optimizing functionals and their applications. The Euler-Lagrange condition. Hamilton's principle, two dimensional variational problems, and isoperimetric problems. Approximate methods for the solution of variational problems. [SM]

### **335 Theory of Numbers (3)**

Prerequisite: Mathematics 250 or consent of department. Properties of integers, multiplicative functions, congruences, primitive roots, quadratic residues. [SM]

### **340 Introduction to Abstract Algebra I (3) (F)**

Prerequisite: Mathematics 250 or consent of department. Introduction to groups, rings, and fields with emphasis on groups and rings. [SM]

### **341 Introduction to Abstract Algebra II (3) (W)**

Prerequisite: Mathematics 340 or consent of department. Continuation of Mathematics 340 with emphasis on fields. [SM]

### **345 Linear Algebra (3)**

Prerequisite: Mathematics 202 and 250. Topics selected from vector spaces, bases, linear transformations, matrices, canonical forms, eigenvalues, hermitian and unitary matrices, inner product spaces, quadratic forms. [SM]

### **350 Special Readings (1-10) (F,W)**

Prerequisite: Mathematics 250 and consent of instructor. [SM]

### **358 Mathematical Logic (3)**

Prerequisite: Mathematics 250, Philosophy 360, or consent of department. A study of the logic of mathematics by the axiomatic method, with a development of the propositional calculus and restricted predicate calculus emphasizing its application to the foundations of mathematics. [SM]

### **362 Projective Geometry (3)**

Prerequisite: Mathematics 250 or consent of department. Analytic approach to the study of projective spaces. Theorems of Desargues, Pascal, and Brianchon. Projective properties of conics. [SM]

### **364 Introduction to Differential Geometry (3)**

Prerequisite: Mathematics 250. Geometry of curves and surfaces in Euclidean 3-space. Calculus on a surface. Intrinsic geometry of surfaces. [SM]

### **366 Foundations of Geometry (3)**

Prerequisite: Mathematics 250 or consent of department. A development of portions of Euclidean geometry from a selected set of axioms, including a discussion of consistency, independence, categoricity, and completeness of the axioms. [SM]

### **367 Introduction to Non-Euclidean Geometry (3)**

Prerequisite: Mathematics 250 or consent of department. A summary of the history of the non-Euclidean geometries and a study of hyperbolic plane geometry. [SM]

### **380 Introduction to Topology (3)**

Prerequisite: Mathematics 250 or consent of department. A study of topological spaces, including the concepts of limit, continuity, connectedness, compactness, etc. Special emphasis placed on, and examples taken from, the space of real numbers. [SM]

### **402 Applied Mathematics I (3)**

Fourier series and integrals. Laplace transforms, boundary value problems, matrices, integral equations, Sturm-Liouville systems. [SM]

# Mathematical Sciences

## 403 Applied Mathematics II (3)

A continuation of Mathematics 402. [SM]

## 410 Theory of Functions of a Real Variable I (3)

Prerequisite: Mathematics 310. Mathematics 311 is strongly recommended. The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory. [SM]

## 411 Theory of Functions of a Real Variable II (3)

A continuation of Mathematics 410. [SM]

## 416 Functions of a Complex Variable I (3)

Prerequisite: Mathematics 310 and 316. Complex numbers, topology of the complex plane, analytic functions, conformal mappings, Taylor series, Laurent series, complex integration, residues, analytic continuation, representation of analytic functions, elliptic functions, normal families, Riemann theorem, majorization. [SM]

## 417 Functions of a Complex Variable II (3)

Prerequisite: Mathematics 416. A continuation of Mathematics 416; meromorphic functions, Dirichlet series, Riemann surfaces. [SM]

## 418 Topics in Analysis (3)

Prerequisite: Consent of instructor. Topics selected from the areas of Fourier analysis, harmonic analysis, Hilbert spaces, Banach algebras, special functions, generalized functions, partial differential equations. May be taken more than once for credit with consent of department. [SM]

## 420 Probability Theory I (3)

Prerequisite: Mathematics 410 (may be taken concurrently). Combinatorial analysis, random walks, stochastic independence, random variables, laws of large numbers, generating functions, branching processes. [SM]

## 421 Probability Theory II (3)

Prerequisite: Mathematics 420. A continuation of Mathematics 420; characteristic functions, limit theorems, Brownian motion and diffusion processes. [SM]

## 430 Partial Differential Equations I (3)

Prerequisite: Mathematics 310. Classification of partial differential equations, Cauchy, Dirichlet, and Neumann problems, the fundamental solution, existence theorems of potential theory, eigenvalue problems, and Tricomi's problem. [SM]

## 431 Partial Differential Equations II (3)

Prerequisite: Mathematics 430. A continuation of Mathematics 430; differential operators, and partial differential equations on manifolds. [SM]

## 442 Algebra I (3)

Prerequisite: Mathematics 340. Basic fundamentals of the theory of groups, rings, and fields. [SM]

## 443 Algebra II (3)

A continuation of Mathematics 442. [SM]

## 448 Topics in Algebra (3)

Prerequisite: Mathematics 340 and 341 and consent of department. Topics selected from the theory of groups, rings, fields, algebras, and other algebraic systems. May be taken more than once for credit with consent of department. [SM]

## 450 Directed Readings (1-6)

Prerequisite: Consent of Instructor. Independent reading at an advanced level.

## 460 Optimization and Variation (3)

Prerequisite: Mathematics 310 and 345. Topics from classical optimization, linear programming, calculus of variations and other techniques of optimization.

## 470 Functional Analysis I (3)

Prerequisite: Mathematics 410 and 411. Algebraic and topological tools applied to problems in analysis. The topics chosen will usually include topological vector spaces, metric spaces, Banach spaces, Hilbert spaces, and Banach algebras. [SM]

## 471 Functional Analysis II (3)

Prerequisite: Mathematics 470. A continuation of Mathematics 470; spectral theory, distributions and test functions, unbounded operators. [SM]

## 480 Topology I (3)

Prerequisite: Mathematics 310. Topological spaces, compactness, connectedness, mapping theorems, product spaces, function spaces, metric spaces. [SM]

## 481 Topology II (3)

Prerequisite: Mathematics 480. A continuation of Mathematics 480; introduction to algebraic topology, fundamental group, homology. [SM]

## 490 Master's Thesis (1-6)

Prerequisite: Consent of Instructor. Thesis work under the supervision of a faculty member. The course is designed for those students intending to present a thesis as part of their M.A. program. Students who do not write a thesis cannot apply Mathematics 490 to a degree.

## Computer Science

### 22 Introduction to Computing (3)

Prerequisite: None. Fundamental concepts of computer systems. Introduction to the applications of computers. The programming language BASIC. [SM]

## Mathematical Sciences

### **122 Computers and Programming (3) (F,W)**

Prerequisite: Mathematics 30 or 40 or equivalent. Introduction to machine hardware and software. FORTRAN programming. Credit not granted for both Business Administration 104 and Computer Science 122. [SM]

### **222 Programming Techniques (3)**

Prerequisites: Math 122 or consent of Instructor. Programming techniques using sorting, searching, lists, trees, stacks and recursive functions. The techniques are illustrated by examples chosen from a simple compiler and these examples will be programmed in PL/1. [SM]

### **223 The Mini Computer (3)**

Prerequisite: Math 122 or consent of Instructor. The architecture of a mini computer. Assembly language programming. The use of a mini computer operating system and its utility programs. [SM]

### **229 Introduction to Computer Hardware (3)**

Prerequisite: Mathematics 122 or consent of instructor. The course presents an introduction to the design and operation of the several hardware components of a digital computer. [SM]

### **242 Data Management (3)**

Prerequisite: Computer Science 122 or consent of instructor. Forms design, coding, data editing, information storage and retrieval, data base design, and data base management.

### **312 Analysis of Algorithms (3)**

Prerequisite: Mathematics 201, 222. Efficiency of the basic algorithms of Computer Science. Sorting, searching, and multiplication of matrices and integers. Emphasis will be placed on comparison of alternate methods. [SM]

### **322 Data Structures (3)**

Prerequisite: Math 222 or consent of instructor. Topics chosen from the following: in-memory data structures—lists, trees, rings; file structures—sequential, indexed, random and inverted files, bit maps; data bases—the network, hierarchical and relational models for data and the implementation of such models in data base systems. Applications in algorithms. [SM]

### **325 Theory of Computation (3)**

Prerequisite: Upper division standing or consent of instructor. Finite automata, Turing machines, recursive function theory, Church's thesis, decision problems. [SM]

### **328 Programming Languages and Compilers (3)**

Prerequisite: Mathematics 222. A survey of certain features and concepts common to many programming languages, a guide to how they can be implemented and finally an introduction to compiling techniques. Examples will be given in various programming

languages including FORTRAN, BCPL, PL/1 and ALGOL. The course will include but not be confined to recursive functions, formal syntax, precedence grammars and the Tree-Meta compiler. [SM]

### **332 Artificial Intelligence (3)**

Prerequisite: Mathematics 250 and Computer Science 222. Definition of heuristic versus algorithmic methods. Use of heuristic methods in such areas as game playing, theorem proving, formula manipulation, symbolic differentiation pattern recognition, and question answering. Class and individual projects to illustrate basic concepts. [SM]

### **370 Structured Programming in PL/1 and ALGOL 68 (3)**

Prerequisite: Mathematics 222. The PL/1 programming language will be presented formally. Structured programming will be introduced as a natural development of programming style. ALGOL 68 will be introduced and its facilities compared with those of PL/1. The advanced features of PL/1 will be explored in depth. [SM]

### **371 Specialized Languages (3)**

Prerequisite: Mathematics 222. Programming in specialized languages such as LISP, SNOBOL, SIMULA, APL, and PASCAL. The applications of such languages will be studied. [SM]

### **376 Operating Systems (3)**

Prerequisite: Mathematics 222. The need for operating systems will be examined. The technical problems involved and some possible solutions will be presented. [SM]

## **Probability and Statistics**

### **31 Elementary Statistical Methods (3) (F,W)**

Prerequisite: Mathematics 30 or 40. An introduction to the basic tools and elementary methods of statistics, such as testing of hypotheses, analysis of variance, method of least squares, and time series. Does not satisfy the School of Business Administration requirement ordinarily met by Business Administration 131. A student cannot receive credit for both Mathematics 31 and Business Administration 131. [SM]

### **132 Introduction to Probability and Statistics (3)**

Prerequisite: Mathematics 30 or equivalent. Elements of probability and nonparametric statistics. The use of the computer and the statistical package, SAS, for operations on statistical data. Topics chosen from: sampling, hypothesis testing, regression, and analysis of variance. A student cannot receive credit for both Business 131 and Mathematics 132. [SM]

### **232 Applied Statistics (3) (W)**

Prerequisite: Mathematics 31 or equivalent. Topics to be chosen from: fitting distributions to data, goodness

# Mathematical Sciences

of fit, parametric and nonparametric correlations and partial correlation, nonparametric statistics, sampling, design of experiments, categorical data, and regression. Emphasis on practical applications. [SM]

## **320 Mathematical Statistics I (3) (F)**

Prerequisite: Mathematics 201. Introduction to theory of probability and statistics using concepts and methods of calculus. [SM]

## **321 Mathematical Statistics II (3) (W)**

Prerequisite: Mathematics 320. Continuation of Mathematics 320. Continuous sample spaces, stochastic processes, statistical inference, and statistical models. [SM]

## **326 Introduction to Stochastic Processes (3) (Alt. W)**

Prerequisite: Mathematics 320. Markov chains, martingales, stationary distributions of a Markov chain, recurrent states, branching, birth and death, queuing chains, jump processes, second order processes, continuity and differentiation of second order processes, white noise and stochastic differential equations. [SM]

## **330 Multivariate Analysis (3) (F)**

Prerequisite: Mathematics 320 and 245 or consent of

instructor. Multivariate normal distribution and related distributions such as the Wishart distribution. Statistical inference for the multivariate normal distribution. Multiple regression, canonical correlations, multivariate analysis of variance, classification problems, and discriminant analysis. [SM]

## **331 Analysis of Variance and Design of Experiments (3) (Alt. W)**

Prerequisite: A year of calculus, some matrix theory, and an intermediate course in statistics. Theory of general linear hypotheses, important special cases of analysis of variance, theory of least square estimation, interval estimation, one-way, two-way, and higher-way layouts, completely randomized design, randomized complete blocks, Latin square design, factorial, incomplete block and fractional replications, lattice design, optimum design. [SM]

## **333 Nonparametric Methods in Statistics (3) (W)**

Prerequisite: Mathematics 320 or consent of instructor. Emphasis on statistical tests which are distribution free; one sample and two sample location and detection of shifts, point estimators, and confidence intervals. Relative dispersion, K-sample tests, detection of independence, and regression. [SM]





## Modern Foreign Languages and Literatures

### Faculty

**Roland A. Champagne**, Chairperson, Associate Professor,\* French

Ph.D., The Ohio State University

**Marcus Allen**, Associate Professor,\* French

Ph.D., University of Pittsburgh

**Francisco Carénas**, Associate Professor,\* Spanish

Ph.D., University of Valencia

**Alfred F. Goessl**, Associate Professor,\* German

Ph.D., Tulane University

**Albert J. Camigliano**, Assistant Professor, German

Ph.D., University of Wisconsin

**Ingeborg M. Goessl**, Assistant Professor,\* German

Ph.D., University of Kansas

**Paul R. Hoffman**, Assistant Professor, German

M.A.

**Nestor Lugones**, Assistant Professor, German

Ph.D., University of Texas

**Rolf R. Mueller**, Assistant Professor, German

Ph.D., University of Kansas

**Sonja G. Stary**, Assistant Professor,\* French

Ph.D., University of Cincinnati

**Lorna Williams**, Assistant Professor, Spanish

Ph.D., University of Indiana

**Deborah Baldini**, Instructor, Spanish

M.A.

**Rita Bergoudian**, Instructor, Spanish and French

M.A.

**Pierrette Daly**, Instructor, French

M.A.

**Julianne Dueber**, Instructor, Spanish

M.A.

**Eugenia D. Gosman**, Instructor, Russian

M.A.

**Jean-Claude Labbez**, Instructor, French

M.A.

**Fernando Ojeda**, Instructor, French and Italian

M.A.

**Muriel S. Pascoe**, Instructor, Spanish

M.A.

**Alicia Ramos**, Instructor, Spanish

Ph.D., Northwestern University

**Kathleen Standley**, Instructor, French

M.A.

**Anne C. Werner**, Instructor, French

M.A.

**Rita C. White**, Instructor, French

M.A.

**Michael J. Mahler**, Lecturer, Spanish, Manager of

Language Laboratory

M.A., M.A.T.

**Roger Noel**, Lecturer, French and Italian

M.A.

**Marc H. Vianey-Liaud**, Assistant Instructor, French

Maitrise d'anglais

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# Modern Foreign Languages and Literatures

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 A.B. 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 and Russian. A minor in French, German, or Spanish is also possible. Five courses in the language beginning with 101 or its equivalent, must be taken with a grade of C or better. At least two of these courses must be on the 200-level or above. Native speakers must consult with section heads.

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 five languages taught by the department.

**Study Abroad** Language students who have been at UMSL 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.

## 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.

**Pass-Fail Option** Any course offered by the department may be taken on a pass-fail basis by non-majors except Language 1, 2, and 101, Elementary and Intermediate French, German, Italian, Russian or Spanish; and Language 115a, b, and c, Intensive French. Courses taken as a part of the major may not be taken pass-fail.

### Degree Requirements

Students electing to major in the department must have completed course 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. A student may not take a course in his/her major on a pass-fail basis.

**Bachelor of Arts** All students seeking the A.B. 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 A.B. in a foreign language who desire a teaching certificate must also take Course 264, Curriculum and Methods, and fulfill the professional secondary education requirements of the School of Education.

**Bachelor of Science in Education** Those students seeking the B.S. degree in education, 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.

Beginning in the Fall Semester 1980, entering freshmen may receive up to 13 hours advanced

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standing in a foreign language, provided that they complete the next higher course in the language sequence with a grade of C or better.

**Transfer Students** Transfer students majoring in one of the modern foreign languages must complete, at UMSL, a minimum of 12 graded hours in language courses at the 200 level or above with an average of 2.0 or better in these courses.

### 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 the 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 352**, Modern France from the Revolution to World War II

**German** Each major in German must complete the following courses:

- 101**, Intermediate German
- 180**, Readings in German
- 171**, German Conversation and Pronunciation, or **172**, German Composition
- 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 including:

- 308**, Advanced Composition and Conversation
- 399**, German Seminar

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 353**, 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
- 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 354**, History of Spain

**History 371a**, History of Latin America: to 1808

**History 371b**, 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

## Career Outlook

Graduates with a foreign language degree may elect to enter the fields of teaching, business, journalism, communications, government, or to pursue advanced degrees in their specialty.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department.

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## Chinese

Courses in Chinese are available at Washington University for UMSL students. Consult the modern foreign languages department for details and obtain the necessary forms from the registrar's office.

### 101 First Level Modern Chinese I (5) (V)

### 102 First Level Modern Chinese II (5) (V)

Plus **one** more course above 102.

**Note** Course 101 at Washington University is equivalent to Course 001 at UMSL.

## French

### 1 French I (5) (F,W)

Emphasis is placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory per week required.

### 2 French II (5) (F,W)

Prerequisite: French 1 or equivalent. Emphasis is placed upon the speaking and the understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory per week required.

### 101 Intermediate French (3) (F,W)

Prerequisite: French 2 or equivalent. Grammar review and cultivation of language skills through the study of moderately difficult prose selections.

### 105 Commercial French (3) (F)

Prerequisite: French 2 or equivalent. Grammar review and cultivation of language skills with emphasis on technical vocabulary and correct French usage in business affairs. Designed for business majors, economics majors, or anyone interested in the commercial application of French. This course is the equivalent of French 101. French 101 and French 105 may not both be taken for credit.

### 110 Modern French Literature in Translation (3) (V)

Prerequisite: Sophomore standing. Reading and discussion of selected works of French literature from the modern period in English translation. Does not count toward the French major. [H]

### 115a Intensive French - Grammar (5) (F)

Prerequisite: Aptitude Test and permission of department. Must be taken concurrently with 115b and 115c. An intensive study of French grammar which assumes no previous knowledge of French. This course is a part of the Intensive French Program which, taken concurrently with 115b and 115c, is equivalent to French 1, 2, and 101.

### 115b Intensive French - Conversation (5) (F)

Prerequisite: Aptitude Test and permission of department. Must be taken concurrently with 115a and 115c. An intensive study of French conversation and elementary composition which assumes no previous knowledge of French. This course is a part of the Intensive French Program which, taken concurrently with 115a and 115c, is equivalent to French 1, 2, and 101.

### 115c Intensive French - Readings (5) (F)

Prerequisite: Aptitude Test and permission of department. Must be taken concurrently with 115a and 115b. An intensive study of readings in French which assumes no previous knowledge of French. This course is a part of the Intensive French Program which, taken concurrently with 115a and 115b, is equivalent to French 1, 2, and 101.

### 150 European Literature in Translation: Special Topics (3) (V)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic is announced in advance by the department. Does not count toward major in French. [H]

### 160 French Phonetics (3)

Prerequisite: French 101 or consent of instructor. An analytic and practical study of French pronunciation. Emphasis is placed upon the articulation and practice of contemporary French sounds.

### 171 French Conversation and Pronunciation (3) (F,W)

Prerequisite: French 101 or equivalent. Emphasis is placed upon the development of oral skills in French and upon the problems of French pronunciation.

### 172 French Composition (3) (W)

Prerequisite: French 101 or equivalent. Designed to develop writing skills in French.

### 180 Readings in French (3) (F,W)

Prerequisite: French 101 or equivalent. Development of language skills through reading and discussion of literary texts. [H]

### 190 Special Readings in French (1-3) (V)

Prerequisite: French 101 and the consent of the department. Independent study on mutually acceptable topics through readings, reports, and conferences. [H]

### 200 Advanced Grammar (3) (W)

Prerequisite: French 171 or 172 or equivalent. Problems in grammatical analysis.

### 211 Contemporary French Civilization (3) (V)

Prerequisite: French 171 or 172 or equivalent. The culture and civilization of France from World War I to the present. All reading and classwork in French. [H]

## Modern Foreign Languages and Literatures

### **264 Curriculum and Methods of Teaching Foreign Languages (3) (W)**

(Same as SEC ED 264) Prerequisite: SEC ED 213 and junior standing. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward the techniques and research tools of the scholar in the field of foreign languages.

### **271 Intermediate French Conversation (3) (V)**

Prerequisite: French 160 and 171 or consent of department. Emphasis is placed upon the further development of oral skills in French.

### **280 French Literature I: Middle Ages to the Eighteenth Century (3) (F)**

Prerequisite: French 180 or equivalent. Designed to acquaint the student with the development of French literature from the Middle Ages to the eighteenth century. Critical reading of representative texts. [H]

### **281 French Literature II: Nineteenth and Twentieth Centuries (3) (W)**

Prerequisite: French 180 or equivalent. Designed to acquaint the student with the development of French literature from the nineteenth century to the present. Critical reading of representative texts. [H]

### **290 Special Readings (1-3)**

Prerequisites: Consent of the department. Independent study through readings, reports and conferences. [H]

### **300 Syntax and Stylistics (3) (V)**

Prerequisite: French 200 or equivalent. Advanced theoretical and practical study of modern French syntax. Analysis of French prose style.

### **320 Advanced Oral Composition (3) (V)**

Prerequisite: French 171 or equivalent. Emphasis is placed upon the development and refinement of skills in spoken French.

### **331 Medieval and Renaissance Literature (3) (V)**

Prerequisite: French 280 or 281. Critical reading and analysis of representative works of the period in modernized French versions. [H]

### **341 Seventeenth-Century French Theatre (3) (V)**

Prerequisite: French 280 or 281. Critical readings of selected plays by Corneille, Molière, Racine, and other dramatists of the seventeenth century. [H]

### **342 Seventeenth-Century French Prose and Poetry (3) (V)**

Prerequisite: French 280 or 281. A critical study of representative poets and prose writers of the seventeenth century, including novelists and philosophers. [H]

### **353 Eighteenth-Century French Literature (3) (Alt. F)**

Prerequisite: French 280 or 281. The Philosophic movement. Selected readings of the eighteenth century,

including Montesquieu, Voltaire, Diderot and Rousseau. [H]

### **354 Eighteenth-Century French Theater and Novel (3) (Alt. F)**

Prerequisite: French 280 or 281. Critical reading and discussion of representative novels and plays of the eighteenth century. [H]

### **362 Nineteenth-Century French Novel (3) (Alt. F)**

Prerequisite: French 280 or 281. Critical reading of selected works by the major novelists of the period. Discussion of realism and naturalism. [H]

### **365 Modern French Poetry (3) (Alt. F)**

Prerequisite: French 280 or 281. A study of French poetry in the nineteenth and twentieth centuries through critical readings of selected works by major poets. [H]

### **371 Twentieth-Century French Novel (3) (Alt. W)**

Prerequisite: French 280 or 281. A study of selected works by principal novelists of the modern period. [H]

### **375 Modern French Theatre (3) (Alt. W)**

Prerequisite: French 280 or 281. A study of French drama in the nineteenth and twentieth centuries through critical study of selected works by major dramatists. [H]

### **390 Special Readings (1-3) (V)**

Prerequisite: Consent of the instructor. Independent study through readings, reports and conferences. [H]

### **399 French Seminar (3) (V)**

Prerequisite: French 280 or 281. Specialized topic in French literature. Subject to be announced by instructor in charge of seminar. [H]

## German

### **1 German I (5)**

Emphasis is placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory per week required.

### **2 German II (5)**

Prerequisites: German I or equivalent. Emphasis is placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory per week required.

### **100 Scientific German (3) (F,W)**

Prerequisite: German 2 or equivalent. Reading of selected German texts in the natural and social sciences. Designed primarily for majors in these areas.

### **101 Intermediate German (3) (F,W)**

Prerequisite: German 2 or equivalent. Grammar review and cultivation of language skills through the study of moderately difficult prose selections.

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## **110 Masterpieces of German Literature in Translation (3) (V)**

Prerequisite: Sophomore standing. Representative readings in German literature from the beginnings to the present. Emphasis is placed upon German literature in the general context of European culture. May not count toward the German major. [H]

## **150 European Literature in Translation: Special Topics (3) (V)**

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic announced in advance by the department. Does not count toward major in German. [H]

## **171 German Conversation and Pronunciation (3) (F,W)**

Prerequisite: German 101 or equivalent. Emphasis is placed upon the development of oral skills, German pronunciation, and intonation.

## **172 German Composition (3) (W)**

Prerequisite: German 101 or equivalent. Designed to develop writing skills in German.

## **180 Readings in German (3)**

Prerequisites: German 101 or equivalent. Further development of language skills through readings and discussions of literary texts. May be taken concurrently with German 171 or 172. [H]

## **190 Special Readings (1-3) (V)**

Prerequisite: German 101 and consent of the department. Independent study on mutually acceptable topics through readings, reports, and conferences. [H]

## **201 Masterpieces of German Literature (3) (F)**

Prerequisite: Two years of college German or equivalent. Introduction to German literature. Readings and critical analysis of selected works of German literature. [H]

## **202 The German Novelle and Drama (3) (W)**

Prerequisite: German 201 or equivalent. Reading and critical analysis of selected German *Novellen* and dramas. [H]

## **208 Intermediate Composition and Conversation (3) (W)**

Prerequisite: German 171 or 172 or equivalent. Emphasis on speaking and writing German.

## **210 German Culture and Civilization (3) (V)**

Prerequisite: German 102 or equivalent. A survey of the development of German culture and civilization. All reading and classwork in German. [H]

## **264 Curriculum and Methods of Teaching Foreign Languages (3) (W)**

(Same as SEC ED 264) Prerequisite: SEC ED 213 and junior standing. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward the techniques and research tools of the scholar in the field of foreign languages.

## **290 Special Readings (1-3)**

Prerequisites: Consent of the department. Independent study through readings, reports and conferences. [H]

## **308 Advanced Composition and Conversation (3) (V)**

Prerequisite: German 208 or equivalent. Continuation of German 208. Designed to develop accuracy and fluency of expression in German.

## **315 German Classicism and Romanticism (3) (V)**

Prerequisite: German 201 and one other 200-level course in German. Representative writers from the classical and romantic periods of German literature, including works by Lessing, Goethe, Kleist, and E.T.A. Hoffmann. [H]

## **320 German Realism and Naturalism (3) (V)**

Prerequisite: German 201 and one other 200-level course in German. Representative writers of realism and naturalism in German literature, including works of Grillparzer, Hebbel, Stifter, Keller, and Hauptmann. [H]

## **345 Modern German Literature (3) (V)**

Prerequisite: German 201 and one other 200-level course in German. Representative works from modern German literature. [H]

## **390 Special Readings (credit arranged) (V)**

Prerequisite: Consent of Instructor. Independent study through readings, reports and conferences. [H]

## **397 Survey of German Literature Part I (3) (V)**

Prerequisite: One other German literature course on the 300 level. Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature considered in the general context of European culture. [H]

## **398 Survey of German Literature Part II (3) (V)**

Prerequisite: One other German literature course on the 300 level. Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature considered in the general context of European culture. [H]

## **399 German Seminar (3) (W)**

Prerequisite: Senior standing and two 300-level courses. Required of all German majors. Topic to be selected by instructor. [H]

## Modern Foreign Languages and Literatures

### Greek

Courses in Greek are available at Washington University for UMSL students. Consult the modern foreign languages department for details and obtain the necessary forms from the registrar's office.

#### 101 Elementary Greek (4)

Fundamentals of grammar and syntax for students with no previous acquaintance with the language.

#### 102 Elementary Greek (4)

Prerequisite: Greek 1 or equivalent. A continuation of Greek 1. Completion of the survey of grammar and syntax accompanied by the reading of a short major text, usually a dialogue by Plato or a book of the New Testament.

Plus **one** course above 102.

**Note** Course 101 at Washington University is equivalent to Course 001 at UMSL.

### Hebrew

Courses in Hebrew are available at Washington University for UMSL students. Consult the modern foreign languages department for details and obtain the necessary forms from the registrar's office.

#### 101 Elementary Hebrew (3)

#### 102 Elementary Hebrew (3)

Plus **two** courses above 102.

**Note** Course 101 at Washington University is equivalent to course 001 at UMSL.

### Italian

#### 1 Italian I (5) (F,W)

Fundamentals of Italian grammar, pronunciation, and diction for students with no previous acquaintance with the language. One hour laboratory per week required.

#### 2 Italian II (5) (F,W)

Prerequisite: Italian 1 or equivalent. Continuation of grammar and conversation with introductory readings centering on Italian contributions to art, literature, and music. One hour laboratory per week required.

#### 101 Intermediate Italian (3) (F,W)

Prerequisite: Italian 2 or equivalent. Grammar review and cultivation of language skills through the study of moderately difficult prose selections.

#### 190 Special Readings (credit arranged)

Prerequisite: Italian 101 or equivalent. Readings on literary topics mutually acceptable to student and instructor. [H]

### Japanese

Courses in Japanese are available at Washington University for UMSL students. Consult the modern foreign languages department for details and obtain the necessary forms from the registrar's office.

#### 103 First Level Modern Japanese I (5)

#### 104 First Level Modern Japanese II (5)

Plus **one** course above 104 level.

**Note** Course 103 at Washington University is equivalent to course 001 at UMSL.

### Latin

Courses in Latin are available at Washington University for UMSL students. Consult the modern foreign languages department for details and obtain the necessary forms from the registrar's office.

#### 101 Beginning Latin (4)

Fundamentals of grammar and syntax, for students with no previous acquaintance with the language.

#### 102 Beginning Latin (4)

Prerequisite: Latin 1 or equivalent. A continuation of Latin 1. Completion of the survey of grammar and syntax, accompanied by the reading of a short major text or texts.

Plus **one** course above 102.

**Note** Course 101 at Washington University is equivalent to course 001 at UMSL.

### Portuguese

Courses in Portuguese are available at Saint Louis University for UMSL students. Consult the modern foreign languages department for details and obtain the necessary forms from the registrar's office.

#### 5 Elementary Portuguese (4)

#### 6 Intermediate Portuguese (4)

Plus **one** other course above 6.

**Note** Course 5 at Saint Louis University is equivalent to course 001 at UMSL.



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## Russian

### 1 Russian I (5) (F,W)

Emphasis is placed upon the speaking and understanding of Russian and upon the acquisition of the fundamentals of grammar and syntax. Five hours of class and one hour laboratory per week required.

### 2 Russian II (5) (F,W)

Prerequisite: Russian 1 or equivalent. Emphasis is placed upon the speaking and understanding of Russian and upon the acquisition of the fundamentals of grammar and syntax. Five hours of class and one hour laboratory per week required.

### 100 Scientific Russian (3) (V)

Prerequisite: Russian 2 or equivalent. Introduction to reading of selected Russian texts in the natural and social sciences. Designed primarily for majors in these areas.

### 101 Intermediate Russian (3) (F,W)

Prerequisite: Russian 2 or equivalent. Further presentation of the structure of Russian; development of oral and aural skills: elementary composition; readings of simplified texts.

### 102 Intermediate Russian (3) (V)

Prerequisite: Russian 101 or equivalent. Further development of language skills through the reading and discussion of literary texts. May be taken concurrently with 108 after consultation with instructor.

### 108 Oral and Written Composition (3)

Prerequisite: Russian 102 or equivalent. Emphasis will be placed upon the development of oral and written skills. May be taken concurrently with Russian 102 after consultation with instructor.

### 110 Russian Literature in Translation (3)

Readings of representative works drawn from nineteenth-century Russian literature. This course will focus upon works of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, Tolstoy and Chekhov. Lectures and discussion. [H]

### 190 Special Readings (Credit arranged)

Prerequisite: Russian 101 or equivalent. Readings on literary topics mutually acceptable to student and instructor. [H]

## Spanish

### 1 Spanish I (5) (F,W)

Emphasis is placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory per week required.

### 2 Spanish II (5) (F,W)

Prerequisite: Spanish 1 or equivalent. Emphasis is placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory per week required.

### 101 Intermediate Spanish (3) (F,W)

Prerequisite: Spanish 2 or equivalent. Grammar review and cultivation of language skills through the study of selected modern works.

### 103 Intermediate Spanish (3) (F,W)

Prerequisite: Spanish 2 or equivalent. Accelerated grammar review and cultivation of language skills through the study of selected modern works. Designed primarily for those students intending to major in Spanish. (Credit is not granted for both 101 and 103.)

### 105 Commercial Spanish (3) (F)

Prerequisite: Spanish 2 or equivalent. Grammar review and cultivation of language skills with emphasis on technical vocabulary and correct Spanish usage in business affairs. Designed for business majors, economics majors, or anyone interested in the commercial application of Spanish. (This course is the equivalent of Spanish 101.) Spanish 101 and Spanish 105 may not both be taken for credit.

### 110 Spanish Literature in Translation (3)

Prerequisite: Sophomore standing. Lectures on the literature and culture of Spain from the Middle Ages to the contemporary period. Reading and discussion of works of representative writers: Cervantes, Calderón, Galdós, Unamuno, García Lorca, Buero Vallejo, and others. May not count toward the Spanish major. [H]

### 111 Spanish-American Literature in Translation (3)

Prerequisite: Sophomore standing. Lectures on the literature and culture of Spanish America. Reading and discussion of works of representative poets, novelists, and essayists of the contemporary period. May not count toward the Spanish major. [H]

### 150 European Literature in Translation: Special Topics (3)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic is announced in advance by the department. Does not count toward major in Spanish. [H]

### 170 Spanish in its Cultural Context (3)

Prerequisite: Spanish 101 or equivalent. Survey of the cultural and environmental influences on the development of the Spanish language in Latin America, with stress upon the social elements that shape the major dialectal groups. Readings and lectures in Spanish. [H]

### 171 Spanish Conversation and Pronunciation (3) (F)

Prerequisite: Spanish 101 or equivalent. Emphasis is

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placed upon the development of oral skills in Spanish and upon the problems of Spanish pronunciation and intonation.

### **172 Spanish Composition (3) (W)**

Prerequisite: Spanish 101 or equivalent. Emphasis in developing the capacity and the ability to write in Spanish.

### **190 Special Readings (1-3)**

Prerequisite: Spanish 171 or 172 or consent of the department. Independent study through readings, reports, and conferences. [H]

### **200 Syntax of the Spanish Language (3) (W)**

Prerequisite: Spanish 171 or 172 or equivalent. Study of the syntactical and morphological characteristics of the Spanish language. Designed primarily for students majoring in Spanish. May be taken concurrently with any 200-level course.

### **210 Hispanic Culture and Civilization: Spain (3) (F)**

Prerequisite: Spanish 171 or 172 or equivalent. The development of Spanish peninsular civilization from its Romanic beginnings to the present. [H]

### **211 Hispanic Culture and Civilization: Spanish America (3) (W)**

Prerequisite: Spanish 171 or 172 or equivalent. The development of cultures and civilization of the Spanish-speaking nations of the Western hemisphere. [H]

### **264 Curriculum and Methods of Teaching Foreign Languages (3) (W)**

(Same as SEC ED 264) Prerequisite: SEC ED 213 and Junior standing. A study of the scope and sequence of the foreign language courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward the techniques and research tools of the scholar in the field of foreign languages.

### **271 Advanced Spanish Conversation (3)**

Prerequisite: Spanish 171 or consent of the department. Emphasis will be placed upon the further development of oral skills in Spanish.

### **280 Introduction to Hispanic Literature: Spain (3) (F)**

Prerequisite: Spanish 171 or 172 or equivalent. Study of selected texts of Spanish writers from the Middle Ages to the present and the historical, cultural, and political factors which influenced their writings. Required for Spanish majors. [H]

### **281 Introduction to Hispanic Literature: Spanish America (3) (W)**

Prerequisite: Spanish 171 or 172 or equivalent. Study of selected texts of Spanish American writers from the colonial period to the present and the historical, cultural, and political factors which influenced their writings. Required for Spanish majors. [H]

### **290 Special Readings (1-3)**

Prerequisites: Consent of the department. Independent study through readings, reports and conferences. [H]

### **310 Spanish Literature from 1898 to 1939 (3) (V)**

Prerequisite: Spanish 280. A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists, and dramatists. [H]

### **315 Spanish Literature from 1939 to the present (3) (V)**

Prerequisite: Spanish 280. A study of cultural and literary developments since the Spanish Civil war. Emphasis on leading novelists and dramatists. [H]

### **320 Realism and Naturalism in the Nineteenth-Century Spanish Novel (3) (V)**

Prerequisite: Spanish 280. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading novelists of the epoch (Galdós, Clarín, Pardo Bazán, and Blasco-Ibáñez). [H]

### **321 Spanish Poetry and Drama of the Nineteenth Century (3) (V)**

Prerequisite: Spanish 280. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading poets (Espronceda, Bécquer) and playwrights (Zorrilla, Duque de Rivas). [H]

### **325 Poetry and Drama of the Golden Age (3) (V)**

Prerequisite: Spanish 280. Selective readings from the dramas of Lope de Vega, Tirso de Molina, Ruiz de Alarcón, and Calderon de la Barca and from the poetry of Garcilaso, Fray Luis de León, San Juan de la Cruz, Góngora, Lope de Vega, and Quevedo. [H]

### **330 Cervantes (3) (V)**

Prerequisite: Spanish 280. A study of *Don Quixote* in relation to the author's life and with cultural background of the Spanish Golden Age. Independent reading of other works of Cervantes. [H]

### **331 Picaresque and Satirical Prose (1550-1650) (3)**

Prerequisite: Spanish 280. A study of Renaissance and Baroque prose in its social context. All readings and discussions in Spanish. [H]

### **335 Masterpieces of Spanish Medieval and Renaissance Literature (3) (V)**

Prerequisite: Spanish 280. Designed to acquaint students with the cultural background of Medieval and Renaissance Spanish traditions. Critical readings and discussion of representative works of these periods: *Poema del Cid*; *El Conde Lucanor*; *Libro de Buen Amor*; *El Romancero*; *La Celestina*; the picaresque novel, and *Don Quixote*. [H]

### **340 Spanish-American Literature of the Nineteenth Century (3) (V)**

Prerequisite: Spanish 281. A study of the culture and literature of Spanish America in the nineteenth century with emphasis on the leading novelists and essayists of the epoch. [H]

## Modern Foreign Languages and Literatures

### **341 Modernismo (3) (V)**

Prerequisite: Spanish 281. The genesis, development, and influence of this literary movement in Spanish-American letters with emphasis on the modernista poetry and prose.

### **345 Spanish-American Literature of the Twentieth Century (3) (V)**

Prerequisite: Spanish 281. A study of the leading Spanish-American poets, essayists, and novelists of this period as interpreters of contemporary man's dilemma and the "pathos" and "ethos" of their culture. [H]

### **351 Spanish-American Fiction of the Twentieth Century (3) (V)**

Prerequisite: Spanish 281. The role of prose fiction in Spanish-American literary and cultural history from World War I to the present. [H]

### **360 Spanish-American Poetry from Modernismo to the Present (3) (V)**

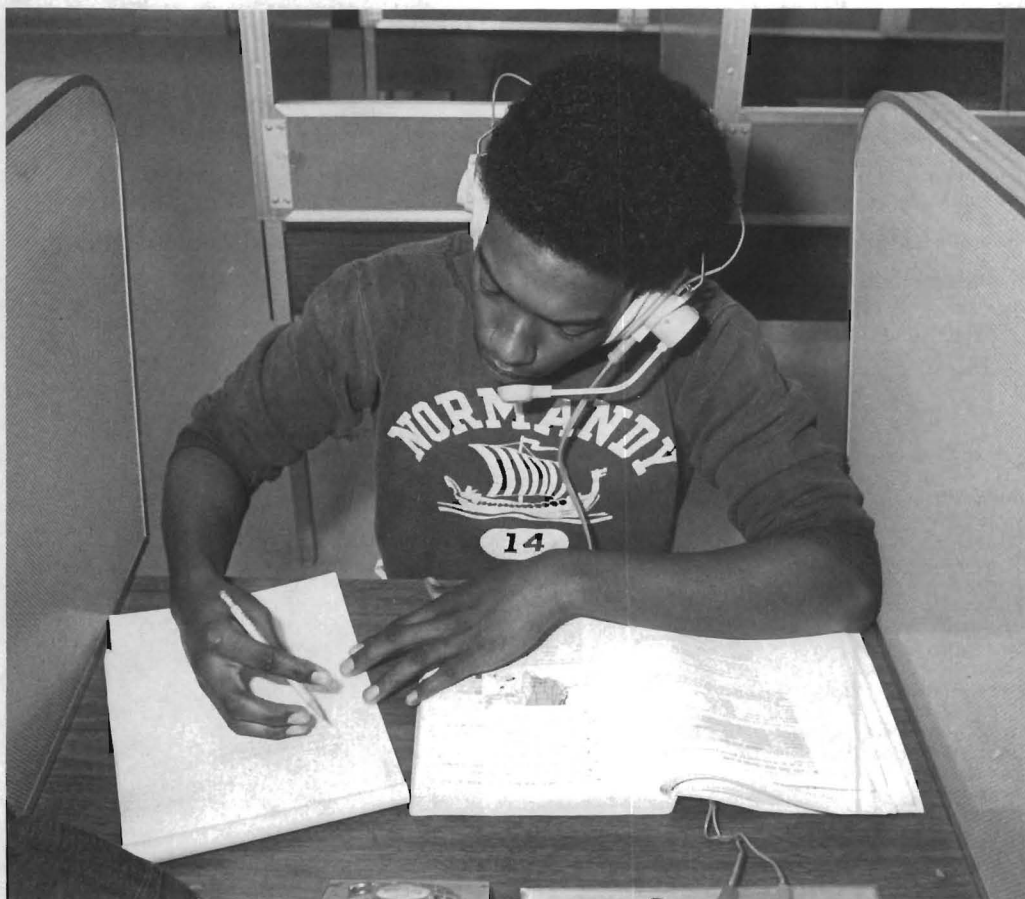
Prerequisite: Spanish 281. A study of poetry and its role in the literary and cultural history of Spanish American society from Modernismo to the present. [H]

### **390 Special Readings (1-3) (V)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. [H]

### **399 Seminar on Hispanic Literature (3) (W)**

Required of major students in the senior year. Subject to be announced every year by the instructor in charge of the seminar. [H]



## 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\*  
D.M.A., University of Michigan

**Evelyn Mitchell**, Associate Professor\*

**Arnold Perris**, Associate Professor\*  
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**Jeral Becker**, Assistant Professor  
Ph.D., Washington University

**Charles Hicks**, Assistant Professor  
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**Aleksander Ciechanski**, Instructor (Violoncello)

**Carolee Coombs-Stacy**, Instructor (Voice)

**Hubert Drury**, Instructor (Piano)  
M.M.

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M.M.

**Joseph Kline**, Instructor (Piano)  
M.M.

**Audrey Kooper**, Instructor (Piano)  
A.B.

**James Meyer**, Instructor (Saxophone)\*

**Robert Mottl**, Instructor (Bassoon)\*  
M.M.

**Richard O'Donnell**, Instructor (Percussion)\*

**Gay Pappin**, Instructor  
M.M.

**Jan Parker**, Instructor (Voice)

**Thomas Parks**, Instructor (Voice)

**Melvin Ritter**, Instructor (Violin)

**Alan Rosenkoetter**, Instructor (Guitar)  
B.S.

**Evelyn Rubenstein**, Instructor

**Bernard Schneider**, Instructor (Trombone)†

**Gary Smith**, Instructor (Trumpet)†  
M.M.



# Music

**Janis Smith**, Instructor (Flute)\*

B.M.E.

**Larry Strieby**, Instructor (Horn)\*

B.M.

**Thomas Stubbs**, Instructor (Percussion)\*

B.S.

**Kathleen Thomerson**, Instructor (Organ)

M.M.

**Robert Tobler**, Instructor (Trombone)

M.M.

**Carolyn White**, Instructor (Double Bass)\*

B.M.

**Lazar Gosman**, Artist-in-Residence and Conductor of Kammergild Chamber Orchestra

\*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 instructors 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 with an emphasis in music education (and state teaching certification in grades K - 12); the B.M. degree with an emphasis in performance; and the B.A. degree in music, or in music history and literature.

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 St. Louis Symphony Orchestra. Faculty recitals are regularly scheduled.

**Facilities** All of the department's facilities, classrooms, rehearsal rooms, studios, practice rooms, and listening labs are located in the recently renovated Music Building.

**Ensembles** Twelve performing ensembles are open to all by audition with credit optional:

**40**, University Chorus

**41**, University Singers

**50**, Orchestra

**52**, University Band

**53**, Wind Ensemble

**54a**, Chamber Brass

**54b**, Jazz Ensemble

**54c**, Percussion Ensemble

**54d**, String Ensemble

**54e**, Voice Ensemble

**54f**, Woodwind 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. degree program who are not required to take a foreign language. Courses required for degree programs may not be taken pass-fail.

Students may complete any number of hours of applied music (private lessons) toward a degree. Non-music majors may not complete more than 8 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-Euro-American study requirement are Music 9, Non-Western Music and Music 10, Non-Western 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.**

Evidence of sound musicianship, a close acquaintance with an appropriate portion of musical literature, and the ability to bring it to actual performance is required for graduation in

## Music

all music degree programs. Students in the B.M.-Performance Emphasis fulfill this requirement with junior and senior recitals. Those in all other degree programs may 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 music faculty members. The faculty may invite students who are not in the B.M.-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 (Band, Singers, Chorus, or Orchestra) and to study one applied area progressively each semester of the degree program. Standards of achievement in applied music are on file in the department office.

Majors are required to appear in performance at the department's discretion and to attend a prescribed number of department 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

- 3, Theory of Music I
- 4, Theory of Music II
- 111, Theory of Music
- 112, Theory of Music
- 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** Candidates must complete the following:

- 151, Beginning Conducting
- 192, Senior Research

**Applied Area** 16 credit hours of private lessons

**Ensemble** 4 hours maximum credit

**Bachelor of Arts in Music History and Literature** Candidates must complete the following:

**Music History and Literature** Two additional 300-level courses

- 151, Beginning Conducting
- 192, Senior Research

**Applied Area** 12 credit hours of private lessons

**Ensemble** 4 hours maximum credit

**Bachelor of Music with an emphasis in Music Education** Candidates must complete the following:

**Applied Area** 16 credit hours of private lessons

### Music Theory

- 151, Beginning Conducting
- 152, Intermediate Conducting
- 251, Advanced Conducting
- 161, Junior-Senior High School Materials Laboratory
- 162, Elementary School Materials—Conducting Laboratory
- 261, Secondary School Materials—Conducting Laboratory

**Instrumental Certification** Music 17, Beginning Instrumental Techniques, 8-13 credit hours

### Vocal Certification

- 125, Singer's Diction
- 126, Singer's Diction

For students whose applied area is not Voice, the following courses are also required:

- 123, Intermediate Vocal Techniques
- 124, Intermediate Vocal Techniques

**Ensemble** 4 hours maximum credit

# Music

**Curriculum and Methods of Teaching** The following courses are required:

**257**, Curriculum and Methods of Teaching Elementary School Music

**267**, Curriculum and Methods of Teaching Secondary School Music

## Professional Education and Student Teaching

The following education courses are required:

**ED FND 111**, School and Contemporary Society

**ED PSY 312**, Psychology of Teaching and Learning

**ELE ED 210**, Organization and Management Techniques in Elementary Schools

**SEC ED 213**, Techniques of Teaching in the Secondary Schools

**SEC ED 293**, Student Teaching in Music

**SPC ED 313**, The Psychology and Education of Exceptional Individuals

**Bachelor of Music with an Emphasis in Performance** Candidates must complete the following:

**311**, Analysis of Twentieth-Century Techniques

**312**, Tonal Counterpoint

**151**, Beginning Conducting

**152**, Intermediate Conducting

**192**, Senior Research

**Music History and Literature** An additional 300-level course

**Applied Area** 32 credit hours of private lessons (junior and senior recitals required)

**Ensemble** Participation required as follows:

**Large Group**, 4 hours maximum credit

**Chamber Ensemble/Accompanying**, 4 hours

## 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 UMSL music graduates have been readily accepted into leading graduate schools. Many are pursuing successful careers in music education or in business and industry.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department.

For the nonmajor, no more than 8 hours in applied music courses will be accepted toward graduation.

### 1 Introduction to Music (3) (F,W,S)

A historically oriented study of art music, its styles and forms from the Baroque period to the present day. This course will not apply toward requirements for a music major. [H]

### 2 Introduction to Symphonic Music (3)

Orchestral music from the Baroque era to the present time; concerto grosso and suite; program music; and the symphony. This course will not apply toward requirements for a music major. This course is also for independent study through the UMSL office of the University of Mid-America. [H]

### 3 Theory of Music I (3) (F)

The basic materials and their use in analyzing and writing music. Systematic instruction in ear training and sight-singing. Primarily for music majors. [H]

### 4 Theory of Music II (3) (W)

Prerequisite: Music 3 or consent of department. Continuation of Music 3. [H]

### 6 Introduction to the Afro-American Arts (3)

A survey of the cultural contributions of African music, dance, and sculpture to contemporary America. This course will not apply toward requirements for a music major. [H]

### 7 Introduction to Jazz (3)

A survey course which examines the musical, historical, and social aspects of the subject. This course will not count toward requirements for a music major. [H]

### 9 Non-Western Music (3)

The music of Oceania; folk and classical music and dance of East Asia, Tibet, and Southeast Asia, and the influence of Buddhism, Islam, and Western acculturation on the functions of music in these societies. [H]



## Music

### **10 Non-Western Music (3)**

The music of the African continent, West Asia, and South Asia; a survey of the tribal folk and classical music and performing arts of these cultures. [H]

### **14, 15 Piano Proficiency (2) (14F, 15W)**

Prerequisite: Consent of department. Group instruction for music majors who do not meet beginning keyboard requirements.

### **17 Beginning Instrumental Techniques (1) (F,W)**

Prerequisite: Consent of department. Performance, teaching techniques, and materials for the various media: a, bassoon; b, clarinet, c, flute; d, French horn; e, oboe; f, percussion; h, saxophone; i, string bass; j, trumpet; k, trombone; l, tuba; m, viola; n, violin; o, violoncello.

### **20 Jazz Improvisation Laboratory (1)**

Prerequisite: Permission of instructor. The study and application of the theoretical, technical, and performance aspects of jazz improvisation. May be repeated for credit.

### **33H Sophomore Honors: Music (3) (F)**

Prerequisite: Standing in Sophomore Honors Program. Specifically for students in the Sophomore Honors Program. The study of significant examples of music of Western and non-Western societies from the perspective of historical period and social function.

### **40 University Chorus (1) (F,W)**

Prerequisite: Consent of instructor. Preparation and performance of choral literature.

### **41 University Singers (1) (F,W)**

Prerequisite: Consent of instructor. The study and performance of music for vocal chamber ensemble.

### **44, 45, 144, 145, 244, 245, 344, 345, 346, 347 Applied Music (2 or 4) (F,W)**

Registration by audition and consent of department. Courses are offered in the following areas; a, bassoon; b, clarinet; c, classical guitar; d, euphonium; e, flute; f, French horn; g, harp; h, oboe; i, organ; j, percussion; k, piano; l, saxophone; m, trombone; n, trumpet; o, tuba; p, violin; q, viola; r, violoncello; s, string bass; and t, voice.

### **50 University Orchestra (1) (F,W)**

Prerequisite: Consent of instructor. Study, preparation, and performance of orchestral repertory.

### **52 University Band (1) (F,W)**

Prerequisite: Consent of instructor. Study, preparation, and performance of music for the wind ensemble and band.

### **53 University Wind Ensemble (1) (F,W)**

Prerequisite: Consent of instructor. Study, preparation, and performance of music for wind ensemble and Chamber band.

### **54 Chamber Ensemble (1) (F,W)**

Prerequisite: Consent of department. Study, preparation, and performance of music for small ensembles: a, brass; b, jazz; c, percussion; d, strings; e, voice; f, woodwinds; g, accompanying.

### **56 Opera Workshop (1) (F,W)**

Instruction in movement, basic stage techniques, technical theater, repertory and performance techniques, and preparation. May be repeated for credit.

### **60 Collegium Musicum (1)**

Prerequisite: Consent of instructor. Performance of music for chamber ensemble with particular emphasis on the Renaissance and Baroque periods.

### **71 Sight Singing I (1)**

Rhythmic and tonal sight singing, based on Kodaly methodology. Recommended for music education majors. Will not substitute for music theory sequence.

### **72 Sight Singing II (1)**

Prerequisite: Music 71. A continuation of Music 71.

### **90 Freshman Seminar (3)**

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to 12 students. [H]

### **101 History of Western Music (3) (F)**

Prerequisite: Music 3 or consent of department. A general survey of the history of western music. Includes the evolution and development of styles, forms, and their social setting. [H]

### **102 History of Western Music II (3) (W)**

Prerequisite: Music 3 or consent of department. Continuation of Music 101. [H]

### **111 Theory of Music (3) (F)**

Prerequisite: Music 4 or consent of department. Altered chords and modulation. Application of vocabulary and techniques to music of the eighteenth and nineteenth centuries. Composition in simple forms. [H]

### **112 Theory of Music (3) (W)**

Prerequisite: Music 111 or consent of department. Continuation of Music 111. [H]

### **116, 118, 119, 120 Intermediate Piano Proficiency (1) (F,W)**

Prerequisite: Music 15 or consent of department. Continuation of piano proficiency study.

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## **123, 124 Intermediate Vocal Techniques (1)**

Prerequisite: Consent of department. Instruction for non-voice majors in the choral option of the music education curriculum.

## **125 Singer's Diction (1) (W)**

Prerequisite: Music 44 or 124. A study of French and Italian pronunciation.

## **126 Singer's Diction (1) (F)**

Prerequisite: Music 44 or 125. A study of English and German pronunciation.

## **136 Music Fundamentals for the Elementary School Teacher (2) (F,W,S)**

An introductory course in the rudiments of music for the elementary classroom teacher. Prerequisite for Music 137. This course will not apply toward requirements for a music major. [H]

## **137 Elementary School Music (2) (F,W,S)**

(Same as ELE ED 177) Prerequisite: Music 136 or consent of department. The role of the classroom teacher in the development of the elementary school general music program; selection of music, demonstration and practice of methods, and study of resources. This course will not apply toward requirements for a music major.

## **141 Orchestration (2) (F,W)**

Prerequisite: Music 112 or concurrent enrollment. Study of the instruments of the orchestra; scoring for various instrumental ensembles and orchestra.

## **151 Beginning Conducting (2) (W)**

Prerequisite: Music 111. Concurrent registration in Music 161 required. Techniques and problems in conducting.

## **152 Intermediate Conducting (2) (F)**

Prerequisite: Music 151 and concurrent registration in

Music 162. A continuation of Music 151 with the addition of score study and preparation.

## **153 Accompanying I (1)**

Prerequisite: Consent of the department. Accompanying and ensemble practices, including rehearsal techniques, for keyboard majors. Public performance of works studied is required.

## **154 Accompanying II (1)**

Prerequisite: Consent of the department. A continuation of Music 153.

## **155 Accompanying III (1)**

Prerequisite: Consent of the department. A continuation of Music 154.

## **156 Piano Pedagogy (2)**

Prerequisite: Equivalent of Music 45 k or permission of instructor. A study of methods, repertoire, and technical problems pertaining to private studio teaching for all levels of performance ability.

## **161 Junior-Senior High School Materials Laboratory (1) (W)**

Prerequisite: Music 111. Analysis and evaluation of selected instructional and concert materials for the junior and senior high school performance groups.

## **162 Elementary School Materials - Conducting Laboratory (1) (F)**

Prerequisite: Music 112. Active conducting experience while analyzing and evaluating selected instructional and concert materials for elementary grades.

## **192 Senior Research (2) (F,W)**

Prerequisite: Consent of department. Required of all senior music majors. Directed readings and research in an area mutually acceptable to the student and instructor. [H]



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### **221 Pedagogy of Jazz Improvisation (1)**

Prerequisites: Music 112 and permission of instructor  
Study of the techniques, systems, and instructional materials used in teaching jazz improvisation.

### **251 Advanced Conducting (2) (F)**

a. Instrumental; b. Choral

Prerequisite: Music 141. Concurrent registration in Music 162 required. Advanced study of conducting and rehearsal techniques, score reading, and interpretation.

### **257 Curriculum and Methods of Teaching Elementary School Music (3) (F)**

(Same as ELE ED 277) Prerequisite: Music 112 and ED FND 111. For the music education major. A study of the elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources.

### **261 Secondary School Materials - Conducting Laboratory (1) (W)**

Prerequisite: Music 112. Active conducting experience while analyzing and evaluating selected instructional and concert materials for the junior-senior high schools.

### **267 Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)**

Prerequisites: Music 112, Music 257/Elementary Education 277, and Education Foundations 111. Concurrent registration in Music 261, Music 268/Secondary Education 276 or Music 269/Secondary Education 277 and Music 270/Secondary Education 278 or Music 271/Secondary Education 299. For the music education major. A study of the secondary school music program: curricular objectives, philosophy, and general administrative procedures common to all secondary music classes.

### **266 Curriculum and Methods of Teaching Elementary/Middle School/Junior High Instrumental Music (2).**

Prerequisites: Music 112, Music 257/Elementary Education 277, and Education Foundations 111. Concurrent registration in Music 261, Music 267/Secondary Education 275 and Music 270/Secondary Education 278. A study of the teaching techniques, materials, curriculum, and organization of the beginning instrumental music program in the elementary and middle school/junior high school.

### **269 Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)**

Prerequisites: Music 112, Music 257/Elementary Education 277, and Education Foundations 111. Concurrent registration in Music 261, Music 267/Secondary Education 275 and Music 271/Secondary Education 279. For the music education major. A study of the middle school/junior high school general music program emphasizing a conceptually based curriculum: objectives, methodologies materials, innovations, classroom organization and management.

### **270 Curriculum and Methods of Teaching High School Instrumental Music (2).**

Prerequisites: Music 112, Music 257/Elementary Education 277, and Education Foundations 111. Concurrent registration in Music 261, Music 267/Secondary Education 275, Music 268/Secondary Education 276. For the music education major. A study of the high school instrumental music program: curriculum, methods, teaching techniques, organization, and administrative procedures for instrumental performance classes.

### **271 Curriculum and Methods of Teaching Secondary Choral Music (2).**

Prerequisite: Music 112, Music 257/Elementary Education 277, and Education Foundations 111. Concurrent registration in Music 261, Music 267/Secondary Education 275, Music 269/Secondary Education 277. For the music education major. A study of the secondary choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes.

### **290 Independent Study (1-3)**

Prerequisite: Junior or senior standing and consent of department and instructor. Independent study through reading, reports, or field research. [H]

### **292 Internship (1-3)**

Prerequisites: Senior standing and consent of instructor. Supervised experience in the area of the student's career objective, as music or instrument merchandising, arts management, mass communication, publishing, manufacturing or other, as available. May be repeated once for credit in different area.

### **300 Advanced Techniques in Music Education (1-2)**

Prerequisite: A 200-level music education course or permission of the department. Intensive study for advanced music education students and music teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit.

### **311 Analysis of Twentieth-Century Techniques (2) (F)**

Prerequisite: Music 112 or consent of the department. The study of compositional devices in tonal and atonal music of the twentieth century.

### **312 Tonal Counterpoint (2) (W)**

Prerequisite: Music 112 or consent of the department. The study of tonal counterpoint with emphasis on the eighteenth-century style. Composition in two and three parts.

### **321 Music of the Middle Ages (3)**

Prerequisite: Music 101 or consent of department. A study of music and musical thought from the beginning of Christianity to 1450. Gregorian chant, polyphonic music, the Ars Antiqua, and the Ars Nova. [H]

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## **322 Music of the Renaissance (3)**

Prerequisite: Music 101 or consent of department. A study of the theoretical and practical impact of humanism on music, musicians, and musical thought from 1450 to 1600. Sacred and secular music; the rise of an instrumental idiom. [H]

## **323 Music of the Baroque (3)**

Prerequisite: Music 101 or consent of department. A detailed study of musical style from 1600 to 1750. The rise of the new style, national styles in the seventeenth century, and the culmination of the Baroque period. [H]

## **324 Music of the Classic Period (3)**

Prerequisite: Music 102 or consent of department. A study of the growth of classical style; galant and expressive styles; Mozart, Haydn, and Beethoven. [H]

## **325 Music of the Romantic Period (3)**

Prerequisite: Music 102 or consent of department. Composers, forms, and styles in nineteenth-century music. The literary and social background of musical romanticism. [H]

## **326 Music of the Twentieth Century (3)**

Prerequisite: Music 102 or consent of department. A detailed study of trends in modern music and of influential composers; impressionism, serial composition, electronic music, and other recent techniques. [H]

## **330 Seminar in Composition (2) (W)**

Prerequisite: Music 311 or consent of the instructor. The study of composition in theory and practice.

## **356 Opera Workshop (1) (F,W)**

Prerequisite: Consent of instructor. Instruction in movement, stage technique, technical theater, repertory, and performance based on advanced vocal skills. May be repeated for credit.



## Philosophy

### Faculty

**David A. Conway**, Chairperson; Associate Professor\*  
Ph.D., Princeton University

**Peter Fuss**, Professor\*

Ph.D., Harvard University

**Ronald Munson**, Professor\*

Ph.D., Columbia University

**Edward B. Costello**, Associate Professor\*

Ph.D., Northwestern University

**Lawrence H. Davis**, Associate Professor\*

Ph.D., University of Michigan

**James F. Doyle**, Associate Professor\*

Ph.D., Yale University

**Robert M. Gordon**, Associate Professor\*

Ph.D., Columbia University

**John E. Parks-Clifford**, Associate Professor\*

Ph.D., University of California-Los Angeles

**Stephanie A. Ross**, Assistant Professor\*

Ph.D., Harvard University

**Paul A. Roth**, Assistant Professor

Ph.D., University of Chicago

**Henry L. Shapiro**, Assistant Professor\*

Ph.D., Columbia University

**David J. Griesedieck**, Instructor

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 own 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 programs leading to the A.B. 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 program offers a balance between training in the techniques of logical analysis, study of philosophical classics, and examination of selected problems in philosophy.

## 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 pass-fail toward the degree requirements.

### Degree Requirements

**Bachelor of Arts in Philosophy** Students must complete one of the following programs. At least 30, but no more than 45, hours are required for a major.

**Program One** Designed to prepare students for graduate work in philosophy, the program requires:

**1 Philosophy 160**, Formal Logic

**2 History of Philosophy**—Choose option a or option b.

# Philosophy

**Option a:** **Two** courses from Philosophy 101-107 sequence; and **one** course from Philosophy 201-210 sequence.

**Option b:** Philosophy 10, History of Philosophy I and Philosophy 11, History of Philosophy II; and **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 Theories of Knowledge and Metaphysics

**Philosophy 240**, Theories of Knowledge or **Philosophy 245**, Metaphysics

## 5 Philosophy and other disciplines—

**One** course from the Philosophy 270-290 sequence.

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.

**Program Two** Less restrictive, this program 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—Two** courses chosen from the following:

**Philosophy 10**, History of Philosophy I

**Philosophy 11**, History of Philosophy II

**Philosophy 101-107** sequence

**Philosophy 201-210** sequence

**3** Twelve hours at the 200 level.

**Program Three** Open only to students seeking a double major, the program requires:

**1 Philosophy 60**, Logic and Language or

**Philosophy 160**, Formal Logic

**2 History of Philosophy—Two** courses chosen from the following:

**Philosophy 10**, History of Philosophy I

**Philosophy 11**, History of Philosophy II

**Philosophy 101-107** sequence

**Philosophy 201-210** sequence

**3** Nine hours at the 200 level.

**Thesis Option** Qualified majors, with the department's consent, may earn departmental honors by completing at least 6 hours, but no more than 9, of Philosophy 291, Senior thesis, submitting an acceptable thesis before the end of the senior year, and 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.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

Prerequisites may be waived by consent of department.

### 10 History of Philosophy I: A Survey from Antiquity to the Renaissance (3) (F,W)

Lectures and discussions tracing the development of Western philosophy from its beginnings among the pre-Socratics through the Middle Ages and Renaissance. Philosophical ideas will be examined in the cultural and historical context: the Greek city-state, the rise of Christianity, etc. [H]

### 11 History of Philosophy II: A Survey from Descartes to the Present (3) (F,W)

Lectures and discussion on the development of Western philosophy from Descartes (1596-1650) to the present. Philosophical ideas will be examined with an eye to their historical and cultural setting: the rise of modern science, the industrial revolution, the rise of capitalism, etc. [H]

### 30 Approaches to Ethics (3) (F,W)

A study and discussion of representative topics in moral philosophy such as moral skepticism, moral objectivity, theories of obligation and value, evaluation of social institutions, and the relation between morality and science. Traditional and contemporary writers will be considered. [H]

## Philosophy

### **33H Explorations in Western Philosophy (Sophomore Honors) (3)**

Prerequisite: Acceptance in sophomore honors. An examination of selected philosophical problems as treated by major figures in the western intellectual tradition. Emphasis will be on textual study and critical analysis and discussion.

### **50 Major Questions in Philosophy (3) (F,W)**

A study and discussion of representative topics in philosophy such as free will and determinism, concepts of mind and body, the basis of value judgments, knowledge and belief, and the possibility of constructing a world view. [H]

### **60 Logic and Language (3) (F,W)**

An introduction to the language and logical structure of arguments, the principles of sound reasoning, and application of these principles in a variety of contexts [H]

### **74 Philosophy and Literature (3)**

Critical reading and discussion of selected literary works in terms of the philosophical problems they present. [H]

### **85 Philosophy of Religion (3) (F,W)**

A philosophical investigation of such problems as the nature of religious faith and experience, the relation of faith and reason, alternative concepts of deity, and the problem of evil. [H]

### **90 Freshman Seminar (3)**

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to 12 students. [H]

### **101 Ancient Philosophy (3)**

Freshmen admitted by consent of department. The principal philosophical doctrines of the ancient world with special emphasis on the philosophies of Plato and Aristotle. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course. [H]

### **102 Medieval Philosophy (3)**

A critical study of the important philosophies of the period from Augustine to the Renaissance. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course. [H]

### **103 Early Modern Philosophy (3)**

Principal figures in the development of rationalism, empiricism, and skepticism in early modern Europe, from Descartes through Hume. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course. [H]

### **104 Kant and Nineteenth-Century Philosophy (3)**

A study of Kant and such major nineteenth-century figures as Hegel and Nietzsche, Mill and Peirce. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course. [H]

### **105 Twentieth-Century Philosophy (3)**

Representative topics in contemporary philosophy, with readings selected from pragmatism, logical positivism, linguistic analysis, and existentialism. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course. [H]

### **107 American Philosophy (3)**

Prerequisite: 6 hours of philosophy or consent of instructor. A study of selected American philosophers [H]

### **120 Asian Philosophy (3) (F,W)**

Critical study of selected philosophical classics of India and China. [H]

### **150 Philosophy and Current Issues (3)**

A careful examination of such current social controversies as women's liberation, the ethics of abortion, public accountability of holders of high offices, and the subtler forms of racism and other prejudices. Although there is no formal prerequisite, it is recommended that students have taken, or be concurrently enrolled in, at least one other philosophy course. [H]

### **151 Sexual Ethics (3)**

A critical review of what philosophers, both classical and contemporary, have said about sexual experience and its place in our lives. Included will be such topics as sexual desire, sexual perversion, love and commitment, marriage, and adultery. Larger questions might include the role of sexual experience in the good life, issues of sexual privacy, and the morality of laws which regulate sexual activity. [H]

### **153 Philosophy and Feminism (3)**

A critical survey of what various philosophers have said about issues of concern to the women's movement. Included will be accounts both traditional and modern—of such topics as differences between the sexes, sexism in language, oppression, preferential treatment and affirmative action, abortion and rape, and the differences between sexism and racism. [H]

### **156 Medical Ethics (3)**

An examination of the ethical issue in medical practice and research and in public policies affecting health care. Topics include: abortion, euthanasia, medical experimentation, informed consent, and the right to health care.

### **160 Formal Logic (3) (F,W)**

An introductory study of logical truth and deductive



# Philosophy

inference, with emphasis on the development and mastery of a formal system. [H]

## 165 Inductive Logic (3)

An examination of the techniques for evaluating inferences which do not fit deductive frameworks. Examples will be drawn from at least the physical sciences, medicine, ethics, law, and everyday life.

## 201 Plato (3)

Prerequisite: 6 hours of philosophy or consent of instructor. A study of selected Platonic dialogues. [H]

## 202 Aristotle (3)

Prerequisite: 6 hours of philosophy or consent of instructor. A selective study of Aristotle's major works. [H]

## 205 The Rationalists (3)

Prerequisite: 6 hours of philosophy or consent of instructor. An examination of the philosophies of such major figures as Descartes, Spinoza, and Leibniz. [H]

## 206 The British Empiricists (3)

Prerequisite: 6 hours of philosophy or consent of instructor. An examination of the philosophies of such major figures as Locke, Berkeley, and Hume. [H]

## 207 Kant (3)

Prerequisite: 6 hours of philosophy or consent of instructor. A systematic study of the *Critique of Pure Reason*. [H]

## 208 Hegel (3)

Prerequisite: 6 hours of philosophy or consent of instructor. A critical study of the writings and influence of Hegel. [H]

## 210 Significant Figures in Philosophy (3)

Prerequisite: 6 hours of philosophy or consent of instructor. A critical study of the work of an important philosopher. The philosopher to be considered will be announced prior to registration. This course may be repeated for credit on approval by the department. [H]

## 215 Existentialism and Phenomenology (3)

A study of some major representatives of these schools from Kierkegaard to the present. [H]

## 230 Social and Political Philosophy (3)

An analysis of some fundamental concepts and assumptions involved in the theory and practice of social and political organization. [H]

## 235 Classical Ethical Theories (3)

Significant contributions to moral philosophy from Plato and Aristotle to Bentham and Mill. [H]

## 238 Recent Ethical Theory (3)

Prerequisite: 6 hours of philosophy or consent of

instructor. A study of major contributions to twentieth-century ethics, including works by such writers as Moore, Dewey, Ross, Stevenson, Hare, and Rawls. [H]

## 240 Theories of Knowledge (3)

Prerequisite: 6 hours of philosophy or consent of instructor. An examination of concepts and problems involved in the characterization of knowledge. Specific topics will vary, but will usually include knowledge, belief, skepticism, evidence, certainty, perception, truth, and necessity. [H]

## 245 Metaphysics (3)

Prerequisite: 6 hours of philosophy or consent of instructor. An examination of selected metaphysical topics such as substance, universals, causality, necessity, space and time, free will, being, and identity. [H]

## 250 Special Topics in Philosophy (3)

Prerequisite: 6 hours of philosophy or consent of instructor. A critical study of classical and/or contemporary contributions to a selected topic in philosophy. The topic to be considered will be announced prior to registration. This course may be repeated for credit on approval by the department. [H]

## 260 Advanced Formal Logic (3)

Prerequisite: Philosophy 160 or consent of instructor. Rigorous study of major developments in contemporary logic. Emphasis is given to theoretical problems and some attention devoted to philosophical issues arising from logic. [H]

## 265 Logical Explorations (3)

Prerequisite: Philosophy 160. A variable content course in which techniques of modern logic are used to explore one or more of the following topics: modal logic, the logic of decision and action, value theory and decision analysis, induction and inductive logic, the logic of knowledge and belief, system construction, and contemporary logical theory. The topic will be announced prior to registration. This course may be repeated for credit on approval by the department. [H]

## 269 The Marxist Heritage (3) (W)

(Same as Political Science 269) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions. [H] or [SS]

## 270 Philosophy of Language (3)

A study of the nature and structure of language and its relationship to selected philosophical problems. Included will be such topics as ordinary language philosophy, significant developments in twentieth-century linguistics, prospects for semantic theory, and a discussion of traditional problems of meaning, reference, and synonymy. [H]

## Philosophy

### **272 Philosophical Issues in Education (3)**

A critical study and discussion of selected topics in education, including the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the functions of a university. [H]

### **274 Philosophy of Art (3)**

A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism. [H]

### **276 Philosophy of History (3)**

Discussion and analysis of some philosophical problems raised by historical inquiry such as subjectivity, relativism, the role of value judgments, and the nature of historical explanation. [H]

### **278 Philosophy and Psychology (3)**

Prerequisite: 3 hours of philosophy or consent of instructor. An examination of the philosophical foundations of psychology as well as traditional problems in the philosophy of mind. Topics might include behaviorism; Freudian theory; pleasure and pain; desire, emotion, and action; and memory and consciousness. [H]

### **280 Philosophy of Science (3) (F)**

An examination of logical and methodological problems related to the sciences, including the structure of scientific explanations, laws, and theories; methods of concept formation; and confirmation and the problem of induction. [H]

### **282 Philosophy of Social Science (3)**

A detailed analysis of issues raised by the social sciences, including the logical characterization of explanations, predictions, laws, and theories; types of reductionism; objectivity and values; and the empirical basis of the social sciences. [H]

### **285 Problems in Philosophical Theology (3)**

Prerequisite: 6 hours of philosophy or consent of instructor. An intensive study of problems arising out of traditional and contemporary philosophical theology. [H]

### **287 Philosophy of Law (3)**

An examination of typical problems raised by law, including the basis of legal obligations and rights, relations between law and morality, the logic of legal reasoning, and the justification for punishment. [H]

### **290 Philosophical Issues in Other Disciplines (3)**

Prerequisite: Consent of instructor. An examination of selected philosophical issues in a discipline other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, physics, or mathematics will be chosen and philosophical issues selected and announced prior to

registration, usually in consultation with the other department concerned. This course is normally taught as a seminar and attempts to serve advanced students in other departments with or without previous background in philosophy. [H]

### **291 Senior Thesis (3-9) (F,W)**

Prerequisite: Consent of department. Directed individual research for qualified senior majors. At least 6 hours are required for departmental honors in philosophy. May be repeated, but no more than 9 hours may be credited toward a degree. [H]

### **350 Special Readings (1-3) (F,W)**

Prerequisite: Written consent of instructor. Independent study through readings, reports, and conferences. [H]

# Physics

## Faculty

**Jacob J. Leventhal**, Chairperson; Professor\*

Ph.D., University of Florida

**Ta-Pei Cheng**, Professor\*

Ph.D., Rockefeller University

**Thomas C. Collins**, Professor and Associate Vice President

Ph.D., University of Florida

**Cornellu Eftimiu**, Professor\*

Ph.D., University of Bucharest

**Peter H. Handel**, Professor\*

Ph.D., University of Bucharest

**Philip B. James**, Professor\*

Ph.D., University of Wisconsin

**Frank E. Moss**, Professor\*

Ph.D., University of Virginia

**John S. Rigden**, Professor\*

Ph.D., The Johns Hopkins University

**Bernard Feldman**, Associate Professor\*, Graduate

Coordinator

Ph.D., Harvard University

**Bob L. Henson**, Associate Professor\*

Ph.D., Washington University

**Robert Hight**, Associate Professor\*

Ph.D., University of Missouri-Columbia

**Richard D. Schwartz**, Associate Professor\*

Ph.D., University of Washington

**Thomas Crowley**, Assistant Professor

Ph.D., Brown University

**John Barrett**, Research Associate

Ph.D., University of Michigan

**Vikram Kushawaha**, Research Associate

Ph.D., Banaras Hindu University

**Michael Fix**, Visiting Instructor

M.A., Washington University

\*members of Graduate Faculty

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 employed locally.

## 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

**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:

**10**, Experimentation in Physics

**111**, Physics: Mechanics and Heat

**112**, Physics: Electricity, Magnetism, and Optics

**200**, Survey of Theoretical Physics

**221**, Mechanics

**223**, Electricity and Magnetism

**231**, Introduction to Modern Physics I

## General Information

**Degrees and Areas of Concentration** The physics department offers course work leading to the A.B. in physics, the B.S. in physics, and in cooperation with the School of Education, the A.B. 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

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**Also required** are:

**Mathematics 80**, Analytic Geometry and Calculus I  
**Mathematics 122**, Computers and Programming  
**Mathematics 175**, Analytic Geometry and Calculus II  
**Mathematics 201**, 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 A.B. 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 the following courses are **required**:

**Physics 1**, Foundations of Modern Physical Theory  
**Chemistry 12**, Introductory Chemistry II, or equivalent.

At least **two** of the following courses must be completed:

**Physics 225**, Physical Optics  
**Physics 232**, Introduction to Modern Physics II  
**Physics 241**, Thermal and Statistical Physics  
**Physics 282**, History of Physics

**Bachelor of Science in Physics** The B.S. degree provides students with three options: physics, astrophysics, or applied physics.

### 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 45, but no more than 51, hours are required. In addition to the core curriculum, the following **physics** courses are required:

**201**, Elementary Electronics I  
**225**, Physical Optics  
**232**, Introduction to Modern Physics II  
**241**, Thermal and Statistical Physics  
**311**, Advanced Physics Laboratory I  
**312**, Advanced Physics Laboratory II  
**331**, Introduction to Quantum Mechanics

and two additional 300-level courses.

**Also required** are:

**Mathematics 303**, Applied Mathematics II  
**Mathematics 316**, Functions of a Complex Variable  
**Chemistry 12**, Introductory Chemistry II or equivalent

**Note:** Additional hours in mathematics at the 200 level or above are highly recommended.

### Astrophysics Option

This option may be elected by students who have interests in the aerospace sciences or anticipate graduate studies in astrophysics. At least 41, but no more than 51, hours must be taken. In addition to the core curriculum, the following **physics** courses are required:

**225**, Physical Optics  
**232**, Introduction to Modern Physics II  
**241**, Thermal and Statistical Physics

**Also required** are:

**Astronomy 101**, Practical Astronomy  
**Astronomy 201**, Astrophysics  
**Mathematics 303**, Applied Mathematics II

and **two** of the following:

**Astronomy 1**, Cosmic Evolution-Introductory Astronomy  
**Astronomy 11**, Planets and Life in the Universe  
**Astronomy 12**, The Violent Universe and the New Astronomy

**Note:** Additional hours of mathematics at the 300 level are recommended.

### Applied Physics Option

Students desiring careers in the research and development field may elect to take this option. The program prepares students for employment in technical industry or graduate study in applied or engineering sciences by a concentration on subjects such as electronics. All required courses in this option are offered in the evening. In some cases students may select engineering courses from the University of Missouri-Rolla Graduate Engineering Center at UMSL.

At least 42, but no more than 49, hours are required. In addition to the core curriculum, the following **physics** courses are required:

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**201**, Elementary Electronics I  
**241**, Thermal and Statistical Physics  
**311**, Advanced Physics Laboratory I  
**312**, Advanced Physics Laboratory II  
**325**, Linear Analysis of Physical Systems

## Also required:

**Mathematics 303**, Applied Mathematics II

and **two** of the following:

**351**, Solid State Physics  
**353**, Physics of Fluids  
**354**, Atmospheric Physics  
**355**, Topics in Space Physics or **356**, Quantum Optics

**Note** Additional hours in mathematics and chemistry are recommended.

**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.

## Graduate Studies

### Admission Requirements

In addition to meeting the Graduate School general admission requirements, applicants must submit scores from the 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.

### Degree Requirements

**Master of Science in Physics** Students must complete 30 hours in graduate physics courses with at least 16 hours at the 400 level. The remaining 14 hours can be taken at the 300 or 400 level. The 14 hours may include 2 hours of

seminar credit or a thesis. The thesis replaces 5 hours of credit at or above the 300 level. Candidates must also pass a comprehensive examination. For students submitting a thesis, the examination includes a defense of the thesis.

### Typical Program:

First Semester

**Physics:** 400-level and 300-level course  
Total: 7 hours

Second Semester

**Physics:** 400-level and 300-level course  
Total: 7 hours

Third Semester

**Physics:** 400-level and 300-level course  
**Physics 490**, Thesis Research or Seminar  
Total: 8 hours

Fourth Semester

**Physics:** 400-level and 300-level course  
**Physics 490** or Seminar  
Total: 8 hours

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

Prerequisites may be waived by consent of department.

### Astronomy

**1 Cosmic Evolution-Introductory Astronomy (4) (F)**  
Planets: A brief survey of their motions and properties. Stars: Observations, including stellar spectra and colors; stellar evolution and star clusters. Galaxies: Structure and content of the Milky Way Galaxy; its relationship to other galaxies. Cosmology: The origin and evolution of the universe. Three lectures and two multi-media labs. [SM]

**11 Planets and Life in the Universe (4) (W)**  
Man's concept of the solar system from Stonehenge to Einstein; geology and meteorology of the planets of our solar system, with particular attention to results from the space program; exobiology—study of the possibilities of life on other worlds and the best method of communicating with it. Three lecture hours and one observing session per week. [SM]

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### **12 The Violent Universe and the New Astronomy (3) (F)**

Prerequisite: Astronomy 1 or consent of instructor. A nontechnical course focusing on recent results which larger telescopes and the space program have made available. Pulsars, x-ray stars, and black holes; radio astronomy, our galaxy, and interstellar molecules; exploding galaxies and quasars; and origin of the expanding universe. Three lecture hours per week. [SM]

### **50 Introduction to Astronomy I (3)**

Prerequisite: Math 40 or Math 30 plus Trig. A survey of the history of astronomy from ancient times to the present. The motions of the planets and stars, real and apparent. Tools of the astronomer. A study of our solar system, concentrating on results of the space program. [SM]

### **51 Introduction to Astronomy II (3)**

Prerequisites: Math 40 or Math 30 plus Trig. A survey of astronomy and cosmology focusing on discoveries and phenomena outside of the solar system: stars, galaxies, quasars, etc. [SM]

### **101 Practical Astronomy (4)**

Prerequisite: Astronomy 1, Math 80, or consent of instructor. Tools of the astronomer; telescopes, astrophotography, photoelectric photometry. Students will work on a number of projects which will enable them to develop expertise in obtaining, reducing, and analyzing astronomical observations. Student observing will be an important part of the course. [SM]

### **201 Astrophysics (3)**

Prerequisite: Mathematics 201, Physics 113, or consent of instructor. A moderately technical introduction to astrophysics. Topics will include: physics of stellar interiors and atmospheres; interpretation of stellar spectra; stellar evolution; radio astronomy; and cosmology. [SM]

## Atmospheric Science

### **1 Elementary Meteorology (4) (W)**

Prerequisite: High school physics or chemistry. An elementary survey of atmospheric phenomena intended to fulfill the science requirement. Topics included are temperature, pressure, and moisture distributions in the atmosphere and dynamical effects such as radiation, stability, storms, and general circulation. Applications to weather forecasting. Three hours lecture and two hours laboratory per week. [SM]

## Engineering

### **30 Engineering Graphics (3)**

Prerequisite: Mathematics 40 or equivalent. Lettering, drafting equipment, technique, and standards. Technical sketching, engineering curves, charts, and

graphs. Multi-view and pictorial drawing, space analysis of lines, planes, and solids. Basic dimensioning, sections, shop processes, and shop drawings and sketches. Engineering organization charts and flow diagrams. Design analysis and use of standard parts. Graphical mathematics, micro-filming, computer drafting, and reproduction processes. Creative design.

### **85 Statics and Elementary Strength of Materials (3)**

Prerequisite: Mathematics 80, Physics 111 or 111 concurrently. Fundamentals of statics; static equilibrium and introduction to elements of the mechanics of elastic materials. [SM]

### **99 Engineering Thermodynamics I (3)**

Prerequisites: Physics 111 and Mathematics 175. Fluid properties, work and heat, the three laws of thermodynamics with applications to ideal gas processes. Intended primarily for mechanical engineers.

### **185 Introduction to Dynamics (3)**

Prerequisite: Engineering 85. Basic fundamentals of particle and rigid body dynamics; energy and momentum methods. [SM]

### **201 Elementary Electronics I (3)**

(Same as Physics 201) Prerequisite: Physics 112. Primarily a laboratory study of characteristics of standard circuit elements, amplifier circuits, power supplies, operational amplifiers, digital and switching circuits, servo systems, shielding and noise problems, transducers, and oscilloscopes. Six hours laboratory per week. [SM]

### **202 Elementary Electronics II (3)**

(Same as Physics 202) Prerequisite: Engineering 201. Continuation of Engineering 201. Six hours laboratory per week. [SM]

## Geology

### **1 General Geology (4) (F,W)**

Earth materials, geologic processes, and earth history, and the application of geology to the problems in urban development and conservation. [SM]

### **2 Historical Geology (4)**

Study of changes in geography, climate, and life through geologic time; origin of continents, ocean basins, and mountains in light of continental drift; urban development and energy resources. Three hours lecture and one hour laboratory. [SM]

### **53 Oceanography (3) (F)**

The atmospheric and oceanic circulations; the chemistry and geology of the deep sea; and their effects of the distribution of marine organisms. [SM]

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## 101 Urban Geology (4)

Prerequisite: Geology 1. Techniques and action course dealing with geologic and environmental problems of urbanized areas. [SM]

## 130 Common Rocks and Minerals (3)

Prerequisite: Geology 1. Laboratory and field identification of common minerals and rocks by physical properties. One hour lecture and two hours laboratory. [SM]

## 290 Research (1-10) (F,W)

Prerequisite: Consent of instructor. Independent geology research projects arranged between student and instructor. Hours arranged. [SM]

## Physics

### 1 Foundations of Modern Physical Theory I (4) (F,W,S)

Prerequisite: Mathematics 2 or equivalent. An introduction to some of the major ideas, principles, and basic laws directing the development of contemporary physics. The course work consists of two general lectures each week in which the material is introduced, one discussion session, and one two-hour multi-media laboratory. [SM]

### 10 Experimentation in Physics (2) (F,W)

Prerequisite: Mathematics 40 (may be taken concurrently) or equivalent. A laboratory course designed to introduce students to electrical circuits and elementary electronics. No prior knowledge of circuits or electronics will be assumed. Four hours laboratory per week. [SM]

### 11 Basic Physics (4) (F,S)

Prerequisite: Mathematics 30 or 40. A survey course specifically designed for students in health and life science covering such topics as classical mechanics, heat, sound, electricity, magnetism, light, and radiation. No credit is given for students majoring in physics, chemistry, or engineering. Three hours of lecture and two hours laboratory. [SM]

### 12 Basic Physics (4) (W,S)

Prerequisite: Physics 11. A continuation of Physics 11. [SM]

### 33 Science: Its Nature and its Practice (3)

An interdisciplinary course. Prerequisite: Candidacy in sophomore Honors Program. Since the 17th century, science has been characterized by the dramatic interplay of empirical data and theoretical ideas. Consequences of this interplay are the evolution of scientific concepts and the development of theoretical structure. In addition, the human element has played a vital role in the evolutionary process: scientists bring to their work preconceptions that can have a determining

influence on the form that theoretical ideas ultimately take and on the resulting perception of physical reality. [SM]

### 50 Introduction to Physics (4)

Prerequisite: Math 30. A laboratory survey course which introduces students to the fields of mechanics, heat and thermodynamics, optics, electricity and magnetism, and modern physics at the pre-calculus level. A problem solving course recommended for science and engineering students who have no physics background or who desire additional preparation for Physics 111. Three hours lecture and two hours lab per week. [SM]

### 80 Global Problems and issues (3)

(Same as Political Science 80) An interdisciplinary course which utilizes the perspectives of both the physical and social sciences to survey a wide variety of problems that confront mankind, such as the control of violence, economic development and stability, and the management of energy and resources. These problems are discussed in terms of both their global and local dimensions, with special reference to how the world impacts on St. Louis and how St. Louis impacts on the world. For freshmen and sophomores. [SS] or [SM]

### 111 Physics: Mechanics and Heat (4) (F,W)

Prerequisite: Mathematics 80 or 101; Physics 1, Chemistry 12, or equivalent is recommended. An introduction to the phenomena, concepts, and laws of mechanics and heat for physics majors and students in other departments. Three hours lecture plus one hour discussion per week. [SM]

### 112 Physics: Electricity, Magnetism, and Optics (4) (F,W)

Prerequisite: Physics 111 and Mathematics 175 or 101. A phenomenological introduction to the concepts and laws of electricity and magnetism, electromagnetic waves, optics, and electrical circuits for physics majors and students in other departments. Three hours lecture plus one hour discussion per week. [SM]

### 113 Physics: The Structure of Matter (3) (F)

Prerequisite: Physics 112. A phenomenological introduction to selected concepts and laws of physics as they are applied to the structure of matter. Elements of atomic, nuclear, and molecular physics will be discussed. Three hours lecture plus one hour discussion per week. [SM]

### 124 Introduction to Electrical Networks (3)

Prerequisites: Physics 112 and Math 201 may be taken concurrently. Circuit elements, signals, Kirchhoff's Laws, network theorems, and mesh and nodal analysis will be discussed. Transient and complete response of RL, RC, and LRC circuits will also be studied.



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### **170 Physics of Music (3) (F)**

Prerequisite: Mathematics 02 or equivalent. Musical sound is the subject matter of this course: how it originates (musical instruments), how it is reproduced (stereo sound systems), how it is transmitted, and how it is perceived. [SM]

### **171 Applications of the Physics of Music (2)**

Prerequisite: Mathematics 02 or equivalent. Demonstrations and experiments concerning the origination, the reproduction, the synthesis, the transmission, and the detection of musical sounds. [SM]

### **172 Light and Color (3)**

Prerequisite: Mathematics 02. A study of the physical concepts as they relate to light, color, and visual phenomena. Models of light applied to reflection, refraction, diffraction, and interference. Optical devices such as the eye and the camera will be studied. Visual and color perception. [SM]

### **173 Applications of Light and Color (2)**

Prerequisite: Mathematics 02. Demonstrations and experiments leading to a physical understanding of the behavior of light from source to detector whether that be the eye or a camera. Phenomena such as reflection, refraction, diffraction, and interference will be demonstrated. Color analysis and synthesis. [SM]

### **190 Energy (3)**

(Same as Chemistry 190)

Prerequisite: Junior standing. Perspectives and approaches to the energy problem from a physical and social science viewpoint. The course will involve lectures given by physical and social scientists and assisted research by students of various aspects of energy production, conversion, use, environmental impact, and policy determination. [SM]

### **200 Survey of Theoretical Physics (3) (W)**

Prerequisite: Physics 111 and Mathematics 201. Mathematical techniques specifically used in the study of mechanics, electricity, magnetism, and atomic physics are developed in the context of various physical problems. The major areas covered are vector analysis, solutions of Laplace's equation, coordinate systems, and numerical techniques. [SM]

### **201 Elementary Electronics I (3) (F,W,S)**

Prerequisite: Physics 112. Primarily a laboratory study of characteristics of standard circuit elements, amplifier circuits, power supplies, operational amplifiers, digital and switching circuits, servo systems, shielding and noise problems, transducers, and oscilloscopes. Six hours laboratory per week. [SM]

### **202 Elementary Electronics II (3) (F,W,S)**

Prerequisite: Physics 201. Continuation of Physics 201. Six hours laboratory per week. [SM]

### **221 Mechanics (3) (W)**

Corequisite: Physics 200 and Mathematics 202. Advanced course covering rigid body dynamics, damped and undamped oscillatory motion, with an introduction to Lagrange's equations and variational principles. Three hours lecture and one hour discussion per week. [SM]

### **223 Electricity and Magnetism (3) (F)**

Prerequisite: Physics 200 and Mathematics 202. (Mathematics 302 may be taken concurrently.) Electromagnetic fields, including electrostatics, dielectric materials, solution to Laplace's equation, currents and magnetic fields, motion to charged particles, and introduction to electromagnetic waves. Three hours lecture and one hour discussion per week. [SM]

### **225 Physical Optics (3) (W)**

Prerequisite: Physics 223. A basic study of light; interference, diffraction, crystal optics, reflection, scattering, and light quanta. Three hours lecture and one hour discussion per week. [SM]

### **231 Introduction to Modern Physics I (3) (F)**

Prerequisite: Mathematics 202 (may be concurrent), Physics 111, 112, and 200 strongly recommended. Photons and the wave nature of particles; wave mechanics; Schrodinger equation; and applications to single systems; atomic physics and spectroscopy; molecular physics; nuclear models and nuclear reactions; the physics of solids; elementary particles; relativity. Three lecture hours and one discussion section per week.

### **232 Introduction to Modern Physics II (3) (W)**

Prerequisite: Physics 231. A continuation of Physics 231.

### **241 Thermal and Statistical Physics (3) (F)**

Prerequisite: Mathematics 201 and Physics 231. Introduction to statistical mechanics, laws of thermodynamics, and kinetic theory. Three hours lecture and one hour discussion per week. [SM]

### **280 Methods of Teaching Physics in Secondary Schools (3) (W)**

(Same as SEC ED 240)

Prerequisite: SEC ED 213 and a near-major in the subject area. A study of the scope and sequence of the science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science.

### **281 Directed Readings in Physics (1-10) (F,W,S)**

Prerequisite: Consent of instructor. A study of the literature of physics. A paper is required on an approved topic. Hours arranged. [SM]

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## **282 History of Physics (3)**

Prerequisite: Physics 1 or Astronomy 1. A study of the historical evolution of physics. Three hours lecture per week. [SM]

## **289 Seminar (1) (F,W)**

Presentation of selected papers by students and faculty members at weekly meetings. May be taken twice for credit. [SM]

## **290 Research (1-10) (F,W,S)**

Prerequisite: Consent of department. Independent physics research projects arranged between student and instructor. Hours arranged. [SM]

## **295 Selected Topics in Physics for the Secondary School Teacher I (2) (F)**

A basis for understanding the current developments in science is provided for the secondary school science teacher. The content of the course will be generally directed toward macroscopic phenomena.

## **296 Selected Topics in Physics for the Secondary School Teacher II (2) (W)**

Prerequisite: Physics 295. A basis for understanding the current developments in science is provided for the secondary school science teacher. The content of the course will be generally directed toward macroscopic phenomena.

## **297 Selected Topics in Physics for the Secondary School Teacher III (2) (F)**

A basis for understanding the current developments in science is provided for the secondary school science teacher. The content of the course will be generally directed toward microscopic phenomena.

## **298 Selected Topics in Physics for the Secondary School Teacher IV (2) (W)**

Prerequisite: Physics 297. A basis for understanding the current developments in science is provided for the secondary school teacher. The content of the course will be generally directed toward microscopic phenomena.

## **301 Introduction to Mathematical Physics (3)**

Prerequisite: 16 hours of physics. A course covering mathematical techniques as applied to the equations of theoretical physics; calculus of variations; Green's functions; linear vector spaces; and integral equations. Three hours lecture and one hour discussion per week. [SM]

## **305 Physical Applications of Group Theory (3)**

Prerequisite: Physics 231. Elements of group theory and group representations. Point symmetry groups and applications to the physics of crystals. The rotation group in two and three dimensions with application to atomic and nuclear spectroscopy. Three hours lecture and one hour discussion per week. [SM]

## **311 Advanced Physics Laboratory I (2) (F)**

Prerequisites: Physics 201, 221, 231, and Mathematics 122. Physics majors are introduced to the experimental techniques used in research. A student will choose and do several special problems during the semester. Six hours laboratory per week. [SM]

## **312 Advanced Physics Laboratory II (2) (W)**

Prerequisites: Physics 201, 221, 231, and Mathematics 122. Continuation of Physics 311. Six hours laboratory per week. [SM]

## **323 Modern Optics (3)**

Prerequisite: Physics 223. A study of modern optics including diffraction theory, polarization, light propagation in solids, quantum optics, and coherence. Three hours of lecture and one discussion per week. [SM]

## **325 Linear Analysis of Physical Systems (3)**

Prerequisites: Physics 201 and Mathematics 202. Signals and systems, Fourier and Laplace analysis, transform methods, amplitude phase and delay, transfer functions and filters. Three hours lecture and one hour discussion per week. [SM]

## **331 Introduction to Quantum Mechanics (3) (F)**

Prerequisites: Physics 221, 223, 231, and 241. Elementary treatment of quantized mechanical systems, methods of Schrodinger's wave mechanics, operator techniques, and perturbation theory. Three hours lecture and one hour discussion per week. [SM]

## **335 Atomic and Nuclear Physics (3)**

Prerequisite: Physics 331. Application of Schrodinger's equation to hydrogen-like atoms; atomic structure and spectra; nuclear masses; energy levels; alpha, beta, and gamma radiation; nuclear reactions; and models of the nucleus. Three hours lecture and one hour discussion per week. [SM]

## **343 Selected Topics in Physics I (3)**

Prerequisites: Physics 221, 223, 225, 231, 241, and Mathematics 316. (Mathematics 316 may be taken concurrently) Topics include special phenomena such as scattering of waves, thermal motion in gases, atmospheric disturbances treated by methods of advanced mechanics, electromagnetism, and quantum mechanics. Three hours lecture and one hour discussion per week. [SM]

## **344 Selected Topics in Physics II (3)**

Prerequisite: Physics 343. Continuation of Physics 343. Three hours lecture and one hour discussion per week. [SM]

## **351 Elementary Solid State Physics (3)**

Prerequisite: Physics 331. Theoretical and experimental aspects of solid state physics, including

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one-dimensional band theory of solids; electron emission from metals and semiconductors; electrical and thermal conductivity of solids. Three hours lecture and one hour discussion per week. [SM]

### 353 Physics of Fluids (3)

Prerequisite: Physics 221, 223, and 241, or consent of instructor. Topics from the theory of gases, liquids, or plasmas. Dynamical properties of one of these forms of matter will be developed with contemporary applications stressed. [SM]

### 354 Atmospheric Physics (3)

Prerequisite: Physics 241. Topics from dynamic and physical meteorology including the ionosphere. Application of thermodynamics, optics, radiation, and mechanics to atmospheric phenomena. [SM]

### 355 Topics in Space Physics (3)

Prerequisite: Physics 221. Corequisite: Physics 223. The two-body central force problems, satellite orbits, comets, asteroids, Lagrangian points and the Anti Earth, the Trojans of Jupiter, artificial satellites, transfer orbits and missions, and rocket dynamics. The solar environment, trapping of charged particles in magnetic fields, Earth's radiation belts, the solar wind aurorae and whistlers, sailing on the solar wind, and the cosmic ray problem. Introduction to magnetohydrodynamics, MHD waves, sun spot movement, applications of MHD, generation of electric power, and the ion rocket engine. [SM]

### 356 Quantum Optics (3)

Prerequisites: Physics 200, 231, and Mathematics 202. Review of atomic theory and spectroscopy. Selected applications to modern optical phenomena such as optical pumping, lasers, masers, Mossbauer effect, and holography. [SM]

### 357 Applied Solid State Physics (3)

Prerequisites: Physics 231 and 241. Quantum theory needed for solids. Survey of solid state topics such as conductors, semiconductors, insulators with applications to transistors, solid state lasers, and other contemporary devices. [SM]

### 381 Directed Readings in Physics (Credit arranged)

Prerequisite: Consent of instructor. A study of special topics in physics for senior undergraduates or graduate students. [SM]

### 400 Computational Physics (3)

Prerequisite: Mathematics 122 or equivalent. Numerical analysis and computer analysis in physics; solutions of eigenvalue problems, coupled differential equations; and writing of Fortran programs. [SM]

### 401 Principles of Mathematical Physics (4)

Boundary value problems; Green's function techniques; and introduction to group theory with emphasis on representations of Lie Algebras.

### 408 Classical Dynamics and Electrodynamics (4)

Prerequisite: Physics 200, 221, and 223. Methods and applications of classical dynamics, electrodynamics, and field theory. [SM]

### 409 Quantum Mechanics and Statistics (4)

Prerequisite: Physics 241 and 331 (Physics 408 recommended). Continues Physics 408 with methods and applications of quantum mechanics and statistical mechanics. [SM]

### 418 Atomic and Molecular Physics (4)

Prerequisite: Physics 232, 241 and 331, Math 202. Physics of atoms and molecules. Topics include spectroscopy, kinetic theory, transport phenomena, molecular interactions and interaction of radiation with molecules.

### 419 Condensed Matter Physics (4)

Prerequisite: Physics 221, 223 and 241, Math 202. Crystal structure, diffraction and the reciprocal lattice phonons, free electron Fermi gas and band structure. Also to include one or more topics selected from the following: semiconductor devices, optical properties of solids, superfluidity and superconductivity, or critical phenomena and phase transitions.

### 421 Theoretical Mechanics (4)

Lagrangian and Hamiltonian formulation of mechanics; canonical transformations; action angle variables; Poisson brackets; and small oscillation theory

### 423 Classical Electrodynamics (4)

Prerequisites: Physics 401 and 421. Boundary value problems in electrostatics; Maxwell's equations; multipole expansion; radiation theory; and special relativity.

### 424 Applications of Electrodynamics (3)

Prerequisite: Physics 423. Applications of electrodynamics to waveguides, antenna design, and accelerator design. [SM]

### 431 Quantum Mechanics (4)

Prerequisites: Physics 331 and 401. Formal development of quantum mechanics in Heisenberg and Schroedinger pictures, solvable problems; Reyleigh-Schroedinger perturbation theory; and angular momentum.

### 432 Quantum Mechanics II (3)

Prerequisite: Physics 431. A continuation of Physics 431. Scattering theory; relativistic quantum mechanics; and introduction to field theory. [SM]

### 433 Quantum Electrodynamics (3)

Prerequisite: Physics 432. Interaction representation; Feynman perturbation theory; renormalization theory; and axiomatic field theory and dispersion relations. [SM]

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## **434 Special Topics in Quantum Theory (3)**

Prerequisite varies according to material covered. Special applications of quantum theory to such systems as quantum electronics, collision theory, S Matrix Theory, etc. May be repeated for credit. [SM]

## **441 Statistical Mechanics (4)**

Prerequisite: Physics 431. Ensembles; classical and quantum statistics; relation to thermodynamics; H theorem; and applications to simple systems.

## **442 Advanced Statistical Physics (3)**

Prerequisite: Physics 432 and 441. Many-body theory and applications to problems such as turbulence, phase transitions, etc. [SM]

## **443 Plasma Physics (3)**

Prerequisite: Physics 423 and 441. Various techniques of plasma physics; statistical treatments; magnetohydrodynamics; instabilities; applications to controlled fusion, etc. [SM]

## **451 Solid State Theory (3)**

Prerequisite: Physics 351 and 431. Simple crystal lattices; Brillouin zones; bond structures; elementary excitations in solids and their properties; and impurities. [SM]

## **452 Special Topics in Solid State (3)**

Prerequisite: Physics 451. May be repeated for credit. [SM]

## **461 Experimental Nuclear Physics (3)**

Prerequisite: Physics 335 and 431. Nuclear reactions; nuclear radiation detection; basic conservation laws; isospin; and phenomenological models. [SM]

## **462 Nuclear Theory (3)**

Prerequisite: Physics 461. Study of nuclear models and applications to reactions; shell model; optical model; R-Matrix theory; and systematics of nuclear decays. [SM]

## **471 Special Topics in Theoretical Physics (3)**

Prerequisites determined. Covers special topics such as relativity, particle physics, non-linear systems, etc. [SM]

## **481 Directed Readings in Physics (Credit arranged)**

Prerequisite: Consent of instructor. A study of special topics in physics for graduate students.

## **490 Thesis Research**

Includes writing a thesis. Credit will be awarded only upon successful defense of thesis. [SM]



## Political Science

### Faculty

**Joel N. Glassman**, Chairperson; Associate Professor\*

Ph.D., University of Michigan

**Edwin H. Fedder**, Professor\*

Director of Center for International Studies

Ph.D., American University

**Werner F. Grunbaum**, Professor\*

Ph.D., University of Chicago

**William L. Hungate**, Visiting Professor

LL.B., Harvard University

**Kenneth F. Johnson**, Professor\*

Ph.D., University of California-Los Angeles

**E. Terrence Jones**, Professor\*

Director of Public Policy Administration Program

Ph.D., Georgetown University

**Norton E. Long**, Curator's Professor\*

Ph.D., Harvard University

**Eugene J. Meehan**, Professor\*

Ph.D., London School of Economics

**Lyman T. Sargent**, Professor\*

Ph.D., University of Minnesota

**Ruth S. Jones**, Associate Professor\*

Ph.D., Georgetown University

**Lance T. LeLoup**, Associate Professor\*

Ph.D., Ohio State University

**Frederic S. Pearson**, Associate Professor\*

Ph.D., University of Michigan

**J. Martin Rochester**, Associate Professor\*

Ph.D., Syracuse University

**Paul B. Akridge**, Assistant Professor\*

Ph.D., University of Wisconsin

**Andrew Glassberg**, Assistant Professor\*

Ph.D., Yale University

**Carol W. Kohfeld**, Assistant Professor\*

Ph.D., Washington University

**Joyce M. Mushaben**, Assistant Professor

Ph.D. pending, Indiana University

**J. Frederick Springer**, Assistant Professor\*

Ph.D., University of California-Davis

**Thomas M. Uhlman**, Assistant Professor\*

Ph.D., University of North Carolina

\*members of Graduate Faculty

Many members of the political science faculty are nationally known scholars in their respective fields. All are dedicated to high quality teaching and education. Department faculty members recently have enjoyed such distinctions as Brookings and Fulbright fellowships, national, state and local research grants, AMOCO good teaching awards, and other forms of recognition. 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.

### General Information

**Degrees and Areas of Concentration** The political science department offers work leading to the A.B. degree in political science, and, in cooperation with the School of Education, to the B.S. in education with an emphasis in social studies (See School of Education for details).

Principal areas of concentration include urban politics, political processes, political behavior, international politics, comparative politics, public 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 operations.

**Cooperative Programs** Political science students may also 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*.

The political science department also offers graduate courses leading to the Master of Arts in political science. The M.A. program in political science offers intermediate education for individuals anticipating entering a doctoral program and for those seeking careers in government, business, community or not-for-profit agencies. The principal foci of the thirty-three-hour program are on 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. A mid-program review assists students in selecting the most appropriate M.A. project—thesis, internship or additional course work. Classes are scheduled so that those employed outside the university can participate in the program on a part-time basis.

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Research in political science is encouraged for students at all levels. Assistance is available at UMSL's Center for Metropolitan Studies, the Center for International Studies, the Computer Center, and the Social and Behavioral Science Laboratory. 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. Scholarship assistance is available for qualified students; details can be obtained from the department office.

**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*.

## 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 may be satisfied in any language. Students may count 6 hours in political science taken on pass-fail toward the major.

### Degree Requirements

Students must take at least 36, but no more than 45 hours of political science **including** Political Science 11, American Politics and Political Science 12, Comparative Politics. Students must also take at least one course in the Political Theory and Methodology field along with at least one course in four of the following other fields:

- Public Law
- Political Process and Behavior
- Public Administration
- Comparative Politics
- International Relations

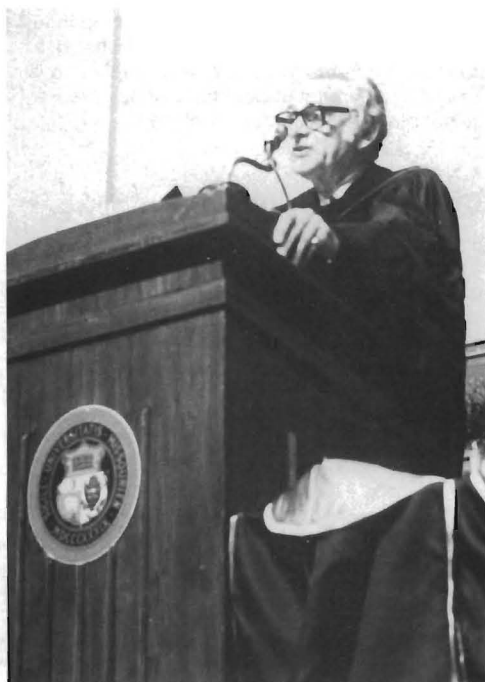
### Related Area Requirements

Majors must complete at least 18 hours in social science chosen from administration of justice, anthropology, business administration, economics, history, psychology, social work, sociology, or speech communication. Twelve hours must be completed in one discipline and 6 hours in a second. These hours may be used in partial satisfaction of the general education requirement in social sciences.

**Note** Students are encouraged to take at least one course in statistics or accounting. As early as possible, students should determine their educational objectives and consult with advisers regarding other recommended electives.

### Departmental Honors

The department awards honors to students having a 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.



## Political Science

### Graduate Studies

#### 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.

**Assistantships** A limited number of teaching and research assistantships are available for specifically qualified students, which includes a stipend and remission of out-of-state fees for half-time (20 hours per week) work during the nine-month academic year.

Requests for further information about the 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.

#### Degree Requirements

**Master of Arts in Political Science** 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** as follows:

- 400**, Approaches to the Study of Public Policy
- 401**, Introduction to Policy Research
- 410**, Foundations of Political Analysis: Part I
- 420**, Proseminar: Public Law
- 430**, Proseminar in American Politics
- 440**, Proseminar in Public Administration
- 450**, Proseminar in Comparative Politics
- 460**, Proseminar in Political Theory
- 470**, Proseminar in Urban Politics
- 480**, Proseminar in International Relations

Students must also select one of the following exit projects: a 6-hour thesis, a 6-hour

internship, or 6 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.

### Career Outlook

Political science majors have done well in the job market and in pursuing graduate education. Majors develop writing and speaking skills, learn to analyze complex policy issues, both domestic and international in scope, and have a far better understanding of government than others. 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. The political science department is currently formulating a Bachelor of Science degree in Public Administration in order to better serve those students who wish to pursue careers in government. Publications relating to careers in political science are available in the department office.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

#### Ungrouped Courses

##### **11 Government in Modern Society: American Politics (3) (F,W)**

Introduction to basic concepts of government and politics with special reference to the United States, but including comparative material from other systems. Course fulfills the state requirement. [SS]

##### **12 Government in Modern Society: Comparative Politics (3) (F,W)**

An introduction to basic political structures and processes with an emphasis on foreign political systems and comparative political analysis. The course will deal with democratic and nondemocratic political systems in developed and underdeveloped nations. [SS]



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## 60 Civilization and Politics (3) (F)

An examination of the role of politics in human life, of the ways in which individuals have organized themselves and the goals they have pursued in a variety of historical circumstances. [SS]

## 80 Global Problems and Issues (3)

An interdisciplinary course which utilizes the perspectives of both the physical and social sciences to survey a wide variety of problems that confront mankind, such as the control of violence, economic development and stability, and the management of energy and resources. These problems are discussed in terms of both their global and local dimensions, with special reference to how the world impacts on St. Louis and how St. Louis impacts on the world. For freshmen and sophomores. [SS]

## 90 Freshman Seminar (3) (F,W)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to 12 students. [SS]

## 99 The City (3) (F,W)

(Same as AOJ 99, Psychology 99 and Sociology 99) An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission. [SS]

## 190 Studies in Political Science (3-10)

Prerequisite: None. Selected topics in political science. [SS]

## 205 Models in the Social Sciences (3)

Same as Sociology 205 and Anthropology 205. The course will focus on explaining social and cultural behavior. Elementary models of decision making, exchange and adaptation will be covered. Computer processing of data to test empirical hypotheses will be introduced.

## 295 Internship (1-6) (F,W)

Prerequisite: Junior standing and consent of instructor. Independent study involving work with an appropriate public or private agency. A maximum of 6 credit hours may be earned. [SS]

## 390 Special Readings (1-10) (F,W)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated. [SS]

## 395 Political Science Seminar

Prerequisite: Senior or graduate standing. An overview

of approaches in various subfields. Students will be familiarized with political science journals and bibliographic techniques. Seminar is highly recommended for students going on to graduate school. [SS]

## Group I: Public Law

### 20 Introduction to Public Law (3)

Prerequisites: Political Science 11. An introduction to the basic structures and functions of the American legal system as well as an analysis of the strengths, weaknesses and problems facing the system today. [SS]

### 121 Civil Liberties (3)

Prerequisite: Political Science 11. Civil rights in the American constitutional context, emphasizing freedom of religion, freedom of expression, minority discrimination, loyalty, and rights of defendants. Course fulfills the state requirement. [SS]

### 129 Women and the Law (3) (F,W)

Prerequisite: None. Legal position of women in the United States, emphasizing constitutional law, criminal law, domestic relations, and fair employment practice laws. [SS]

### 225 Jurisprudence (3) (W)

Prerequisite: Political Science 11 or 12. Development of law and legal systems; comparison of methods and procedure in making and enforcing law in Roman and common law systems; consideration of fundamental legal concepts; and contributions and influence of schools of legal thought in relation to law and government. [SS]

### 227 Urban Law: Poverty and the Justice System (3) (F,W)

Prerequisite: Political Science 11 or AOJ 220, or equivalent, or consent of instructor. Examination of administrative regulations and the civil law process as it affects the life of urban residents. [SS]

### 320 Introduction to American Constitutional Law (3) (F,W)

Prerequisite: Political Science 11. Study of leading American constitutional principles as they have evolved through important decisions of the United States Supreme Court. Course fulfills the state requirement. [SS]

### 327 Urban Justice Systems (3) (F)

Prerequisite: Political Science 11. The study of the nature and function of local legal and criminal justice systems with emphasis on the political aspects of their operations. Consideration of key participants (police, prosecution, defense counsel, judges, defendants), and processes (arrest practices, bail procedures, sentencing behavior, and incarceration). [SS]

## Political Science

### **328 The Federal Judicial System: Politics, Process and Behavior (3) (W)**

Prerequisite: Political Science 11. The study of the federal courts as a political system. Analysis of organization, procedures, and norms of the Supreme Court and lower federal courts. Consideration of judicial recruitment, attitudes, and decision-making as well as the impacts and limitations of judicial policy-making. [SS]

### **329 Studies in Public Law (3)**

Prerequisite: Political Science 11. Selected topics in constitutional law, administrative law, legal philosophy, history of the Supreme Court, and judicial process. May be repeated. [SS]

## **Group II: Political Process and Behavior**

### **130 State Politics (3) (F,W)**

Prerequisite: Political Science 11. An examination of contemporary state politics in the United States; social, economic, and political determinants of policies; federal-state-local relations; elections, interest groups, and participation; executive, legislative, and judicial institutions and policies, and their impact. Course fulfills state requirement. [SS]

### **135 Introduction to Urban Politics (3) (F,W)**

Examination of the structure and process of politics in the urban community, with emphasis on their relationships to community power structures. Course fulfills the state requirement. [SS]

### **218 Social Choice in Political Economic Systems (3)**

(Same as Economics 218) Prerequisite: Two courses in economics, political science, or sociology. A study of the mechanisms of social choice from the standpoint of individual and political party maximization of personal objectives. This area draws on work done by sociologists, political scientists, and economists. [SS]

### **230 The American Presidency (3)**

Prerequisite: Political Science 11. Study of the constitutional, political, legislative, and administrative roles played by the American chief executive in the development of public policy. Course fulfills the state requirement. [SS]

### **232 Ethnic and Racial Politics**

Prerequisite: Political Science 11. This course will focus on the political experiences of significant racial and ethnic minorities in the United States. Emphasis will be placed on the groups' political strengths, weaknesses, successes, and failures in the present, and changes over time. Course fulfills the state requirement. [SS]

### **233 Introduction to Political Behavior (3)**

Prerequisite: Political Science 11. A general introduction to political socialization, political opinion formation, and electoral behavior. [SS]

### **235 Political Parties (3)**

Prerequisite: Political Science 11. Development, organization, functions, and activities of major and minor political parties, pressure groups, and election administration, especially in the United States. Course fulfills the state requirement. [SS]

### **331 Legislative Politics (3)**

Prerequisite: Political Science 11. Congressional elections, constituent relations, policy-making, and leadership; relations between Congress and administrative and executive agencies, the committee system, seniority, and procedure. Congress as an element in the party system. Political Science 102 is strongly recommended. This course fulfills the state requirement. [SS]

### **332 Studies in Political Behavior (3)**

Prerequisite: Political Science 11 or 12. Selected topics such as electoral behavior, political opinion, political socialization, political leadership, political violence and others. May be repeated. [SS]

## **Group III: Public Administration**

### **140 Public Administration (3) (F,W)**

Prerequisite: Political Science 11. Survey of public administration, with reference to organization, financial administration, personnel management, and judicial control of the administrative process. This course fulfills the state requirement. [SS]

### **240 Bureaucratic Politics (3)**

Prerequisite: Political Science 11. Examination of the policy-making process within public organizations and the forces influencing the making of bureaucratic policy. Study of the role of the bureaucracy as one of the several "actors" in the larger policy process. Course fulfills the state requirement. [SS]

### **245 Urban Administration (3)**

Prerequisite: Political Science 11. Study of administrative machinery and practices of metropolitan government, how metropolitan areas organize themselves to provide services, how urban policies are made and implemented, how budgeting and personnel recruitment processes operate, and how these relate to urban politics. Course fulfills the state requirement. [SS]

### **340 Organizational Politics (3)**

Prerequisite: Political Science 11. Examination of public sector organizations and the range of factors affecting their operation. Specific areas of attention will include theories of organization structure and management, decision theory, organization/environment interactions, interorganizational relations, and theories of organization change and development. [SS]

### **343 Studies in Policy Formation (3)**

Prerequisite: Political Science 11 or 12. Selected topics

# Political Science

such as science and public policy, environmental policy, and other domestic policy domains. May be repeated. [SS]

## **346 Urban Planning and Politics (3)**

Prerequisite: Political Science 11. Examination of the political processes of urban areas as they relate to the planning of services and facilities. Course fulfills the state requirement. [SS]

## **349 Studies in Public Administration (3)**

Prerequisite: Political Science 11 or 12. Selected topics in administrative organization, personnel management, fiscal control, public policy, and political administrative environments. May be repeated. [SS]

## **Group IV: Comparative Politics**

### **251 Comparative Politics of Western Europe (3)**

Prerequisite: Political Science 11 or 12. Introduction to the major political systems of Western Europe. The course will emphasize political culture, political parties, interest groups, and political behavior. It will also focus on political institutions and policy-making. While individual countries will be examined separately, the course will also emphasize comparison between systems. [SS]

### **252 The Politics of Modernization (3)**

Prerequisite: Political Science 11 or 12. Analysis of the dimensions and problems of modernization and the role of political systems, with primary emphasis on African nations. Course fulfills the non-Euro-American requirement. [SS]

### **253 Political Systems of South America (3) (W)**

The political systems, international problems, and socio-economic-cultural environments of the governmental processes of South America. Course fulfills the non-Euro-American requirement. [SS]

### **254 Political Systems of Mexico, Central America, and the Caribbean (3) (F)**

The political systems, international problems, and socio-economic-cultural environments of the governmental processes in Mexico, Central America, and the Caribbean. Course fulfills non-Euro-American requirement. [SS]

### **255 Asian Comparative Politics (3) (F,W)**

Study of the political systems of Asia including China, Japan, India, and Southeast Asia. Course fulfills the non-Euro-American requirement. [SS]

### **256 Soviet Political Systems (3)**

Prerequisite: Political Science 11 or 12. Examination of government and politics in the Soviet Union dealing with themes such as the role of the party, recruitment and socialization of elites, the role of ideology and interest groups, the formulation of policy, and bureaucratization of social, economic, and cultural life. [SS]

## **351 Comparative Public Policy and Administration (3)**

Prerequisites: Political Science 11 or 12. A comparative study of the characteristics of public administrators, their institutions and environments in Western democratic or developing nations, and communist political systems. [SS]

## **359 Studies in Comparative Politics (3)**

Prerequisite: Political Science 11 or 12. Studies of political processes in specific geographic areas and related concepts in comparative analysis. May be repeated. [SS]

## **Group V: Theory and Methodology**

### **101 Empirical Political Theory (3)**

Prerequisite: Political Science 11 or 12. Consideration of the elements of scientific method and social phenomena; critiques of the scientific approach in political science, nature and logic and explanatory theories, such as systems theory, structural-functional analysis, and deductive theories. [SS]

### **102 Research Methods in Political Science (3)**

Prerequisite: Political Science 11 or 12. Methods of testing causal statements about politics, including research design and data measurement, collection, and analysis. [SS]

### **160 Contemporary Political Ideologies (3)**

An introduction to the major political ideologies of the world today. Emphasis on communism, democracy, and nationalism. [SS]

### **165 American Political Thought (3)**

Prerequisite: Political Science 11. History of political thought in the United States from colonial times to the present. [SS]

### **261 History of Political Thought (3)**

Study of political philosophy from Plato to Machiavelli. [SS]

### **262 History of Political Thought (3)**

Study of political philosophy from Machiavelli to the present. [SS]

### **265 Normative Political Philosophy (3)**

Prerequisite: Political Science 11 or 12. Analysis of the basic concepts of political philosophy, such as liberty, equality, justice, political obligation, political participation, and political power. [SS]

### **269 The Marxist Heritage (3) (W)**

(Same as Philosophy 269) An interdisciplinary study of Marx and leading Marxists, designed to evaluate their influence on recent political, economic, and social thought and institutions. [H] or [SS]

## Political Science

### **304 Survey Research Practicum (3)**

(Same as Economics 304 and Sociology 304)

Prerequisite: Junior standing and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results. [SS]

### **368 Studies in Political Theory (3)**

Prerequisite: Political Science 11 or 12. Selected topics in political theory. May be repeated. [SS]

## **Group VI: International Relations**

### **180 World Politics (3) (F,W)**

Analysis of politics among nations, including such topics as: nationalism, power, imperialism and colonialism, revolution and war, arms control and disarmament, and peace and the regulation of conflict. [SS]

### **282 United States Foreign Policy (3)**

Prerequisite: Political Science 11 or 12. Examination of the factors influencing the formation and the execution of United States foreign policy and of specific contemporary foreign policies and problems. [SS]

### **284 European International Relations (3)**

Prerequisite: Political Science 11 or 12. European international relations since World War II. Emphasis upon developments from the Cold War to Detente, emphasizing such concepts as containment, Truman Doctrine, Marshall Plan, NATO, WTO, community building, force structures, and security. [SS]

### **285 International Institutions and Global Problem-Solving (3)**

Prerequisite: Political Science 11 or 12. An introduction to the study of international organization. The course focuses on relationships between nation-states and "non-state" actors (global intergovernmental organizations such as the United Nations, regional organizations such as the European Economic Community, and nongovernmental organizations such as multinational corporations) in world politics and on the role of international institutions in such problem areas as economic development and stability, management of resources, and control of violence across national boundaries. [SS]

### **286 Studies of War and Peace (3)**

Prerequisite: Political Science 11 or 12. Exploration, development, and testing of theories about the causes and consequences of war, peace, and conflict among nations. A broad range of literature on war and peace will be reviewed and applied to crisis situations in the international system. [SS]

### **289 Middle Eastern Politics (3)**

Prerequisite: Political Science 11 or 12. A survey of political movements, governments, and international

conflicts in the Middle East. Islam, nationalism ideologies and economic systems will be studied. The effects of oil and the military will also be considered. The course fulfills the Non-Euro-American requirement. [SS]

### **381 Foreign Policy Decision-Making (3)**

Prerequisite: Political Science 11 or 12. Empirical and experimental studies of foreign policy decision-making processes. Foreign policies of a number of countries are compared. [SS]

### **385 International Law (3)**

Prerequisite: Political Science 11 or 12. Study of international legal systems, including the content and operation of the laws of war and peace, how law is created and enforced with regard to the oceans and other parts of the globe, and the relationship between international law and international politics. [SS]

### **388 Studies in International Relations (3)**

Prerequisite: Consent of instructor, regional or functional problems in international relations, e.g., international relations of the Middle East, Western Europe, and international coalitions. May be repeated. [SS]

## **Graduate Courses**

### **400 Approaches to the Study of Public Policy (3)**

A critical review of leading approaches to the study of public policy processes. [SS]

### **401 Introduction to Policy Research (3)**

Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data. [SS]

### **404 Topics in Public Policy Analysis (3)**

Intensive analysis of a specific public policy area such as housing, budgeting, integration, planning, or metropolitan reorganization. Course may be repeated. [SS]

### **405 Directed Readings and Research in Research Methods (1-10)**

Independent study through readings, reports, projects, and conferences. [SS]

### **409 Cases in Public Policy Analysis (3)**

Intensive analysis of several public policy cases. Cases will be problem-solving exercises in areas such as personnel management, program financing, budget preparation, and planning. [SS]

### **410 Foundations of Political Analysis: Part I (3)**

Empirical; theory of knowledge; concepts and measurements; descriptions, forecasts, and explanations. [SS]

# Political Science

## **411 Foundations of Political Analysis: Part II (3)**

Normative choice, cost-benefit analysis; relation of empirical and normative inquiry; policies and inventories; and systematic social criticism. [SS]

## **420 Proseminar: Public Law (3)**

Study of judicial systems and processes (judges, courts, litigants, and juries) and evaluation of legal policies (compliance, impact, and deterrence).

## **421 Seminar in Public Law (3)**

Research problems and designs, models and approaches to the study of public law.

## **425 Directed Readings and Research in Public Law (1-10)**

Independent study through readings, reports, projects, and conferences. [SS]

## **430 Proseminar in American Politics (3)**

Study of individual and group political behavior including socialization, participation, consensus formation, representation, legislative, and judicial behavior. [SS]

## **431 Seminar in American Politics (3)**

Research problems and design in American political process and behavior. [SS]

## **435 Directed Readings and Research in American Politics (1-10)**

Independent study through readings, reports, projects and conferences. [SS]

## **440 Proseminar in Public Administration (3)**

Examination of different perspectives and concepts used in studying and organizing the field of public administration. In addition, specific areas of attention may include administrative accountability and responsibility, organizational processes, inter-organizational relations, the bases and use of bureaucratic expertise, public service and merit issues, and the role of the bureaucracy in social and political change.

## **441 Seminar in Public Administration (3)**

Research problems and design in public administration. [SS]

## **445 Directed Readings and Research in Public Administration (1-10)**

Independent study through readings, reports, projects, and conferences. [SS]

## **450 Proseminar in Comparative Politics (3)**

Classification and typology of political systems: structural-functional analysis; political culture, ideology, affiliation, and participation; decision-making processes; political roles; and organization of authority. [SS]

## **451 Seminar in Comparative Politics (3)**

Research problems and design in comparative politics [SS]

## **455 Directed Readings and Research in Comparative Politics (1-10)**

Independent study through readings, reports, projects, and conferences. [SS]

## **460 Proseminar in Political Theory (3)**

Study of concepts and problems in normative political theory. [SS]

## **461 Seminar in Political Theory (3)**

Research problems and design in political theory. [SS]

## **465 Directed Readings and Research in Political Theory (1-10)**

Independent study through readings, reports, projects, and conferences. [SS]

## **470 Proseminar in Urban Politics (3)**

Examination of the relationships between the social, economic, and political systems of urban areas. Urban political structure, patterns of influence, political participation, and communication and political change. Special attention to problems of access to and control of urban political systems. [SS]

## **471 Seminar in Urban Politics (3)**

Research problems and design in urban and regional politics. [SS]

## **475 Directed Readings and Research in Urban Politics (1-10)**

Independent study through readings, reports, projects, and conferences. [SS]

## **480 Proseminar in International Relations (3)**

Examination of theoretical approaches to and applications of international politics, including "traditional" approaches, "Realpolitik" and the idealist reaction, capability analysis, general and particular systems analysis, decision-making, and simulation and gaming. [SS]

## **481 Seminar in International Relations (3)**

Research problems and design in international politics. [SS]

## **485 Directed Readings and Research in International Relations (1-10)**

Independent study through readings, reports, projects, and conferences. [SS]

## **494 Thesis Research (1-10)**

Arranged.

## **495 Internship (1-6)**

Independent study involving work with an appropriate public or private agency.

## Psychology

### Faculty

**Robert J. Calsyn**, Chairperson, Associate Professor\*  
Ph.D., Northwestern University

**Gary K. Burger**, Professor\*, Coordinator, Doctoral Program in Industrial Psychology  
Ph.D., Loyola University

**Edmund S. Howe**, Professor\*, Director, Doctoral Program in General-Experimental 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

**Arthur C. MacKinney**, Professor\*, Vice Chancellor for Academic Affairs

Ph.D., University of Minnesota

**Miles L. Patterson**, Professor\*

Ph.D., Northwestern University

**Fred J. Thumin**, Professor\*†

Ph.D., Washington University

**Dik W. Twedt**, Professor\*†

Ph.D., Northwestern University

**James T. Walker**, Professor\*

Ph.D., University of Colorado

**S. J. Williamson**, Adjunct Professor

Ph.D., University of Iowa

**Robert J. Carr**, Adjunct Associate Professor

Ed.D., Boston University

**Theresa S. Howe**, Associate Professor\*

Ph.D., University of California-Berkeley

**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

**Jayne E. Stake**, Associate Professor\*, Director,

Doctoral Program in Clinical Psychology

Ph.D., Arizona State University

**George T. Taylor**, Associate Professor\*, Director,

Undergraduate Programs

Ph.D., University of New Mexico

**Dominic J. Zerbolo, Jr.**, Associate Professor\*

Ph.D., Michigan State University

**Kenneth H. Bohm**, Adjunct Assistant Professor

Ph.D., St. Louis University

**John J. Boswell**, Assistant Professor\*, Director,

Master of Arts Program in General Psychology

Ph.D., Tulane University

**James A. Breaghaugh**, Assistant Professor\*†

Ph.D., Ohio State University

**Jane E. Brownstone**, Adjunct Assistant Professor

Ph.D., Washington University

**Anthony Dalessio**, Assistant Professor

Ph.D., Bowling Green State University

**Phillip Decker**, Assistant Professor\*†

Ph.D., Ohio State University

**William Ickes**, Assistant Professor\*

Ph.D., University of Texas at Austin

**Donald D. Lisenby**, Assistant Professor\*

Ph.D., Washington University

**Ronald A. Oliver**, Adjunct Assistant Professor

Ph.D., Iowa State University

**Mary M. Randlett**, Visiting Assistant Professor

Ph.D., Iowa State University

**Suzanna M. Rose**, Assistant Professor

Ph.D., University of Pittsburgh

**Michael N. Stake**, Adjunct Assistant Professor

Ph.D., Arizona State University

**Brian Vandenberg**, Assistant Professor\*

Ph.D., University of Rochester

**Alice G. Vlietstra**, Assistant Professor\*

Ph.D., University of Kansas

**Marylyn N. Voerg**, Adjunct Assistant Professor

Ph.D., University of Florida

**Leslie A. Whitaker**, Assistant Professor\*

Ph.D., Pennsylvania State University

\*members of Graduate Faculty

†Primary appointment in the School of Business Administration

The Department of Psychology maintains an active research commitment, supported in part from grants. Faculty regularly publish their work in scientific journals, and many are involved in professional activities, holding positions in various psychological organizations and serving as consulting editors for scientific journals. The department's doctoral program in clinical psychology is fully accredited by the American Psychological Association; faculty and students in this program staff the Community Psychological Service which provides psychological services to community residents.

### General Information

**Degrees and Areas of Concentration** The psychology department offers work leading to the A.B. 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, human factors, perception, physiological, personality-social, developmental, clinical, and community psychology. The student may choose an area of concentration in graduate-school preparation, general psychology, child care and development specialization, community mental health, or adult development and aging. The student, however, is not required to do so and may devise an individual program in consultation with the adviser.

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The department also offers a Master of Arts in General Psychology degree, designed to meet the needs of part-time students. All classes are held in the early evening hours. The program offers some degree of specialization in such areas as the teaching of psychology, personnel psychology, business-organizational psychology, social psychology, psychometrics, and program evaluation, but the principal emphasis is upon basic psychological concepts and methods. The program is not directed toward the areas of clinical or counseling psychology and will not meet the needs of students whose interests lie in these areas.

The Department of Psychology offers graduate work leading to the Ph.D. degree in either clinical or general experimental psychology.

The general experimental program provides opportunities for study and research in the areas of human and animal learning and memory, perception, developmental psychology, social psychology and human factors. A special doctoral program in Applied (industrial-organizational) Psychology is also offered in conjunction with the School of Business.

In the clinical psychology program, emphasis is placed on both research training and practical involvement in community-oriented clinical activities, including an internship experience. The clinical program is fully accredited by the American Psychological Association and operates the Community Psychological Service as part of its training program.

**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 closed-circuit TV facilities. The department also has an electronics technician.

## 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. Students planning

graduate work in psychology are urged to satisfy the college foreign language requirement in French, German, or Russian. Majors may not take psychology courses pass-fail.

### Undergraduate Psychology Office

Advisers in the Undergraduate Psychology Office, located in Room 330 Stadler Hall, are available to answer questions regarding career options in psychology as well as provide specific information on degree requirements and can process all necessary materials for registration and graduation.

### Degree Requirements

At least 32, but no more than 45 hours must be completed in psychology. 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** courses must be at the 300 level. No more than six hours of independent study courses (290, 295, and 390) 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 requirements, 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 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 290 and 390).



## Psychology

### 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**:

- 111, Human Motivation
- 150, Psychology of Individual Differences
- 216, Personality Theory
- 270, Child Psychology
- 271, Adolescent Psychology
- 272, Adult Development and Aging
- 280, Psychology of Death and Dying
- 295, Field Placement
- 305, Cognitive Development
- 306, Social Development
- 349, Human Learning
- 356, Cognitive Processes

### Community Mental Health Specialization

Designed for students seeking careers in community activity, this program 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**:

- 256, Environmental Psychology
- 295, Field Placement
- 346, Introduction to Clinical Psychology
- 354, Experimental Social Psychology
- 360, Attitude Structure and Change
- 365, Psychological Tests and Measurements

**Adult Development and Aging** This concentration is designed for students interested in adult development and gerontology and is suited to double majors in the other social sciences. The undergraduate advising office has a list of courses in gerontology offered by other departments. In addition to the core curriculum, the following **psychology** courses are recommended:

- 272, Adult Development and Aging
- 295, Field Placement
- 373, Aging in Contemporary Society

## 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 experimental psychology.

### Degree Requirements

**Master of Arts in Psychology** Thirty-two hours of graduate credit are required for the degree. The program has no thesis or language requirements.

**Doctoral Degree in Psychology** Students normally take only 400-level courses in accordance with study plans developed in consultation with their advisers. Only under special conditions are students permitted to take any undergraduate psychology courses for graduate credit. Normally, only full-time students are admitted to the clinical program; it usually takes a full-time graduate student at least four continuous years of work to complete the degree requirements.

## Career Outlook

The 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, community mental health, and adult development and aging. To function specifically as a psychologist, a graduate degree is required, and students with such an interest should plan for this additional training.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

### 09 Seminar in Career Choice and Life Planning (1)

This course covers the major theories regarding career selection and provides information and skill training necessary for making career decisions. **NO CREDIT TOWARD ANY DEGREES.**

# Psychology

## 3 General Psychology (3) (F,W)

A broad introductory survey of the general principles of human behavior. [SS]

## 45 Race (3)

(Same as Anthropology 45 and Sociology 45)

Prerequisite: 12 hours of college credit. Origins and functions of conceptions of race. Biological and social functions of racial ideologies for societies; social, historical, and psychological bases of racism in the U.S.; and the consequences of racism for the individual and societies (Does not count toward major.) [SS]

## 60 Helping Relationship (2)

Prerequisite: Psychology 3 and consent of instructor.

Exploration of the basic elements contributing to effective helping skills. Readings, discussion, and guided experiences will be used to instill understanding of active listening and communication skills. Ethics of helping relationships will be emphasized. [SS]

## 61 Applied Skills (2)

Prerequisite: Psychology 60 and consent of instructor.

Builds upon Psychology 60. Provides advanced readings and supervised experiences in helping relationships. Designed for students interested in learning more about the psychological functioning of selves and others and about the increased awareness of helping relationships. [SS]

## 75 Crime and Punishment (3)

(Same as AOJ 75 and Sociology 75) An interdisciplinary course. An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior. [SS]

## 99 The City (3)

(Same as AOJ 99, Political Science 99, and Sociology 99) An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. (Does not count toward major.) This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's consent. [SS]

## 101 Psychological Statistics (4) (F,W)

(With laboratory) Prerequisite: Psychology 3 or equivalent, and Mathematics 30 or equivalent. Statistical methods in psychological measurement and analysis of psychological data. Frequency distribution analysis, sampling, test of significance, and correlation methods. [SS]

## 105 Group Prejudice and Minority Identity (3)

(Same as Sociology 105) Prerequisite: Psychology 3 or Sociology 10. The psychological study of determinants of identity formation and transformation among minority groups. [SS]

## 111 Human Motivation (3)

Prerequisite: 3 hours of psychology. A survey and comparison of current types of human motivation theory and research, with some consideration of future trends in motivation theory and implications of motivation theory and research to other areas in psychology. [SS]

## 150 Psychology of Individual Differences (3)

Prerequisite: Psychology 3. Analysis of major dimensions of individual differences in behavior and the roles of genetic constitutional and experiential factors in the development of psychological differences. While emphasis is placed on human behavior, relevant information from inhuman species will be considered. [SS]

## 160 Social Psychology (3)

(Same as Sociology 160) Prerequisite: Psychology 3 or Sociology 10. Study of interactions between individuals and their social environment. Examination of basic principles, concepts, and methods. [SS]

## 211 Physiological Psychology (3)

Prerequisite: Psychology 3 or equivalent and Biology 1. A survey of the major areas of physiological psychology with an emphasis on their historical development. [SS]

## 212 Principles of Learning (3)

Prerequisite: Psychology 3. A consideration of critical findings in learning. [SS]

## 213 Principles of Perception (3)

Prerequisite: Psychology 3. Sensory and perceptual processes in human experience and behavior. [SS]

## 215 The Social Behavior of Animals (3)

Prerequisite: Two semesters of psychology and/or biology. An introduction to the social organization of a variety of different animal forms. The emphasis will be on nonhuman primates and other mammals, through the social behavior of selected species of insects, fish, and birds. Aggression, sexual behavior, affiliation, maternal reactions, and the ontogeny of behavior are the primary areas to be studied. The orientation will be from both an ethologist's and animal psychologist's perspective. [SS]

## 216 Personality Theory (3)

Prerequisite: 9 hours of psychology. Structural and dynamic aspects of the human personality considered in the context of selected theoretical systems. [SS]

## 219 Research Methods (3) (F,W)

(With laboratory) Prerequisite: Psychology 101.

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Research methods and analysis techniques used in psychological inquiry. Special emphasis placed on the logic of research design. Includes laboratory study of and analysis of selected methods. [SS]

### **225 Behavior Modification (3)**

Prerequisite: Psychology 3. Evaluation of psychology or consent of instructor. Methods, applications, and ethics of the use of behavior theory (primarily Skinner's operant conditioning) to the control of human behavior in a variety of settings including mental institutions, grade schools, universities, individual treatment, and communal living. [SS]

### **230 Psychology of Women (3)**

Prerequisite: Psychology 3. Evaluation of psychological theories and research regarding physiological, cognitive, and personality sex differences, female problems in adjustment, and clinical interventions for women. [SS]

### **235 Community Psychology (3)**

Prerequisite: Psychology 3. The analysis of psychological problems in terms of the social and situational forces that produce them. Community psychology analyzes the situational problems in living. Epidemiology of mental illness; group, family, and crisis intervention; mental health care delivery; program evaluation and demonstration project research; role of the psychologist as consultant and change agent; and utilization of nonprofessional manpower. [SS]

### **245 Abnormal Psychology (3)**

Prerequisite: Psychology 3. Introduction to major symptom complexes, theories of etiology, and treatment of behavior disorders. [SS]

### **256 Environmental Psychology (3)**

Prerequisite: Psychology 160 or Sociology 160. Analysis of environmental influences on behavior and man's influence, in turn, on the environment. Topics will include a consideration of both individual processes relating to the environment (such as the perception, evaluation, and adaptation to the environment) and social processes relating to the environment (such as privacy, territoriality, and crowding). [SS]

### **268 Human Growth and Behavior (3)**

Prerequisite: Psychology 3. A survey of development over the life span, with an emphasis on the developmental tasks and hazards of each period. [SS]

### **269 Infancy**

Prerequisite: Psychology 3. Principles of infant development. Discussion of bonding; infant capacities and state; perceptual and motor development; and environmental and childrearing factors influencing the rate of development in infants. [SS]

### **270 Child Psychology (3) (F,W)**

Prerequisite: Psychology 3. Principles of biological, behavioral, and personality development from conception to puberty. [SS]

### **271 Adolescent Psychology (3) (F,W)**

Prerequisite: Psychology 3. Principles of biological, behavioral and personality development from puberty to maturity. [SS]

### **272 Adult Development and Aging (3)**

Prerequisite: Psychology 3. Personality, social, and physiological development from the onset of early adulthood through maturity and old age. [SS]

### **280 The Psychology of Death & Dying (3)**

Prerequisite: Psychology 3. This course will address the psychological aspects of death and dying for both adults and children. The psychological reactions of terminally ill patients and their families will also be examined, and therapeutic interventions will be discussed. [SS]

### **290 Directed Studies I (1-5)**

Prerequisite: Consent of instructor and department. Directed reading and research. May not be repeated.

### **295 Field Placement (3) (F,W)**

Prerequisite: Junior standing, 15 hours of psychology including Psychology 101, and consent of department. Field placement under faculty supervision in approved agencies. (May be repeated once for credit.) [SS]

### **301 Advanced Statistics and Experimental Design (3)**

Prerequisite: 12 hours of psychology, including Psychology 101. Statistical methods particularly useful in psychological research and the design of experiments appropriate to these methods. [SS]

### **305 Cognitive Development (3)**

Prerequisite: Junior standing and Psychology 270, or consent of instructor. Data and theory concerned with development of perceptual, language, and symbolic abilities in infants and young children, including discussion of deprivation and enrichment of cognitive development. [SS]

### **306 Social Development (3)**

Prerequisite: Junior standing and Psychology 270, or consent of instructor. Data and theory concerned with development of social behavior in infants and young children. Discussion will include the formation and interruption of attachment, the effects of social isolation, sex role development, identification, and development of moral judgment in children. [SS]

### **310 Motivation Theory (3)**

Prerequisite: Junior standing and 12 hours of psychology, or consent of instructor. Survey of current

# Psychology

theoretical material in the area of motivation. [SS]

## **313 Advanced Physiological Psychology (3)**

Prerequisite: Psychology 211 and junior standing, or consent of instructor. A detailed analysis of the major areas in physiological psychology. [SS]

## **314 Physiological Psychology (3)**

(With laboratory) Prerequisite: Psychology 219 and Biology 1 and 3, or consent of instructor. The biological and physiological correlates of behavior. Special emphasis placed on the neural and endocrine system. [SS]

## **318 Industrial Psychology (3)**

(Same as Business Administration 318) Prerequisite: Psychology 101 or Business Administration 210. Activities of the applied psychologist. Selection and placement, testing, and research. Morale, motivation, and job satisfaction. Leadership skills and styles; creative management; and industrial mental health. Psychology in advertising and marketing. [SS]

## **346 Introduction to Clinical Psychology (3)**

Prerequisite: 9 hours of psychology, including Psychology 216 or 245. A conceptual framework for research, description, and understanding of clinical phenomena. Assessment, interviewing, the clinical use of tests, and psychological approaches to treatment. [SS]

## **349 Human Learning (3)**

Prerequisite: Junior standing and 12 hours of psychology, or consent of instructor. Theory and data pertaining to human learning, transfer, short and long-term retention, and forgetting of verbal and nonverbal information. [SS]

## **354 Experimental Social Psychology (3)**

(With laboratory) Prerequisite: Psychology 219. Social psychological processes both inside and outside of the laboratory including an emphasis on experimental methods in research. [SS]

## **355 Psychology of Perception (3)**

(With laboratory) Prerequisite: Psychology 219. Analysis of major sensory and perceptual processes. [SS]

## **356 Cognitive Processes (3)**

Prerequisite: Junior standing and at least 15 hours of psychology. Evolution of contemporary approaches to the higher mental functions. Analysis of some of the psychological processes involved in association, memory, meaning, language, and conceptual behavior [SS]

## **357 Psychology of Learning (3)**

(With laboratory) Prerequisite: Psychology 219. Major theoretical positions and experimental conditions of learning. Includes laboratory study of selected

problems. [SS]

## **358 Social Behavior of Animals Laboratory (3)**

Prerequisite: Psychology 219. This course is designed to provide laboratory experience in animal behavior. The social interactions of animals, including aggressive, sexual, affiliative, and maternal behaviors of animals, will be the emphasis of the course. Each student will choose from among a number of research projects and will work on that experiment throughout the semester. Biweekly discussion sessions will be used to provide an indepth understanding of the research. The research will primarily be in a laboratory setting with rodents, but field studies using other species will be an option. The course can be taken in conjunction with or independently of Psychology 215. [SS]

## **360 Attitude Structure and Change (3)**

Prerequisite: Psychology 101 or equivalent and Psychology 160 or Sociology 160. Theories of attitude structure and attitude change, measurement, and current research [SS]

## **361 History and Systems of Psychology (3)**

Prerequisite: At least 15 hours of psychology. This course should ideally be taken no sooner than the winter term of the junior year. Historical antecedents of contemporary psychology, including a survey of systems and schools of psychology. [SS]

## **365 Psychological Tests and Measurements (3)**

(With laboratory) Prerequisite: Psychology 101 and 219, or consent of instructor. Survey of psychological testing and principles of test construction and evaluation. Laboratory experience in construction, administration, and interpretation of selected tests. [SS]

## **370 Human Factors (3)**

Prerequisites: Psychology 3 and 101. Experimental psychology applied to the work place. Topics include display-control designs, human perceptual limitations, human information processing, environmental stress, and design of the work place. The person-machine interface is the focus of this course. [SS]

## **371 Research Methods in Developmental Psychology (3)**

Prerequisites: 15 hours of psychology including Psychology 101, 219 and 270 or equivalent. Major theoretical positions and research methods in developmental psychology. Includes a laboratory on selected problems in child psychology.

## **373 Aging in Contemporary Society (3)**

Prerequisites: 12 hours of psychology, sociology or social work. Presentation of data and theory concerning the process of aging. Discussion will include analysis of the social framework within which aging takes place, as well as physical, intellectual, social, and family change that takes place as a function of age. [SS]

## Psychology

### **390 Directed Studies II (1-5)**

Prerequisites: Psychology 290, and consent of instructor and department. Directed reading and research. May be repeated for a maximum total of 10 hours. [SS]

### **392 Selected Topics in Psychology (3) (F,W)**

Prerequisite: 12 hours of psychology and consent of instructor. A seminar of selected issues and methods in psychology. May be repeated once for credit.

### **403 Seminar: Psychopathology (3)**

A critical examination of the clinical-experimental literature on personality disorders. [SS]

### **404 Seminar: Introduction to Clinical Assessment I (3)**

Fundamentals of clinical assessment with emphasis on interviewing and the measurement of cognitive functioning. [SS]

### **405 Seminar: Personality (3)**

Current theories and research in personality with emphasis on normal behavior. [SS]

### **406 Seminar: Introduction to Clinical Assessment II (3)**

Theory and techniques of personality assessment with emphasis on projective personality tests. [SS]

### **408 Proseminar in General Psychology (3)**

A survey of the major areas of general psychology. [SS]

### **409 Proseminar in Experimental Psychology (3)**

A survey of major topics in experimental psychology. [SS]

### **410 Current Issues in Clinical Psychology (3)**

A review of current professional issues facing clinical psychologists, including standards and models of practice, ethics, legislative affairs, emerging job markets, and national trends in research and practice.

### **411 Seminar: Learning and Cognitive Processes (3)**

Evolution of contemporary approaches to learning, both animal and human, and the higher cognitive processes. [SS]

### **412 Seminar: Social Psychology (3)**

A review of key areas in contemporary theory and research in social psychology. [SS]

### **413 Seminar: Developmental Psychology (3)**

Analysis of theories and empirical findings of human and infrahuman studies as related to development. [SS]

### **414 Seminar: Perception (3)**

Sensory processes, psychophysics, and theories of perception. [SS]

### **415 Seminar: Physiological and Comparative Psychology (3)**

Analysis and review of specific physiological and behavioral processes common to a wide variety of animals. [SS]

### **416 Seminar: Animal Behavior and Genetics (3)**

Analysis of the major theoretical positions and empirical findings concerning vertebrate and invertebrate forms.

### **417 Proseminar in Human Factors (3)**

Prerequisites: A research methods course, e.g., Psychology 219 or permission of instructor. First portion of course reviews human capabilities and limitations relevant to human-machine systems. Balance of course examines in depth several applications of experimental psychology to the work place; e.g., environmental stressors, control-display compatibility, information overloading, and display codes.

### **421 Quantitative Methods I (3)**

A comprehensive study of statistical principles. [SS]

### **422 Quantitative Methods II (3)**

A continuation of Psychology 421. [SS]

### **423 Psychological Scaling (3)**

Theory of measurement and the principal methods of psychological scaling. [SS]

### **424 Factor Analysis (3)**

Principal factor analytic methods and multivariate procedures. [SS]

### **425 Mathematical Models (3)**

Decision theory and mathematical models used in the behavioral sciences. [SS]

### **426 Computer Programming (3)**

Fundamentals of digital computer programming and computer applications in the behavioral sciences. [SS]

### **427 Quantitative Measurement and Evaluation of Psychology I (3)**

Use of quantitative methods of psychology. [SS]

### **428 Quantitative Measurement and Evaluation of Psychology II (3)**

A continuation of Psychology 427. [SS]

### **430 Practicum: Introduction to Clinical Assessment I (2)**

Supervised experience in interviewing and the assessment of cognitive functioning.

### **431 Practicum: Introduction to Clinical Assessment II (2)**

Prerequisites: Psychology 430. Supervised experience in interviewing and the assessment of cognitive and personality functioning.

# Psychology

## **432 Clinical Practice I (3)**

Prerequisite: Consent of instructor. Placement in affiliated institution, agency, or organization under supervision of staff

## **433 Clinical Practice II (1-10)**

Prerequisite: Psychology 432 and consent of adviser. Placement in affiliated institution, agency, or organization under supervision of staff.

## **434 Seminar: Introduction to Psychotherapy I (3)**

Study of the theory, techniques and research data on various types of psychotherapy. [SS]

## **435 Seminar: Introduction to Psychotherapy II (3)**

Continuation of Psychology 434. [SS]

## **436 Practicum: Introduction to Psychotherapy I (3)**

Supervised experience in clinical practice. [SS]

## **437 Practicum: Introduction to Psychotherapy II (3)**

Continuation of Psychology 436. [SS]

## **438 Clinical Team (1-3)**

Prerequisites: Psychology 437. Advanced training in clinical methods. May be repeated for credit.

## **441 Seminar: Personality and Behavior Change I (2)**

Examination of major approaches and principles involved in personality change and behavior modification. [SS]

## **445 Seminar: Community Psychology (3)**

Critical examination of principles and application of preventive intervention in social systems and community mental health programming. [SS]

## **446 Principles of Group Psychotherapy (3)**

Prerequisite: Psychology 432 or 434. Investigation of the models and principles of group intervention techniques. [SS]

## **447 Topics in Social Psychology (3)**

Focused and in-depth analysis of contemporary problems in social psychology. One or more specific topic areas will be covered in a given semester. May be taken twice for credit. [SS]

## **450 Clinical Internship I (1-10)**

Prerequisite: Consent of adviser. Supervised training in affiliated agency or organization following completion of two years of course work. [SS]

## **451 Clinical Internship II (1-10)**

Prerequisite: Psychology 450 and consent of adviser. Supervised training in affiliated agency or organization following completion of two years of course work. [SS]

## **461 Seminar: Learning (3)**

A critical examination of contemporary problems in learning. [SS]

## **462 Seminar: Motivation (3)**

A critical examination of contemporary problems in motivation. [SS]

## **464 Seminar: Perception (3)**

A critical examination of contemporary problems in perception. [SS]

## **465 Seminar: Physiological Psychology (3)**

A critical examination of contemporary problems in physiological psychology. [SS]

## **466 Seminar: Developmental Psychology (3)**

A critical examination of contemporary problems in developmental psychology. [SS]

## **467 Seminar: Conceptual Systems (3)**

A critical examination of the evolution of contemporary theory in psychology. [SS]

## **468 Seminar: Cognitive Processes (3)**

A critical examination of contemporary problems in cognitive processes. [SS]

## **469 Seminar: Animal Behavior (3)**

A critical examination of contemporary problems in animal behavior. [SS]

## **470 Seminar: Behavior Genetics (2)**

A critical examination of contemporary problems in behavior genetics. [SS]

## **471 Seminar: Comparative Psychology (3)**

A critical examination of contemporary problems in comparative psychology. [SS]

## **472 Special Topics in Psychology (3)**

A seminar of selected issues and methods in psychology. [SS]

## **475 Introduction to Evaluation Research Methods (3)**

(Same as Sociology 475) Prerequisites: At least one course in research design and statistics (e.g., Sociology 130 or Psychology 219). A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

## **477 Seminar: Clinical Child Psychology (3)**

Introduction to principles, theory and methods of study in the field of clinical child psychology. [SS]

## Psychology

### **480 Research Methods in Clinical Psychology (3)**

Prerequisites: Psychology 421 or equivalent. An overview of research methods that are appropriate for clinical and other non-laboratory settings. [SS]

### **481 Principles of Scientific Inquiry (3)**

Problems in the logic of inquiry and understanding in science. [SS]

### **482 Ethics for Psychologists (1)**

A study of ethical standards as they relate to teaching,

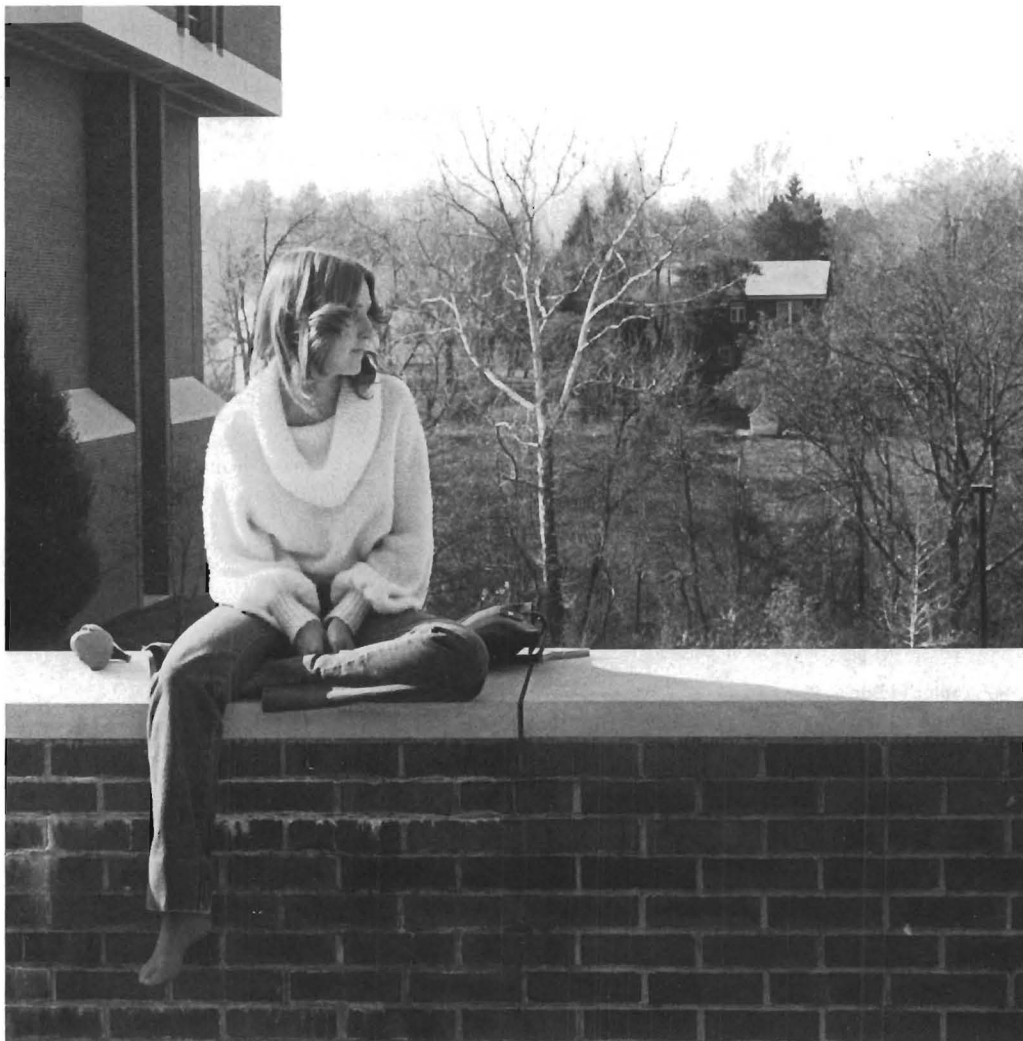
research, and professional practice. [SS]

### **483 Directed Research (1-10) [SS]**

### **484 Directed Readings (1-10) [SS]**

### **491 M.A. Thesis Research (1-10) [SS]**

### **492 Ph.D. Thesis Research (1-10) [SS]**





# Social Work

## Faculty

**Norman Flax**, Chairperson, Associate Professor\*

Ph.D., St. Louis University

**Muriel Pumphrey**, Professor Emeritus\*

D.S.W., Columbia University

**Joan Hashimi**, Assistant Professor\*

Ph.D., Washington University

**Frederick Spencer**, Assistant Professor

Ph.D., St. Louis University

**Lois Pierce**, Visiting Assistant Professor

Ph.D., Washington University

**Delores I. Johnson**, Visiting Instructor, Evening College

M.S.W., St. Louis University

**Sanford Schwartz**, Visiting Instructor

M.S.W., Washington University

\*members of Graduate Faculty

The faculty prides itself on its commitment to high standards of teaching and sound scholarly research. Systematic course evaluations by students each semester are taken seriously, and individual faculty have been singled out as nominees and recipients of Excellence in Teaching awards. The scholarly research expected of university faculty is reflected particularly in the conduct of upper-level 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 Social Work department offers courses leading to a Bachelor of Social Work (B.S.W.). 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.

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, 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's manual. Students who wish to take a practicum must set up an appointment with the practicum coordinator at least six weeks before the beginning of the semester.

## Undergraduate Studies

### General Education Requirements

Majors must satisfy the University and College general education requirements.

Department courses taken pass-fail may not be applied toward the major.

### 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 following **core requirements**:

**Social Work 100**, Introduction to Social Service

**Social Work 200**, Social Welfare as a Social Institution

**Social Work 210**, Interventive Strategies in Social Work Practice I

**Social Work 220**, Social Issues and Social Policy Development

**Social Work 280**, Human Behavior in the Social Environment

**Social Work 300a and 300b**, Interventive Strategies in Social Work Practice II and III

**Social Work 320a and 320b**, Practicum in Supervised Field Experience and Operational Research

### Related Area Requirements

The following courses, or their alternatives, are required:

**Sociology 10**, Introduction to Sociology

**Psychology 3**, General Psychology

**Sociology 160**, Social Psychology or **Psychology 160**, Social Psychology

**Sociology 120**, Quantitative Techniques in Sociology

**Sociology 130**, Research Methods

**Political Science 11**, Government in Modern Society: American Politics

**Economics 40**, Introduction to the American Economy

## Social Work

At least 9 more hours must be taken in social work, sociology, political science, psychology, or economics at the 100 level or above.

The student must meet all general education requirements and the requirements in the College of Arts and Sciences, except that proficiency in a foreign language is not required.

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 an average of **3.0 in the practicum**.

**Note: Anthropology, biological sciences, and Spanish are strongly advised by social work schools.**

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

#### **100 Introduction to Social Service (3) (F,W)**

Prerequisite: Sociology 10 or Psychology 3. An examination of the network of social programs and services presently operating in modern urban communities, and the various roles and functions performed by the helping professions. Students will be introduced to basic values, skills, and training involved in a helping relationship as well as the characteristics of both clients seeking help and of professionals and paraprofessionals engaged in the helping process. [SS]

#### **200 Social Welfare as a Social Institution (4)**

Prerequisites: Social Work 100 or consent of instructor. A study of the: 1) development of social welfare services and the philosophy underlying the present practices and systems; 2) present social welfare programs with particular emphasis given to public income maintenance provisions; 3) special welfare needs of the Black, elderly, women, Indian and Hispanic Americans; and 4) development of social work as a profession. The laboratory period will be used for field trips to social agencies. [SS]

#### **210 Interventive Strategies in Social Work Practice I (3)**

Prerequisites: Social Work 200 and Sociology 160 or Psychology 160 or consent of instructor. A presentation of basic knowledge, skills and theory used for entry level professional practice, such as problem assessment, interviewing skills, crisis interventions and referral procedures. The course objectives will also be to teach students how to help clients negotiate systems effectively, use resources, services and opportunities. [SS]

#### **220 Social Issues and Social Policy Development (3)**

Prerequisites: Social Work 200 and Political Science 11 or Economics 40 or consent of instructor. The identification of issues concerning governmental provisions to meet contemporary social needs, with analysis of the principles underlying alternative solutions. A study of the processes by which citizen opinions and public policies evolve and are implemented in areas such as public housing, employment, social insurance, family and child welfare, and public health. [SS]

#### **280 Human Behavior in the Social Environment**

This course will focus on the normative stages in the life span, and specifically, how human development is affected by the physical environment and social status characteristics. Empirical information and theoretical views on human development will be included. Human development will be viewed as a complex interaction of individual developmental stages with family, social, and community systems.

#### **290 Selected Topics in Social Work Practice (1-3)**

Prerequisite: Social Work 210 or 220 or consent of instructor. A variable credit course examining special topics in Social Work Practice. Relative theories, strategies, and skills will be presented for topics selected. Course may be taken more than once for credit as different topics are offered. [SS]

#### **300a Interventive Strategies in Social Work Practice II (3)**

Prerequisites: Social Work 210 and 220. This course continues the presentation of basic knowledge and practice skills for entry level professional practice begun in Social Work 210 and would include problem assessment, skills directed toward assisting the client to develop more effective coping and problem-solving abilities, and administrative skills that would promote the effective use of the available resources for the client. Course 300a will be taken concurrently with first semester practicum (320a) so that examples from practice will help link theory and practice.

#### **300b Interventive Strategies in Social Work Practice III (3)**

Prerequisite: Social Work 300a. A continuation of basic practice skills with emphasis given to analysis and intervention at the organizational and community level; this would include assessment of available services, organization of client groups, and efforts to modify resources for a client group unable to effectively intervene on their own behalf, and will help the practitioner evaluate the impact of intervention. Social Work 300b will be taken concurrently with the second semester of practicum (320b) so that examples from practice can be used to help link theory and practice.

# Social Work

## **320a Social Work Practicum in Supervised Field Experience and Operational Research (4-6)**

Prerequisites: Social Work 210 and taken at the same time as 300a. Participation as a staff member in a social service agency. Students work in agencies the equivalent of 20 hours per week. Emphasis is to familiarize the student with agency operations in social services setting. Content in Social Work 300a will be related to the student's experience in practice (320a). Selection of the agency is based on student learning needs.

## **320b Social Work Practicum in Supervised Field Experience and Operational Research (4-6)**

Prerequisites: Social Work 210, 300a, 320a, taken together with 300b and consent of instructor. Students continue field experience under supervision. They must continue their placement at the same agency or choose a different setting with the permission of the instructor. This is determined by student's learning needs; content in Social Work 300b is related to the field experience of students (Social Work 320b) and emphasis in administrative and community practice.

## **330 Social Work Practice with the Aged (3)**

Prerequisite: Social Work 210 or 220 or consent of instructor. An examination of the field of geriatric social work practice including skills training, theory, and issues relative to this field. [SS]

## **350 Special Study (Credit arranged)**

Prerequisite: Consent of instructor. Independent study through advanced readings in method and philosophy on a topic of particular interest, or field research in an agency. [SS]

## **390 Seminar in Social Work Issues (1-3)**

Prerequisite: Consent of instructor. A variable credit course examining current and future considerations in designing and implementing social work service and delivery arrangements. Issues will be selected according to interests of the class. Course may be taken more than once for credit as different topics are offered. [SS]

## Sociology and Anthropology

### Faculty

#### Sociology

**John R. Hepburn**, Chairperson, Associate Professor\*  
Ph.D., University of Iowa

**K. Peter Etzkorn**, Professor\*; Associate Dean, Graduate School; Director, Office of Research  
Ph.D., Princeton University

**Jerome Himelhoch**, Professor\*  
Ph.D., Columbia University

**George J. McCall**, Professor\*  
Ph.D., Harvard University

**Harry H. Bash**, Associate Professor\*  
Ph.D., University of Pennsylvania

**Sara L. Boggs**, Associate Professor\*  
Ph.D., Washington University

**James H. Laue**, Associate Professor\*; Director, Metropolitan Studies  
Ph.D., Harvard University

**Herman W. Smith**, Associate Professor\*  
Ph.D., Northwestern University

**Daniel J. Monti**, Assistant Professor\*  
Ph.D., University of North Carolina

**Ronald M. Denowitz**, Assistant Professor\*  
Ph.D., University of Chicago

#### Anthropology

**Thomas H. Hay**, Associate Professor\*; Coordinator of Anthropology  
Ph.D., Michigan State University

**Lorraine Kirk**, Associate Professor\*  
Ph.D., University of California-Berkeley

**Stuart M. Plattner**, Associate Professor\*  
Ph.D., Stanford University

**Ben A. Nelson**, Research Assistant Professor  
Ph.D., Southern Illinois University-Carbondale

**Van A. Reidhead**, Assistant Professor  
Ph.D., Indiana University

\*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 university 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. Last year, the department was distinguished with the publication of five books.

### General Information

**Degrees and Areas of Concentration** The sociology and anthropology department offers work leading to the A.B. in sociology, A.B. in anthropology, A.B. in sociology with emphasis in social work, and, in cooperation with the School of Education, the B.S. in education with an emphasis in social studies (see School of Education for details). A minor in sociology is also offered.

Faculty stress the scientific and applied aspects of sociology, anthropology, and 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 sociology and anthropology 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 in all three fields on the applied uses of sociological and anthropological 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 the 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.

# Sociology and Anthropology

## Undergraduate Studies

### General Education Requirements

Majors must satisfy the university and college general education requirements. Courses in sociology, anthropology, or social work may be used to meet the social sciences requirement. Any foreign language may be used to meet the language requirement for the A.B. degree. Department courses taken pass-fail may not be applied toward the major.

### Degree Requirements: Sociology

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

**Sociology 10**, Introduction to Sociology  
**Sociology 110**, Sociological Theory  
**Sociology 120**, Quantitative Techniques in Sociology  
or **Mathematics 31**, Elementary Statistical Methods  
or **Mathematics 102**, Finite Mathematics I

**Note:** Students planning to do graduate study, however, are urged to take Sociology 120 rather than the mathematics option.

### Also required:

**Sociology 130**, Research Methods

At least 18 more hours of sociology courses must be taken, including **at least 6 hours at the 300 level**, exclusive of Sociology 350. No more than 3 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.

Not more than 10 hours of junior college transfer credit may be applied toward the minimum 32 hours required for the major.

### 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 Arts in Sociology with an emphasis in Social Work** Students completing this degree may enter beginning positions as

social workers or junior positions on social research staffs. They may also choose to enter academic or professional programs of graduate study, leading to eventual careers in academic or applied social sciences, or to varieties of social service occupations.

Candidates for this degree program must complete the following **core requirements**:

**Sociology 10**, Introduction to Sociology  
**Sociology 110**, Sociological Theory  
**Sociology 120**, Quantitative Techniques in Sociology  
**Sociology 130**, Research Methods  
**Social Work 100**, Introduction to Social Service  
**Social Work 200**, Social Welfare as a Social Institution  
**Social Work 210**, Interventive Strategies in Social Work Practice I  
**Social Work 300a or 300b**, Interventive Strategies in Social Work Practice I or II  
**Social Work 320a and 320b**, Social Work Practicum in Supervised Field Experience and Operational Research

At least two additional courses in sociology, one or more of which must be at the 300 level, exclusive of Sociology 350, are also required.

### Related Area Requirements

**Psychology 3**, General Psychology  
**Political Science 11**, Government in Modern Society: American Politics or **Economics 40**, Introduction to the American Economy  
**Sociology 160**, Social Psychology

**Note:** Anthropology, biological science, and Spanish are strongly advised by social work schools.

### Degree Requirements: Anthropology

**Anthropology is expected to be established as an independent department by fall semester, 1981. Students should contact the department for current program information.**

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

**Anthropology 5**, Human Origins  
**Anthropology 11**, Man, Culture, and Society  
**Anthropology 291**, Senior Seminar  
**Anthropology 325**, Comparative Social Organization  
**Anthropology 381**, Theories of Anthropology  
**Sociology 120**, Quantitative Techniques in Sociology

## Sociology and Anthropology

Students are **also required** to take the following **before** enrolling in Anthropology 291, Senior Seminar:

**Philosophy 160**, Formal Logic, or  
**Philosophy 280**, Philosophy of Science, or  
**Philosophy 282**, Philosophy of Social Science

In addition students must take at least 12, but no more than 25, hours of electives in anthropology. No more than 3 credit hours may be from courses below the 100 level.

### Graduate Studies in Sociology

#### 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: in 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.

#### Admission Requirements

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.

In addition to meeting the general admission requirements of the Graduate School, students **must** have at least **9** semester hours in sociology, **and** credit in the following courses:

**Sociology 110**, Sociological Theory  
**Sociology 120**, Quantitative Techniques in Sociology  
**Sociology 130**, Research Methods  
**or** their equivalents.

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 wishing to continue regular employment outside the university may enroll on a part-time basis.

#### Degree Requirements

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 420**, Pro-Seminar in Sociology (3)  
**Sociology 424**, Research Practicum (3)  
**Sociology 432**, Advanced Methodology (3)  
**Sociology 434**, Sociological Reporting (3)

##### Concentration

Each student selects a concentration of at least 12 hours from among the following areas:

- 1 Advanced Sociological Perspectives
- 2 Community Conflict Intervention
- 3 Program Design and Evaluation Research
- 4 Social Policy, Planning and Administration

# Sociology and Anthropology

Six hours in each concentration area are taken in courses required for that area, and at least six hours are elected from a group of approved courses. Required and elective courses for each concentration area are listed in the *Graduate Student Handbook*, available from the student's adviser.

**Exit Requirement** Students fulfill the exit requirement through successful completion of Sociology 434 and preparation of a research report of publishable quality. The report is developed in conjunction with work in the four core courses and is supervised by a committee approved by the department and the graduate dean. The committee administers an oral examination centered on the completed project.

**Plan of Study** Each student shall prepare an adviser-approved course of study during the first semester of enrollment.

**Elective Internship in an Agency or Community Organization** Students in the program are encouraged to elect a supervised internship in (a) a private or public social agency, (b) a community or neighborhood citizens organization, or (c) a labor, corporate or political organization. Such an internship usually is taken in relation to the research practicum core course, or in relation to Sociology 480, Individual Study, or Sociology 490, Supervised Research.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*.

### Sociology

#### 10 Introduction to Sociology (3)

Prerequisite: None. An introduction to sociological approaches to human behavior including types of social organizations, patterns of social interaction, and social influences on individual conduct. [SS]

#### 30 Interpretation of Social Data (3)

Prerequisite: Sociology 10. An introduction to the understanding of sociological research. Emphasis will be placed on how research is conducted and on how to read and interpret data analysis. This will be done in a nontechnical fashion. Sociology majors cannot receive sociology credit for this course. [SS]

#### 33H Honors Seminar in Sociology (3)

Prerequisite: Acceptance in sophomore honors. Intellectual and philosophic premises upon which sociology rests are examined, along with their implications for some of the discipline's problems and controversies. Relationships between sociology and social life are explored with a focus on contemporary social issues. Course satisfies prerequisites for more advanced sociology courses.

#### 40 Urban Problems (1-3)

Prerequisite: None. Examination of a specific topic of relevance for understanding urban problems. May be taken more than once for credit provided the topic of the course is different each time. [SS]

#### 45 Race (3)

(Same as Psychology 45 and Anthropology 45) Prerequisite: 12 hours of college course credit. Origins and functions of conceptions of race. Biological and social definitions of race; the function of racial ideologies for societies; social, historical, and psychological bases of racism in the United States; the consequences of racism for the individual and societies. [SS]

#### 75 Crime and Punishment (3) (W)

(Same as AOJ 75 and Psychology 75) An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior. [SS]

#### 77 Third World Development (3)

(Same as Anthropology 77) An interdisciplinary course concerned with the process of development and underdevelopment in the modern world. We will focus upon the internal structures of societies, the effects of foreign policies, and cooperative and coercive international relations as they have affected developing nations. The loss of many valuable aspects of life that has accompanied previous patterns of development will be examined in light of the possibility of alternative strategies. [SS]

#### 90 Freshman Seminar (3)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to 12 students. [SS]

#### 99 The City (3)

(Same as AOJ 99, Political Science 99, and Psychology 99) An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and



## Sociology and Anthropology

sophomores. It is open to juniors and seniors with the instructor's consent. [SS]

### **105 Group Prejudice and Minority Identity (3)**

(Same as Psychology 105) Prerequisite: Psychology 3 or Sociology 10. The psychological and sociological study of determinants of identity formation and transformation among minority groups. [SS]

### **106 Development of Social Thought (3) (F)**

Prerequisite: Sociology 10. The antecedents of sociological theory, as traced through social thought traditions until the time of Comte. [SS]

### **110 Sociological Theory (3) (F,W)**

Prerequisite: Sociology 10. The nature of sociological theory. An investigation of theory from Comte through contemporary developments. Contributions made by theorists in related disciplines. [SS]

### **120 Quantitative Techniques in Sociology (4)**

Prerequisites: Sociology 10 and satisfaction of math proficiency requirement. Issues and techniques of statistical analyses relevant to quantitative sociological research, e.g., elementary probability, measurements of central tendency and dispersion, measures of relationships including linear regression and correlation, inferential statistics including the chi square test (with laboratory). [SS]

### **130 Research Methods (4) (F,W)**

Prerequisite: Sociology 10 and 120 or 30. Research planning; the collection, analysis, and presentation of data. Course includes practical experience in the conduct of a research project. [SS]

### **160 Social Psychology (3) (F,W)**

(Same as Psychology 160) Prerequisite: Sociology 10 or Psychology 3. Study of the interaction between the individual and his social environment. Examination of basic principles, concepts, and methods. [SS]

**Note:** Any 200-level course taken for major elective credit requires prior completion of a 100-level course. If the 100-level course is 110, 120, or 130 it may be taken concurrently with a 200-level course.

### **200 Sociology of Deviant Behavior (3) (F,W)**

Prerequisite: 3 hours of sociology or anthropology. Theories of the nature, causes, and control of deviance as a generic phenomenon. Application of theories to specific types, such as mental disorder, delinquency, drug abuse, suicide, and unconventional sexual behavior. [SS]

### **202 Urban Sociology (3)**

Prerequisite: Sociology 10 or consent of the instructor. Urbanization as a world phenomenon; urban social and ecological structures and changing life styles; the decision-making processes in urban problem solving. [SS]

### **205 Models in the Social Sciences (3)**

(Same as Political Science 205 and Anthropology 205) The course will focus on explaining social and cultural behavior. Elementary models of decision making, exchange and adaptation will be covered. Computer processing of data to test empirical hypotheses will be introduced.

### **214 Juvenile Delinquency and Youth Crimes (3) (F,W)**

Prerequisite: 3 hours of 100-level sociology. A theoretical and research-oriented approach to delinquency and youth crime, including types, trends, causation, correction, and prevention. [SS]

### **218 Social Choice in Political-Economic Systems (3)**

(Same as Economics 218, Political Science 218) Prerequisite: Two courses in economics, political science, or sociology. A study of the mechanisms of social choice from the standpoint of individual and political party maximization of personal objectives. This area draws on work done by sociologists, political scientists, and economists. [SS]

### **224 Sociology of the Family (3) (F,W)**

Prerequisite: Sociology 10. Universal and variable aspects of family organization, family role systems, and changes in family social structure. [SS]

### **234 Political Sociology (3)**

(Same as Political Science 234) Prerequisite: Sociology 10 or Political Science 11. The analysis of power as a social phenomenon. The processes of legitimizing power and instituting authoritative structures. Stabilizing of social control and social integration at various levels of social and political organization. [SS]

### **238 Medical Sociology (3)**

Prerequisite: Sociology 10. The application of sociology to the field of health. Social elements of the etiology of disease and its distribution. The sick role, doctor-patient relationships, and the social organization of hospitals and medical careers. [SS]

### **240 Selected Topics in Micro-Sociology (1-3)**

Prerequisite: Sociology 10 or consent of the instructor. Examination of a specific sociological topic that focuses on small groups and interpersonal relations. May be taken more than once for credit provided the topic of the course is different each time. [SS]

### **241 Selected Topics in Macro-Sociology (1-3)**

Prerequisite: Sociology 10 or consent of the instructor. Examination of a specific topic that focuses on large scale social systems and the structural relationships among social organizations and institutions. May be taken more than once for credit provided the topic of the course is different each time. [SS]

# Sociology and Anthropology

## 256 Sociology of Education (3) (F)

Prerequisite: Sociology 10. Education as a social institution, its role as an agent of socialization, and its effect upon the processes of social change and social mobility. The relationship between the school and its community. [SS]

## 260 Social Interaction in Small Groups (3) (F)

Prerequisite: Sociology 160 or Psychology 160. Analysis of human interaction with emphasis on group problem solving, group structure, and group process. [SS]

## 264 The Sociology of Religion (3)

Prerequisite: Sociology 10. Religion as a universal phenomenon. The effect of religion upon the individual and society. The organization of religious enterprises. [SS]

## 270 Socialization (3)

Prerequisite: Sociology 10. Analysis of the structural and social psychological aspects of roles and the self as a product of social interaction. [SS]

## 278 Sociology of Law (3) (W)

Prerequisite: Sociology 10. A study of law and society with emphasis on the sociological analysis of specific problems of legal doctrines and legal institutions. The law is examined as an instrument of social control through study of the courts, the legal profession, the police, and various social institutions. Consideration is given to law as an instrument of social change. [SS]

## 286 The Arts in Society (3) (W)

(Same as Anthropology 286) Prerequisite: Sociology 10 or Anthropology 11. The relationship of artists, writers, and musicians, their traditions and modes of artistic expression to variant social structures and institutions, and social pressures and rewards. [SS]

## 290a, 290b, 290c Undergraduate Seminar in Sociological Issues (3)

Prerequisite: Sociology 10 and consent of instructor. Consideration of an issue or area of the instructor's choice, not already covered by other undergraduate courses. May be taken up to three times for 9 hours credit, provided the subject matter is different each time the seminar is taken. [SS]

## 298 Practicum in Field and Laboratory Research (1-3)

Prerequisite: Sociology 130. Intensive field or laboratory research to be taken subsequent to or concurrent with a specific substantive course. May be taken twice for credit. [SS]

**Note:** Any 300-level course taken for **major** elective credit requires prior completion of **two** of the following: Sociology 110, 120, or 130.

## 304 Survey Research Practicum (3) (W)

(Same as Economics 304 and Political Science 304) Prerequisite: Junior standing and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results. [SS]

## 310 Selected Topics in Sociological Theory (1-3)

Prerequisite: Sociology 110. Focused examination of selected issues, the contributions of individual theorists, and methodological implications in the study of sociological theory. May be taken twice for credit. [SS]

## 312 Social Stratification and Inequality (3)

Prerequisite: Sociology 10; junior standing or consent of instructor. Theories of social stratification and inequality through an examination of current research. Changes in the occupational and hierarchical structure emphasizing mobility in contemporary society. [SS]

## 314 Social Change (3)

Prerequisite: Sociology 10; junior standing or consent of instructor. Theories of social change applied to the analysis of small and large social systems, including the planning of change and projecting of alternative futures. [SS]

## 316 Power, Ideology, and Social Movements (3)

Prerequisite: Either Social Work 220 or Sociology 234 or 314. Effect of events and social processes on thought and action in the twentieth century. Social functions of ideologies as expressed in movements and formal and informal organizations seeking social change. [SS]

## 326 Criminology (3) (F,W)

Prerequisite: Sociology 200 and 214 or 6 hours of sociology or anthropology. Crime as a social phenomenon. Theory and research concerning the causes of crime. [SS]

## 328 Institutions and the Control of Crime and Delinquency (3) (F)

Prerequisite: Sociology 214 or 326. Institutional responses to crime and delinquency. Theories and programs of rehabilitation and punishment. Organizational conditions affecting behavior of correctional personnel. [SS]

## 330 Field Research in Criminology (2-4)

Prerequisite: Sociology 130 and 214 or 326 or their equivalent. Student will participate in individual or group research projects involving systematic data collection and sociological analysis concerning the causation or societal reaction to crime, delinquency, or related forms of deviance. One option available to students will be an opportunity to study organizations dealing with juvenile or adult offenders. [SS]

## Sociology and Anthropology

### **336 Bureaucracy and the Social Order (3)**

Prerequisite: Sociology 10; junior standing or consent of instructor. Sociological aspects of types of formal organizations; the norms and behavior of the formal and informal structures in organizations; interrelations between complex organizations and the larger society. [SS]

### **342 Population Dynamics (3)**

Prerequisite: Sociology 10; junior standing or consent of instructor. Sociological aspects of theories relating man and ecological environment. Selected topics including fertility and population change, community planning and urbanism, and demographic aspects of Western and non-Western cultures. [SS]

### **344 Problems of Urban Community (3) (W)**

Prerequisite: Sociology 10; junior standing or consent of instructor. The urban community as an area of social action and problem-solving with emphasis on the sociological aspects of urban problems. [SS]

### **346 Demographic Techniques (3) (W)**

Prerequisite: Sociology 120 or equivalent. This course is designed to familiarize students with the research techniques used in population analysis. Topics included are: appraisal of census and vital data; measurement of mortality, fertility, and migration standardization; construction of life tables; and population projection. [SS]

### **350 Special Study (1-10)**

Prerequisite: consent of instructor. Independent study through readings, reports, and field work. [SS]

### **352 Advanced Principles of Sociology (3)**

Prerequisite: Sociology 10; junior standing or consent of instructor. Analysis of the main concepts and principles of sociology and survey of sociology as a social science. [SS]

### **354 Occupations and Their Work Settings (3)**

Prerequisite: Sociology 10; junior standing or consent of instructor. The social nature of work, the work plant as a social system; occupational role behaviors, including deviant occupations; the socialization of the worker; determinants of occupational behavior in American and other societies; social problems of work; and the impact of the community on work behavior. [SS]

### **360 Sociology of Minority Groups (3) (W)**

Prerequisite: Sociology 10; junior standing or consent of instructor. The study of dominant-subordinate group relations. Religion, ethnicity, and race as factors affecting conflict, competition, accommodation, and assimilation. [SS]

### **370 Selected Topics in Techniques of Sociological Research (1-3)**

Prerequisite: Sociology 10 or consent of the instructor.

The study of a specific research technique used in sociological analyses. May be taken more than once for credit provided the topic of the course is different each time. [SS]

### **377 Personality and Culture (3)**

(Same as Anthropology 377) Prerequisite: Sociology 10; junior standing or consent of instructor. Analysis of behavior from the standpoint of interaction between psychological, sociological, and cultural systems. [SS]

### **378 Selected Topics in Social Psychology (1-3)**

Prerequisite: Sociology 160 or Psychology 160 or consent of instructor. Focused examination of selected issues, concepts, and methods in the study of social interaction. May be taken twice for credit. [SS]

### **380 Selected Topics in Social Policy (1-3)**

Prerequisite: Sociology 10 or consent of the instructor. Examination of a specific sociological topic of current relevance in the community. May be taken more than once for credit provided the topic of the course is different each time. [SS]

### **394 Methods in Theory Construction (3) (W)**

Prerequisite: Sociology 110 or consent of instructor. An in-depth comparison of selected techniques of theory building and testing. Verbal and/or mathematical formalization of selected sociological examples of theory will be the central activity. [SS]

### **420 Proseminar in Sociology (3) (F)**

Required of all entering graduate students in the fall semester of the first year of residency. An overview of the field of contemporary sociology, with emphasis on the major theories, issues, research approaches and ethical problems in the field today, and an introduction to theory construction, measurement, and design strategies. [SS]

### **422 Advanced Quantitative Techniques (3)**

Prerequisite: Sociology 120 or consent of instructor. A study of advanced quantitative analysis of sociological data, focusing on problems of multivariate analysis, sampling theory and techniques, and the use of electronic data processing in approaching these problems. [SS]

### **424 Research Practicum (3)**

Prerequisite: Sociology 420 and consent of instructor. Involvement of students in an individual or group project culminating in a report, in order to provide firsthand experience in integration of theoretical concerns, methodological principles, and appropriate research techniques in an empirical study, the subject of which shall be determined in collaboration with the instructor. [SS]

### **432 Advanced Methodology (3)**

Prerequisite: Sociology 130 or consent of instructor. A study of methodological problems on an advanced

# Sociology and Anthropology

level, focusing on contemporary issues in the processes of inquiry with particular emphasis on the applicability of different modes of research to various types of theoretical problems. Consideration of ethical problems in social research. [SS]

## **434 Sociological Reporting (3)**

Prerequisite: Sociology 420, 424, and 432. As part of the M.A. degree exit requirement, the seminar offers directed practice in the interpretation and reporting of sociological data, in a wide range of styles including those appropriate for research reports, journal articles, policy papers, nontechnical magazines, monographs, and books, as well as oral reports to diverse consumers. Ethical dimensions of interpretation and dissemination are explored. [SS]

## **440 Seminar in Urban Sociology (3)**

Prerequisite: 9 hours of undergraduate course work in sociology and consent of instructor. [SS]

## **450 Seminar in Social Psychology (3)**

Prerequisite: 9 hours of undergraduate course work in sociology and consent of instructor. [SS]

## **460 Seminar in Deviant Behavior (3)**

Prerequisite: 9 hours of undergraduate course work in sociology and consent of instructor. [SS]

## **462 Sociology of Criminal Law (3)**

Prerequisite: 12 hours of undergraduate course work in sociology and consent of instructor. A survey of research on the formulation, enforcement, and administration of criminal law. [SS]

## **466 Social Policy and Community Planning (3)**

Prerequisite: Consent of instructor. Analysis of the formulation of policy as a social process, with concentration on political as well as technical-rational elements. Relation of social policy formation to planning at the community level, and analysis of the elements and dynamics of community planning. Analysis of an exposure to planning agencies in the St. Louis metropolitan area. [SS]

## **468 Theory and Practice of Community Conflict Intervention (3)**

Prerequisite: Consent of instructor. Analysis and simulated practice in intervention in community disputes, with major emphasis on development of intervention concepts and skills, among them policy formation, power, racism, change, mediation, conciliation, arbitration, and advocacy. Development and application of a typology of intervention roles. [SS]

## **470 Seminar in Sociological Issues (1-3)**

Prerequisite: 9 hours of undergraduate course work in sociology and consent of instructor. Consideration of an issue or area of the instructor's choice, not already covered by one of the other 400-level courses. May be taken up to three times for up to 9 hours credit, provided the subject matter is different each time the seminar is taken by the student. [SS]

## **475 Introduction to Evaluation Research Methods (3)**

(Same as Psychology 475) Prerequisite: At least one course in research design and statistics (e.g., Sociology 130 or Psychology 219). A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program, evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies. [SS]

## **476 Research Practicum in Evaluation Research Methods (3)**

Prerequisite: Sociology 475 and consent of instructor. Instruction in and supervision of research design and data collection for evaluation of social deviance action program research report. Concurrent with on-site participant observation. [SS]

## **480 Individual Study (3)**

Prerequisite: Consent of adviser and instructor. Designed to give the student the opportunity to pursue particular interests within the discipline and/or to study areas not currently covered by formal courses. Guided by faculty with appropriate interests. May be taken only twice. [SS]

## **490 Supervised Research (1-10)**

Prerequisite: Sociology 322, 332, and 492 and consent of instructor. Individual supervision of research leading to the preparation of a thesis, research paper, or publishable article, in which the student demonstrates skills in the discipline of sociology. [SS]

## **492 Advanced Sociological Theory (3) (F)**

Prerequisite: Sociology 110 or consent of instructor. Recent and current developments in sociological theory in light of its tradition and methodological issues. The state of modern theory with regard to specific conceptual, substantive, and methodological concerns. [SS]

## Sociology and Anthropology



### Anthropology

#### 5 Human Origins (4) (F,W)

(With laboratory) A survey of the field of physical anthropology with emphasis upon the development of man as an animal. Will consider the genetic forces of evolution, fossil men, race formation, and the origin of culture from a scientific point of view. [SS]

#### 11 Man, Culture, and Society (3) (F,W)

A survey of types of societies—bands, tribes, chiefdoms, states, and peasantry—and of selected aspects of culture and social structure. Introduction to linguistics, social, and cultural anthropology as scientific disciplines. [SS]

#### 33H Anthropology and Current Controversy (3)

Prerequisite: Acceptance in sophomore honors. Primary anthropological source material relevant to such current controversies as the status of women and the stability of family and society will be read and discussed. Course satisfies prerequisites for more advanced courses.

#### 45 Race (3)

(Same as Psychology 45 and Sociology 45)  
Prerequisite: 12 hours of college course credit. Origins

and functions of conceptions of race. Biological and social definitions of race; the function of racial ideologies for societies; social, historical, and psychological bases of racism in the United States; and the consequences of racism for the individual and societies. [SS]

#### 51 Introduction to Anthropological Linguistics (3)

Relation between man and language in synchronic and historical perspective. The design features of language Equality, diversity, and relativity in structures and functions of language, including non-Western languages. [SS]

#### 77 Third World Development (3)

(Same as Sociology 77) An interdisciplinary course concerned with the process of development and underdevelopment in the modern world. The course will focus upon the internal structures of societies, the effects of foreign policies, and cooperative and coercive international relations as they have affected developing nations. The loss of many valuable aspects of life that has accompanied previous patterns of development will be examined in light of the possibility of alternative strategies [SS]

# Sociology and Anthropology

## 101 Sexual Behavior (3)

Prerequisite: Anthropology 5 or 11 or consent of instructor. Description and analysis of sex roles in different cultures including band, tribal, peasant, and state-level societies. Cultural bases of behavior such as "Machismo" and female assertiveness. [SS]

## 129 Field Study in Archaeology (6)

Prerequisites: Consent of Instructor. This course is designed to introduce students to field methods in archaeology and to the methods of recording, storing, analyzing, and reporting archaeological findings. Experience is gained through participation in a field research project including excavation and survey projects. Emphasis is placed upon research design and implementation and upon the use of archaeological data in describing and explaining human behavior. [SS]

## 139 Archaeology of Missouri (3)

Prerequisite: None. An introduction to the prehistoric Indian cultures of Missouri and adjacent areas from 20,000 B.C. to the coming of Europeans. Examines the development of prehistoric cultures in Missouri from small bands of hunters to agricultural city builders. Discusses the decline of indigenous cultures as they came in contact with European civilization. Satisfies the non-Euro-American requirement. [SS]

## 167 World Prehistory (3)

Prerequisite: None. An introduction to the prehistoric cultures of Asia, Africa, Europe, and the Americas from the Paleolithic to the establishment of civilization. Examines the rise of complex societies leading to civilization in the different areas of the world, concentrating on social and ecological conditions contributing to their development and on comparisons between civilizations. [SS]

## 201 Cultures of Mesoamerica (3)

Prerequisite: Anthropology 11 or consent of instructor. An introduction to Mexico and Central America from an anthropological point of view. The evolution of the indigenous civilizations of the Aztec and Maya. The conquest and colonial experiences and the development of modern communities. [SS]

## 203 Cultures of Asia (3)

Prerequisite: Anthropology 11 or consent of the instructor. A survey of the cultures of Asia including the prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of these groups. This course satisfies the non-Euro-American requirement. [SS]

## 205 Models in the Social Sciences (3)

(Same as Political Science 205 and Sociology 205) The course will focus on explaining social and cultural behavior. Elementary models of decision making, exchange and adaptation will be covered. Computer processing of data to test empirical hypotheses will be introduced.

## 207 Cultures of Native North America (3) (F)

Prerequisite: Anthropology 11 or consent of instructor. A survey of the aboriginal cultures of North America including prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of these groups. [SS]

## 209 The Inca, Aztec, and Maya (3)

A survey of the cultural evolution of Mesoamerica and Andean South America, from the early hunters to high civilizations. The course will conclude with the sixteenth-century Spanish conquest of these civilizations. Satisfies the non-Euro-American requirement. [SS]

## 211 Cultures of Africa (3)

Prerequisite: Anthropology 11 or consent of instructor. A basic ethnographic survey of African cultures, with attention to social groupings, tribalism, religion, language, social change, and the ecological relationship between man and nature. This course satisfies the non-Euro-American requirement. [SS]

## 221 Nonverbal Behavior (3)

Prerequisite: Consent of instructor. Cross-cultural analysis of (a) body management in conscious and unconscious communication (Kinesics) and (b) nonverbal behavior which channels internal and interpersonal tension (personal growth). The course will examine uniformity and variation across cultures. [SS]

## 227 Urban Anthropology (3) (W)

Prerequisite: Anthropology 11. A comparative analysis of the cultural roles of urban centers and the processes of urbanization in non-Western and Western societies, past and present. A consideration of urban influences on rural America and the traditional peasant and primitive peoples of Africa, Asia, and Latin America. [SS]

## 235 Archaeology of North America (3)

Prerequisite: Anthropology 5 or consent of instructor. In this course, the archaeological record of cultural development throughout prehistoric North America is examined. Topics of discussion include the origins of human culture in North America, the process of prehistoric cultural development in the different regions of the continent, and archaeological approaches to explaining the behavior of North America's prehistoric inhabitants. [SS]

## 243 Economic Anthropology (3)

Prerequisite: Anthropology 11 or consent of instructor. An introduction to the range of economic organizations found in the world. Anthropological models of production and exchange. The notion of "rationality" as applied to non-Western economic systems. The contribution of anthropology to the understanding of economic development. [SS]



## Sociology and Anthropology

### **245 Political Anthropology (3)**

Prerequisite: Anthropology 11 or consent of instructor. A review of the pertinent literature on the political process in native and non-Western societies with emphasis upon local-level politics in traditional-modern interface of emerging nations. [SS]

### **253 Contrastive Analysis (3)**

Prerequisite: Anthropology 51 or consent of instructor. Examination of two models—structural linguistics and transformational grammar—for the purpose of formulating a contrastive grammar of a Western and non-Western language. [SS]

### **265 Religion, Magic, and Science (3)**

Prerequisite: Anthropology 11 or consent of instructor. A survey of supernatural elements of cultural systems and the place of religion in human societies with emphasis upon non-Western, traditional societies. [SS]

### **277 The Mind of Man: Culture and Cognition (3) (F)**

Prerequisite: Anthropology 11 or consent of instructor. An introduction to psychological anthropology focusing on cultural influences on cognition and perception. Theories of "primitive mind" will be reviewed in historical perspective, and cross-cultural research in perception, learning, and cognition considered. Recent studies of sociocultural systems and cognitive styles will be examined and their implications for education explored. [SS]

### **286 The Arts in Society (3) (W)**

(Same as Sociology 286) Prerequisite: Sociology 10 or Anthropology 11. The relationship of artists, writers, and musicians, their traditions and modes of artistic expression to variant social structures and institutions, and social pressures and rewards. [SS]

### **291 Senior Seminar (3) (W)**

Prerequisite: Anthropology 381 and senior standing. A continuing investigation of the problems anthropologists choose to explain, the ways they go about explaining these issues, and the procedures used to examine anthropological explanations. [SS]

### **325 Comparative Social Organization (3) (F)**

Prerequisite: Anthropology 11 or consent of instructor. The range and variation of societal organization primarily in non-Western cultures. Processes of system maintenance and change. [SS]

### **327 Fieldwork in Anthropology (3) (W)**

Prerequisite: 9 hours of anthropology or sociology, or consent of the instructor. An introduction to anthropological fieldwork in complex societies, emphasizing participant observation, interviewing, and use of key informants. Attention will be given to theoretical considerations and problems of method as well as to the application of these techniques in actual fieldwork. Current issues in the ethics of field research and action anthropology will be discussed. [SS]

### **329 Advanced Field Study in Archaeology (6)**

Prerequisite: Consent of Instructor. This course is for advanced students. It is designed to introduce students to advanced methods in field archaeology and laboratory analysis. Emphasis is placed on sampling, the use of theory in guiding field and laboratory work, advanced field techniques, and specialty analysis. Opportunities are provided for the development of field and laboratory leadership skills. Independent research is encouraged. [SS]

### **335 Culture Change (3) (F)**

Prerequisite: Anthropology 11 or consent of instructor. An intensive investigation into the elements and processes of culture change with regard to specific theories of culture change. The course examines the relationship between microchange in primitive and modern complex societies. [SS]

### **337 Applied Anthropology (3) (W)**

Prerequisite: Anthropology 335 or 381. A description and analysis of the methods, principles, and use of anthropology in solution of practical problems associated with the changing conditions of our times. The course will examine a wide variety of cross-cultural case studies. [SS]

### **345 Language and Culture (3) (F)**

Prerequisite: Anthropology 11 or consent of instructor. The relationship between language and culture. Works of Sapir, Whorf, Lee, and others will be considered. [SS]

### **350 Special Study (1-10)**

Prerequisite: Consent of instructor. Independent study through readings, reports, or field research. [SS]

### **377 Culture and Personality (3) (W)**

Prerequisite: Sociology 10 or Anthropology 11, or 3 hours in psychology and junior standing, or consent of instructor. Analysis of behavior from the standpoint of interaction between psychological, sociological, and cultural systems. [SS]

### **381 Theories of Anthropology (3) (F)**

Prerequisite: Anthropology 11 or consent of instructor. An introduction to the various developments in theoretical anthropology through a reading of source material. [SS]

### **391 Current Issues in Anthropology (1-4) (F,W)**

Prerequisite: Anthropology 11 or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. May be repeated. [SS]



# Speech Communication

## Faculty

**Denny Bettisworth**, Chairperson; Associate Professor\*  
Ph.D., University of Georgia

**James Fay**, Associate Professor  
M.F.A., Tulane University

**Donald Shields**, Associate Professor\*  
Ph.D., University of Minnesota

**Elizabeth Kizer**, Assistant Professor  
Ph.D., Purdue University

**Janet Sanders**, Assistant Professor\*  
Ph.D., University of Kansas

**Ronald Turner**, Assistant Professor\*; Associate Dean,  
College of Arts and Sciences for Continuing  
Education-Extension  
Ph.D., University of Missouri-Columbia

**Gary Burns**, Instructor  
M.A., Northern Illinois University

**Deborah Gwillim**, Instructor  
M.A., St. Louis University

**Marsha Littell**, Visiting Instructor  
M.A., University of Missouri-Kansas City

**Phillip Rock**, Visiting Instructor  
M.A.T., Webster College

**Jane Turrentine**, Instructor  
M.A., Auburn University

\*members of Graduate Faculty

The speech communication faculty is composed of individuals who approach their discipline from a variety of perspectives, yet who share a commitment to exceptional teaching and to high standards of scholarship and technical expertise. Faculty members are active in national professional organizations and publish their research in a wide spectrum of scholarly journals. Annual student evaluations rate the department's teaching as excellent, and individual faculty have received the most prestigious teaching award on campus. In public workshops, lectures, and theatre and radio productions, faculty members demonstrate that in addition to being scholars and teachers of communication, they are also outstanding practitioners.

## General Information

The subject matter of speech communication is human beings as communicators. The A.B. degree in speech communication provides students with opportunities to study theatre, public address, interpersonal and small group communication, and mass communication from theory, performance and research perspectives. In addition to traditional classrooms, laboratory

facilities are maintained in the areas of mass communication production, theatre production, and interpersonal communication.

## 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. Any speech communication course may be taken pass-fail, but only 6 hours of pass-fail work can count toward the major requirement of 30 hours.

### Degree Requirements

#### Bachelor of Arts in Speech

**Communication** Majors must complete a minimum of 30, but not more than 45, hours in speech coursework. Of these hours, three hours are required in **Speech 199**, Special Projects in Communication, and one course from each of the following four areas must be included. At least 18 hours of speech coursework must be taken at UMSL.

#### Area 1: Rhetoric and Public Address

**Spch 101**, Effective Speaking  
**Spch 140**, Argumentation and Debate  
**Spch 143**, Parliamentary Procedure  
**Spch 201**, Business and Professional Speaking  
**Spch 240**, Persuasive Communication  
**Spch 243**, History of Public Address I  
**Spch 244**, History of Public Address II

#### Area 2: Communication Theory and Research

**Spch 142**, Theory and Practice of Interviewing  
**Spch 203**, Introduction to Communication Theory and Research  
**Spch 205**, Communication in American Politics  
**Spch 230**, Small Group Communication  
**Spch 235**, Interpersonal Communication in Human Interaction  
**Spch 237**, Male/Female Communication  
**Spch 245**, Communication in the Organization

#### Area 3: Theatre

**Spch 120**, Introduction to the Theatre  
**Spch 121**, Fundamentals of Acting  
**Spch 123**, Play Production

## Speech Communication

**Spch 125**, Stagecraft  
**Spch 126**, Costuming for the Theatre  
**Spch 128**, Stage Lighting  
**Spch 181**, Theatre History I  
**Spch 182**, Theatre History II  
**Spch 221**, Directing for Theatre  
**Spch 222**, Advanced Acting  
**Spch 225**, Designing for Theatre

### Area 4: Mass Communication

**Spch 110**, Introduction to Radio and Television Broadcasting  
**Spch 150**, Introduction to Mass Media  
**Spch 170**, Introduction to Cinema  
**Spch 210**, Television Production  
**Spch 212**, Writing for Radio and Television  
**Spch 213**, Broadcast Management  
**Spch 214**, Radio Production I  
**Spch 215**, Radio Production II  
**Spch 216**, Radio News  
**Spch 218**, Radio and Television Announcing  
**Spch 219**, Promotion, Publicity, and Advertising in Broadcasting  
**Spch 250**, Mass Media and Society  
**Spch 255**, Media Law and Regulation  
**Spch 271**, Film History I  
**Spch 272**, Film History II

Faculty advisers are available to help students select electives in a special area of interest or courses which provide a deep background in the discipline. Cocurricular projects and activities relevant to student interests and vocational plans are sponsored and/or advised by the department (e.g., debate team, forensic speaking group, student staff of KWMU, University Players). Internships at radio and television stations, in community agencies, and in a variety of business organizations provide unique opportunities for selected students to apply their communication studies.

## Career Outlook

In addition to preparing students for graduate studies in speech, theatre and mass media, the department's curriculum provides a pre-professional preparation. Few classified ads read "Communicator Wanted"; however, many career areas require the knowledge and skills of speech communication, and the qualifications of the program's majors have been recognized and rewarded. Graduates are employed in professional positions in theatre, broadcasting, public relations, and in a variety of management positions.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department.

### 10 Basic Communication (3) (F,W)

Prerequisite: Interview with and consent of instructor before enrolling in course. Development of basic communication skills. Includes small group interaction, non-verbal communication, role playing, audience awareness, and theatre improvisation.

### 101 Effective Speaking (3) (F,W)

Prerequisite: Sophomore standing. Emphasis on effective oral communication, formal and informal. Theories and techniques of argument and persuasion, organization, evidence, and delivery.

### 110 Introduction to Radio and Television Broadcasting (3) (F,W)

An introduction to broadcasting, including the areas of history, government regulations, station operation, and program development.

### 120 Introduction to the Theatre (3) (F,W)

A study of theatre as an art form, emphasizing the audience's appreciation of the art of the playwright, actor, director, and designer. Study of major periods, genres, and plays from classical to modern times. [H]

### 121 Fundamentals of Acting (3)

Oral and physical communication of a role through scene improvisations and/or pantomime. Emphasis on modern representational method with some attention given to presentational styles.

### 123 Play Production (3) (F)

An introduction to the fundamental techniques of play production, including theatre organization, play selection, interpretation, casting, rehearsal procedure, directorial techniques, technical elements, etc. The course is terminal for those students who do not desire to pursue formal study in play production and is introductory for those students who desire to continue a more detailed study of the elements of play production. One hour of laboratory required.

### 125 Stagecraft (4) (ALT, W)

A survey of the theory and practice of stage scenery methods and stage lighting principles. Practical experience in construction, rigging, and stage lighting techniques, as well as supervised work in all other phases of theatrical production will be emphasized. Two hours lecture and four hours laboratory.

### 126 Costuming for the Theatre (3)

This course covers the theory and practice of costume design and construction. It includes an overview of the history of clothing and fashion and its effect on the actor playing period drama. Lab required. Special fees: None

# Speech Communication

## **128 Stage Lighting (3)**

Prerequisite: Speech 123 or consent of instructor. An introduction to the theory and practice of stage lighting. The course will include a variety of established theories of stage lighting as well as practical training in lighting instrumentation and control systems.

## **140 Argumentation and Debate (3)**

Prerequisite: Speech 101 or consent of instructor. Principles of argumentation and debate with practice in preparing briefs and in delivering spoken arguments in formal debate. Emphasis on analysis of issues, logical reasoning, and audience analysis.

## **142 Theory and Practice of Interviewing (3)**

Prerequisites: Speech 101. The application of modern communication theory to interview situations, a common form of purposeful planned communicative interaction. This theory and practicum course is designed to aid the student in mastering specific skills appropriate to specialized settings including surveying, journalism, employment and performance appraisal, education, counseling, legal and medical.

## **143 Parliamentary Procedure (1)**

Prerequisite: Speech 101. Study and practice in rules of procedure by which self-governing groups transact business.

## **150 Introduction to Mass Media (3)**

Introduction to oral, print, and electronic media of communication. Emphasis on history, theory, and criticism of the mass media as cultural institutions

## **160 Fundamentals of Oral Interpretation (3)**

Prerequisite: Speech 101 or consent of instructor. An introduction to the analysis of literature and to the principles of its oral presentation by the interpreter. [H]

## **170 Introduction to Cinema (3)**

An introduction to the history, rhetoric, and aesthetics of film. Film theory and criticism will be studied as well as major genres, authors, and artists. [H]

## **181 Theatre History I (3)**

Prerequisite: Speech 120. The development of the theatre from its ritual beginnings to 1700. [H]

## **182 Theatre History II (3)**

Prerequisite: Speech 120. The development of the theatre from 1700 to the present. [H]

## **190 Voice and Diction (3)**

A course designed to aid the student in developing clear and distinct enunciation and in using correct pronunciation as requisite in mass media communication, public address, theatre, and oral interpretation

## **199 Special Projects in Communication (1-4)**

Prerequisite: Consent of instructor. (Variable credit; repeatable to a maximum of four hours). Independent study in one of the following areas of communication:

rhetoric and public address, communication theory and research, theatre, or radio-TV-film. Conferences adjusted to needs of the student.

## **201 Business and Professional Speaking (3)**

Prerequisite: Speech 101. Application of varied oral communication skills with emphasis on actual formal and informal situations offering individual opportunities for advanced speaking, audience feedback, and constructive criticism.

## **203 Introduction to Communication Theory and Research (3) (ALT. F/W)**

A survey of communication theories and research techniques. Use of several research techniques and application of one or more in a communication research project.

## **205 Communications in American Politics (3) (ALT. F)**

Analysis of audience response and media preferences in political campaigns, campaign communications strategy, campaign speeches, candidate's uses of television and other mass media, and measuring effectiveness of campaign communications.

## **210 Television Production (3)**

Prerequisite: Speech 110 and Consent of Instructor. A study of the basic theories and practices of television production. The areas of producing and directing will be studied. The class will provide the student with practical experience in camera operation, switching, lighting, and mixing.

## **212 Writing for Radio and Television (3) (ALT. W)**

Prerequisite: Speech 110 or consent of instructor. Fundamentals of writing for the broadcast media. Includes format development and writing of news, public affairs, drama, and commercials.

## **213 Broadcast Management (3)**

Prerequisite: Speech 110. Introduction to theories of management, with application to radio and television station operations. Discussion of economic, legal, and ethical problems and issues.

## **214 Radio Production I (3)**

Prerequisite: Speech 110. Theory and practice in the creation of radio programs. Laboratory experience included

## **215 Radio Production II (3)**

Prerequisite: Speech 214. Station operation within the "broadcast day." The course offers advanced practice in broadcasting skills, management theory applied to radio station personnel and functions, and production techniques as practiced in commercial broadcasting.

## **216 Radio News (3)**

Prerequisite: Speech 214. Theory and laboratory practice in the gathering, writing, and delivery of news through radio. Hours at the University radio station to be arranged.

## Speech Communication

### **218 Radio and Television Announcing (3)**

Prerequisites: Speech 101, 210, and 214; or consent of instructor. Training in radio and television studio procedures. Production and criticism of lab programs, including news, continuity, interviews, and ad libbing. Classroom meetings at the radio lab and the television lab, plus hours at the University radio station to be arranged.

### **219 Promotion, Publicity, and Advertising in Broadcasting (3)**

Prerequisite: Speech 110. Introduction to theory and practice in the planning, execution, and evaluation of persuasive campaigns involving radio and television. Emphasis on concept development and production elements. Discussion of broadcast ethics.

### **221 Directing for the Theatre (3)**

Prerequisite: Speech 121 or consent of department. A survey of the theories and practices of theatrical directing. The course will explore the director's role in the theatre from script analysis and production planning to the performance of laboratory scenes. [H]

### **222 Advanced Acting (3)**

Prerequisite: Speech 121. Laboratory-discussion course emphasizing role analysis, scene study, characterization, and ensemble acting.

### **225 Designing for the Theatre (3)**

An introduction to the theories and practices of scenic and costume design for the theatre. The course will survey the evolution of theatrical designs through

different cultures, dramatic genres, and theatre architecture.

### **230 Small Group Communication (3) (W)**

Development of communication skills needed in small group decision-making. Application of these skills to contemporary problems, with special emphasis on urban problems.

### **235 Interpersonal Communication in Human Interaction (3)**

Prerequisite: Speech 10 and interview with and consent of instructor. Course examines interpersonal communication in relationships within group contexts such as family, classroom, and business. Varied theories and diagnostic approaches to interpersonal communication are explored in readings, discussion, and projects. Extensive experiential laboratory sessions utilize individual, dyadic, and group exercises.

### **237 Male/Female Communication (3)**

This course explores the influence of gender upon contemporary American communication behavior. Topics include semantic and syntactic variation in male and female speech, sex role development as process and produce of speech communication, analysis of communication patterns and barriers within gender groups. Mass, public, interpersonal, and dyadic communication contexts are considered.

### **240 Persuasive Communication (3) (F, ALT. W)**

A study of persuasive communication including theories, techniques, forms, functions, applications, potential, and limitations for the individual and organizations. Insights from both classical rhetoric and contemporary communications theory.



# Speech Communication

## **243 History of Public Address I (3)**

Prerequisite: Speech 101. Survey of history and theories of persuasion and public address from ancient times to 1600. [H]

## **244 History of Public Address II (3)**

Prerequisite: Speech 101. Survey of history and theories of persuasion and public address from 1600 to present. [H]

## **245 Communication in the Organization (3)**

Prerequisite: None. Course integrates communication theories applicable to the structure and function of organizations. The effect of communication variables of departmental interface, member satisfaction and motivation, leadership and subordinate styles and perception of the organization by the external environment.

## **250 Mass Media and Society (3)**

Prerequisites: Speech 150. Examination of problems and controversies surrounding mass communication processes and institutions.

## **255 Media Law and Regulation (3)**

Prerequisite: Speech 150 or 110. Discussion of laws affecting the mass media. Exploration of problems and

issues in legal regulation of media content, ownership, access and accountability. Discussion of industry self-regulation and the influence of citizen organizations.

## **271 Film History I (3)**

Prerequisite: Speech 170. History of world cinema to World War II [H]

## **272 Film History II (3)**

Prerequisite: Speech 170. (Speech 271 is recommended.) History of world cinema since World War II. [H]

## **295 Seminar in Special Topics in Speech Communication (3)**

Prerequisite: Consent of instructor. In-depth treatment of topics not covered in other advanced speech courses.

## **299 Internship in Communication (3)**

Prerequisite: Consent of instructor. (Repeatable to a maximum of six hours). Supervised practicum in one of the following areas of communication: rhetoric and public address, communication theory and research, theatre, or radio-TV-film. Speech 299 may not be counted toward the minimum number of hours in Speech required of majors.



## Interdisciplinary Courses

In addition to regular departmental offerings, the College of Arts and Sciences also offers several interdisciplinary courses, listed below. These courses bring together the resources of two or more disciplines to focus on topics which benefit from being studied from the point of view of more than one discipline. In many cases faculty from several departments teach an interdisciplinary course together, giving students the opportunity to experience faculty dialogue on issues in a cross-disciplinary fashion. Most interdisciplinary courses have no prerequisites. Freshman and sophomore students are especially encouraged to take these courses.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department or instructor.

#### **33 Science: Nature and Its Practice (3)**

(Same as Physics 33) Prerequisite: Candidacy in sophomore honors program. Since the 17th century, Science has been characterized by the dramatic interplay of empirical data and theoretical ideas. Consequences of this interplay are the evolution of scientific concepts and the development of theoretical structure. In addition, the human element has played a vital role in the evolutionary process: Scientists bring to their work preconceptions that can have a determining influence on the form that theoretical ideas ultimately take and on the resulting perception of physical reality.

#### **45 Race (3)**

(Same as Anthropology 45, Psychology 45, and Sociology 45) Origins and functions of conceptions of race; biological and social definitions of race; the function of racial ideologies for societies: social, historical, and psychological bases for racism in the U.S.; and the consequences of racism for the individual and societies. [SS]

#### **50 Women (3) (F,W)**

An interdisciplinary study of the role of women in the family and in society. Areas of coverage will include the biological, psychological, anthropological, economic, social, political-legal, and historical. [SS]

#### **65 Photography and Society (3)**

(Same as Art History 65) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art.

#### **70 Issues in Contemporary Religious Thought (3) (W)**

An examination of selected current social, moral, and ethical problems as viewed by representatives of major schools of religious thought. [H]

#### **75 Crime and Punishment (3)**

(Same as Administration of Justice 75, Psychology 75, and Sociology 75) An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior. [SS]

#### **77 Third World Development (3)**

(Same as Sociology 77 and Anthropology 77) An interdisciplinary course concerned with the process of development and underdevelopment in the modern world. Focus will be upon the internal structures of societies, the effects of foreign policies, and cooperative and coercive international relations as they have affected developing nations. The loss of many valuable aspects of life that has accompanied previous patterns of development will be examined in light of the possibility of alternative strategies. [SS]

#### **80 Global Problems and Issues (3)**

(Same as Physics 80 and Political Science 80) An interdisciplinary course which utilizes the perspectives of both the physical and social sciences to survey a wide variety of problems that confront mankind such as the control of violence, economic development and stability, and the management of energy and resources. These problems are discussed in terms of both their global and local dimensions, with special reference to how the world impacts on St. Louis and how St. Louis impacts on the world. For freshmen and sophomores. [SS] or [SM]

#### **99 The City (3)**

(Same as AOJ 99, Political Science 99, Psychology 99, and Sociology 99) An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission. [SS]

#### **150 Topics in Women's Studies (3) (W)**

Prerequisites: Interdisciplinary 50 or another Women's Studies course. Introduction to current questions and methodology in women's studies, drawing on work in the humanities, social sciences, and natural sciences. Emphasis will be placed on acquainting students with different interdisciplinary approaches taken to women's studies. [SS] or [H]



## Interdisciplinary Courses

### **269 The Marxist Heritage (3) (W)**

(Same as Political Science 269 and Philosophy 269) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions. [H] or [SS]

### **287 The World Food Problem (3)**

(Same as economics 287) Prerequisite: Economics 40 or 51 or consent of instructor. An introduction to the world's food problems in distributing basic foodstuffs among the earth's people.

### **365 Seminar in Photographic Studies (3)**

(Same as Art 365) Prerequisite: Interdisciplinary 65 Advanced special topics in photographic studies.

### **390 Independent Studies in Photographic Studies (1-10)**

Prerequisite: 12 hours completed in photographic studies. Integrative individual projects conducted under photographic studies committee and departmental faculty supervision.





## Certificate Programs

Certificate programs are offered in Women's Studies, Writing, and East Asian, Latin American, European, and International studies. These programs which 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.

### Women's Studies Certificate

#### Faculty

**Marcia Dalbey**, Associate Professor of English  
Ph.D., University of Illinois

**Susan M. Hartmann**, Associate Professor of History  
Ph.D., University of Missouri-Columbia

**Jayne Stake**, Associate Professor of Psychology  
Ph.D., Arizona State University

**Janet Berlo**, Assistant Professor of Art  
Ph.D., Yale University

**Christine Roman**, Assistant Professor of English  
Ph.D., University of Minnesota

**Suzanna Rose**, Assistant Professor of Psychology  
Ph.D., University of Pittsburgh

**Stephanie Ross**, Assistant Professor of Philosophy  
Ph.D., Harvard University

**Victoria Sork**, Assistant Professor of Biology  
Ph.D., University of Michigan

**Elaine Bachman**, Visiting Instructor in Political Science  
J.D., Washington University

**Martha Baker**, Instructor in English  
M.A., Central Missouri State University

Traditional education has tended to ignore the experiences and contributions of women. To correct that imbalance, the Women's Studies Certificate Program at UMSL provides new perspectives on women and their roles in society. The certificate program in women's studies is recommended for those students who wish to combine a traditional major with a multidisciplinary background in women's studies.

#### Requirements

A student may receive a certificate in women's studies by completing a total of eighteen hours in women's studies courses, including:

- 1 Interdisciplinary 50: Women
- 2 Four additional courses. These shall be distributed among at least **two** of the following **areas**: Social Sciences, Humanities, and Natural Sciences. They should also be distributed among at least **three** academic **departments**.
- 3 An independent study (3 hours), to be taken in the junior or senior year. Students will write a research paper on some aspect of women's studies.

Candidates for the certificate should present their proposed programs for approval by women's studies advisers no later than the beginning of their senior year.

Students interested in the program should contact the coordinator of the program or any member of the women's studies faculty. The name of the coordinator may be obtained from the office of the dean of Arts and Sciences.

Currently offered courses which meet the requirements for a Certificate in Women's Studies are:

**Interdisciplinary 50**, Women

**Interdisciplinary 150**, Topics in Women's Studies

**Art 176**, Women and the Visual Arts

**English 13**, Topics in Literature (when appropriate topic)

**English 129**, Topics in Literature and Society

**English 210**, Themes and Forms in Literature

**English 280**, Topics in Women and Literature

**History 200**, Topics in History (when appropriate topic)

**History 320**, History of Feminism in Western Society

**History 321**, History of Women in the United States

**Philosophy 150**, Philosophy and Current Issues:  
Feminism

**Political Science 129**, Women and the Law

**Psychology 230**, Psychology of Women

### Writing Certificate

The Writing Certificate provides the 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 eighteen hours in writing courses, chosen from the following:

**English 160**, Advanced Expository Writing

**English 161**, Technical Writing

**English 115**, Feature Writing

**English 116**, News Writing

**English 161**, Technical Writing

**English 162**, Business Writing

**English 50**, Short Story Writing

**English 51**, Poetry Writing

**English 251**, Advanced Creative Writing

**English 230**, Writing Literary Criticism

**Speech 212**, Writing for Radio and Television

**Required:** English 295, Seminar in Writing. This seminar is to be taken as the last course in the student's program, and it is to be used to generate an extensive final project. Courses taken to fulfill requirements for the Writing Certificate may not be taken on Pass/Fail.

# Certificate Programs

## Center for International Studies Certificates

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 (3 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.

### 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 UMSL students.

**2** History 61 and 62, Asian Civilization

**3** One course in **three** of the following four areas, a total of 9 hours:

##### Area 1: Music

**9**, Non-Western Music

##### Area 2: Philosophy

**120**, Asian Philosophy

##### Area 3: Political Science

**255**, Asian Comparative Politics

**\*359**, Studies in Comparative Politics

**\*388**, Studies in International Relations

**\*Note:** Students should take Political Science 359 or 388 only when the specific topic is appropriate.

##### Area 4: History

**261**, Modern Japan: 1850 to Present

**262**, Modern China: 1800 to Present

**293**, Senior Seminar

**328**, Asian-American Relations

#### 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

**356**, Nineteenth-Century Art

**357**, Twentieth-Century Art

##### Area 2: Economics

**238**, Comparative Economic Systems

**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

**310**, 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: The Emergence of Western Europe to 1715

**331a**, The Age of the Renaissance

**331b**, The Age of the Reformation

**332d**, The Rise of the Modern British State

**332e**, Europe from the French Revolution to World War I, 1789-1914

**333b**, Germany in Modern Age

**333d**, Europe in the Twentieth Century

**341**, Topics in European Intellectual History

**342**, European Diplomacy from the French Revolution to World War II

**352**, Modern France from the Revolution to World War II

**355c**, The Revolutionary Movement in Russia from 1825-1917

##### 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

## Certificate Programs

- 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 Novel 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**, Spanish 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

### Area 8: Political Science

- 251**, Comparative Politics of Western Europe  
**256**, 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** One course from at least three of the following areas, a total of 12 hours:

#### Area 1: Anthropology

- 201**, Cultures of Mesoamerica  
**209**, The Inca, Aztec, and Maya

#### Area 2: Economics

- 243**, Latin American Economic Development

#### Area 3: History

- 271**, History of Latin America to 1808  
**272**, 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 of 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** One course from at least three of the following seven areas, a total of 12 hours:

#### Area 1: Anthropology

- 243**, Economic Anthropology  
**245**, Political Anthropology

#### Area 2: Biology

- 120**, Environmental Biology

#### Area 3: Business Administration

- 380**, International Business

## Certificate Programs

### Area 4: Economics

- 230, International Economic Analysis
- 238, Comparative Economic Systems
- 331, International Economic Analysis

### Area 5: Geography

- 102, World Regions

### Area 6: History

- 112, United States Diplomatic History
- 328, Asian-American Relations
- 332e, Europe from the French Revolution to World War I, 1789-1914
- 333d, Europe in the Twentieth Century
- 342, European Diplomacy from the French Revolution to World War II

### Area 7: Political Science

- 80, Global Problems and Issues
- 282, United States Foreign Policy
- 285, International Institutions and Global Problem-Solving
- 286, Studies of War and Peace
- 289, Middle Eastern International Relations
- 381, Foreign Policy Decision-Making
- 385, International Law
- 388, Studies in International Relations



## Preprofessional Programs

Although UMSL does not offer specific preprofessional majors in engineering, dentistry, journalism, law, medicine, or pharmacy, students may develop satisfactory preprofessional study programs from UMSL'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 insure 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 UMSL is provided to give students minimal guidelines and assistance in planning a program.

### Preengineering

UMSL's preengineering program provides for a solid scientific base through requirements in mathematics, chemistry, physics, and communications. Flexibility is built into the program through engineering, science, and communication electives. Students who have chosen a specific engineering discipline must choose these electives in consultation with advisers so they can transfer to an engineering college in their junior year. Usually, transfer can be effected without loss of credit and with full standing.

Students also may remain at UMSL 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 experiment with various areas in engineering and applied science to enable them to find the most appropriate and rewarding directions in which to aim their talents.

### General Education Requirements

In addition to general admission requirements,



## Preprofessional Programs

prospective students must take a mathematics placement test, given at UMSL, the spring 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** for the first two years of the preengineering program, a total of **66** hours:

Chemistry:

**Chemistry 11**, Introductory Chemistry I

Communications:

**English 10**, English Composition

**Math 122**, Computers and Programming

and **one** three-hour **elective** such as the following:

**Math 222**, Programming Techniques

**Math 322**, Data Structures

Engineering:

**Engineering 30**, Engineering Graphics

**Engineering 85**, Statics and Elementary Strength of Materials

**Engineering 185**, Introduction to Dynamics

and **six** hours engineering or science **electives**.

Humanities and Social Sciences:

**Twelve** hours of **electives**.

Mathematics:

**Math 80**, Analytic Geometry and Calculus I

**Math 175**, Analytic Geometry and Calculus II

**Math 201**, Analytic Geometry and Calculus III

**Math 202**, Linear Algebra and Differential Equations

Physics:

**Physics 1**, Foundations of Modern Physical Theory

**Physics 111**, Physics: Mechanics and Heat

**Physics 112**, Physics: Electricity, Magnetism, and Optics

### Upper Division Students

Students should be aware that there is a cooperative program between Rolla and St. Louis 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 preengineering program should be addressed to: Dr. Gerald Dreifke, director, Preengineering 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 entrance, students must present to the School of Journalism 60 credit hours (exclusive of physical education) with a cumulative grade point average of 2.5 or higher and **on all work completed after October 1, 1975, a 2.75** grade point average. Students with a grade point average of 2.5 to 2.74 on work after October 1, 1975 may be admitted on probation if they meet certain conditions.

### Required Courses

The following studies are required for admission to the School of Journalism:

**1 Foreign Language:** Unless students have completed four or more high-school units in a foreign language, they must complete college work through a reading, composition, or conversation course **beyond** the intermediate level (generally 11-13 hours)—at UMSL, Course 101, Intermediate Foreign Language, or the equivalent in proficiency. The advanced course, above Course 101, may be taken after admission to the School of Journalism as an elective, but should not be delayed.

**2 Science/Mathematics:** One semester of either physical, behavioral, or biological science, including laboratory (minimum of four credit hours), **or** Mathematics 30, College Algebra, or its equivalent.

**3 Economics:** Five credit hours. Economics 51, Principles of Microeconomics, and Economics

## Preprofessional Programs

52, Principles of Macroeconomics, satisfy this requirement.

**4 American Government:** Minimum of three credit hours. Political Science 11, Government in Modern Society: American Politics, satisfies this requirement.

**5 Literature:** Six hours, at least three of which must be in the English language. English 12, Literary Types, English 131, English Literature I, and English 132, English Literature II, satisfy this requirement.

**6 English Composition:** Completion of one or more of the following or the equivalent **with a grade of B or better:**

**English 65,** Honors Exposition

**English 160,** Advanced Expository Writing

Students with a grade of C in the above English composition courses or their equivalent may be admitted if a satisfactory grade is obtained on the English proficiency examination.

**7 Entrance Test:** The student must satisfactorily complete an entrance test.

**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 Study

Since admission requirements vary, students interested in law school should determine, as early as possible, the specific requirements of the law schools to which they intend to apply. With few exceptions, admission to most accredited law schools is limited to students holding bachelor's degrees who, as early as possible in their senior year, take the Law School Admission Test (LSAT), an examination administered by the Educational Testing Service.

Law schools are interested primarily in candidates who have demonstrated not only a well-rounded educational background but who have also displayed the ability to be analytical and critical, to think clearly, and to articulate their thoughts. Most law schools, in effect, are

looking for students who have shown throughout their collegiate careers that they know how to work and are capable of achieving academic excellence.

Students may enter law school with baccalaureate degrees ranging from political science to business to philosophy. For this reason, UMSL does not designate a series of courses for prelaw study. UMSL has had success in placing its graduates in law schools throughout the nation. Although a law program is not offered on this campus, the University of Missouri does have law schools at Columbia and Kansas City.

The prelaw adviser maintains a reasonably complete and up-to-date set of law school catalogs, information on the LSAT, and other information for student use. Contact Dr. Harry Mellman, Prelaw adviser, Department of Political Science, 807 Tower, telephone 553-5521.

### Premedical Sciences Program

Students wishing to enter medical, dental, or veterinary medicine schools should pursue the A.B. or B.S. degrees with majors in the disciplines of their choice, but they should take whatever additional courses may be necessary for admission.

Since professional 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, at \$4 per copy. The dean's office has a copy available for student use within the office.

#### 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.



# Preprofessional Programs

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:** Courses through at least 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 Veterinarian Medical Aptitude Test for prevet students; and the Dental Aptitude Test for predental students.

Each year the number of applicants to health profession schools greatly exceeds the number of available places. Students, therefore, are encouraged to have alternate plans should they not gain entrance. Pharmacy, nursing, optometry, and laboratory technology may be considered as alternative fields.

For further information, testing dates, or pre-medical advising, contact the premedical adviser, 303 Lucas hall, telephone 553-5329 or 553-5311.

## 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 2-3 plan which includes two years of college work followed by three years of professional courses in the college of pharmacy. Since entrance requirements vary, students should consult the catalog of the college to which they intend to apply.

## Two-Year Prepharmacy Course Sequence

A typical two-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**, English Composition

**Mathematics 40**, Pre-Calculus Mathematics

**Elective\***: One three-hour course

Second Semester (16 hours)

**Biology 10**, Introductory Biology

**Chemistry 12**, Introductory Chemistry II

**Literature**: Any three-hour course

**Elective\***: One three-hour course

### Sophomore Year

First Semester (15 hours)

**Biology**: One three-hour biology elective

**Chemistry 261**, Structural Organic Chemistry

**Literature**: Any three-hour course

**Physics 11**, Basic Physics

**Elective\***: One three-hour course

Second Semester (14 hours)

**Biology**: One three-hour 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, 438 Benton Hall, telephone 553-5311.

## Preoptometry

The University opened the School of Optometry in September of 1980. The School, housed on the Marillac campus, is the first health-related professional school to be introduced on the St. Louis campus of the University of Missouri. Undergraduate students interested in pursuing a career in this field should tailor their course selections to fulfill the admission requirements of the School. For further information and advising, see the School of Optometry section in this *Bulletin* or contact the Office of Student Affairs at the School of Optometry.



## School of Business Administration

# Business Administration

### Faculty

**Donald H. Driemeler**, Dean; Associate Professor\*  
D.B.A., Washington University

**Douglas E. Durand**, Associate Dean; Associate Professor\*

Ph.D., Washington University

**David P. Gustafson**, Associate Dean; Associate Professor\*

Ph.D., Stanford University

**Albert P. Ameiss**, Professor\*

Ph.D., St. Louis University

**Howard B. Baltz**, Professor\*

Ph.D., Oklahoma State University

**Sloma Kagan**, Professor Emeritus\*

Diplom-Ingenieur, Ph.D., Columbia University

**Robert E. Markland**, Professor\*

D.B.A., Washington University

**Frederick E. May**, Professor\*; Coordinator in Marketing

Ph.D., University of Michigan

**Robert S. Stich**, Professor\*

Ph.D., New York University

**Fred J. Thumin**, Professor\*

Ph.D., Washington University

**DiK W. Twedt**, Professor\*

Ph.D., Northwestern University

**John J. Anderson**, C.P.A., Associate Professor\*;  
Coordinator in Accounting

Ph.D., University of Wisconsin-Madison

**Larry D. Baker**, Associate Professor\*; Coordinator in Management;

D.B.A., Indiana University

**Nicholas J. DiMarco**, Associate Professor\*

Ph.D., Case Western Reserve University

**Richard E. Homans**, Associate Professor\*

Ph.D., University of Houston

**Charles R. Kuehl**, Associate Professor\*

Ph.D., University of Iowa

**Donald R. Kummer**, Associate Professor\*; Coordinator in Finance

Ph.D., University of Oregon

**Hon-Shiang Lau**, Associate Professor\*

Ph.D., University of North Carolina-Chapel Hill

**Thomas J. Murray**, Associate Professor\*; Acting Coordinator in Management Science and Information Systems

Ph.D., University of Massachusetts, Amherst

**Robert M. Nauss**, Associate Professor\*

Ph.D., University of California-Los Angeles

**R. Frank Page**, C.P.A., Associate Professor\*

Ph.D., University of Illinois

**Robert A. Schuchardt**, Associate Professor\*

D.B.A., Washington University

**L. Douglas Smith**, Associate Professor\*

Ph.D., University of Minnesota

**James P. Tushaus**, Associate Professor\*

Ph.D., University of Illinois

**Earl W. Wims**, Associate Professor\*

Ph.D., University of Iowa

**George C. Witteried**, Associate Professor\*

M.B.A., J.D., Northwestern University

**Jack D. Becker**, Assistant Professor\*

Ph.D., Washington University

**James A. Breaugh**, Assistant Professor\*  
Ph.D., Ohio State University

**James T. Bristol**, Assistant Professor\*

Ph.D., The University of Texas at Austin

**Phillip J. Decker**, Assistant Professor\*

Ph.D., Ohio State University

**David R. Ganz**, Assistant Professor

M.S. in C., St. Louis University

**Joseph P. Gillum**, Assistant Professor

L.L.M., New York University

**Kee S. Kim**, Assistant Professor\*

Ph.D., The University of Texas at Austin

**John N. Klasinger**, Assistant Professor\*

Ph.D., Michigan State University

**James M. Krueger**, Assistant Professor\*

D.B.A., Indiana University

**Patricia Little**, Assistant Professor

Ph.D., Washington University

**Kenneth Locke**, Assistant Professor\*

D.B.A., Indiana University

**R. Nell Maddox**, Assistant Professor\*

Ph.D., Ohio State University

**Laurence A. Madeo**, Assistant Professor

Ph.D., University of Michigan

**Paul G. Marlin**, Assistant Professor

D.Sc., George Washington University

**James R. Martin**, Assistant Professor\*

Ph.D., University of Alabama

**Joseph Martinich**, Assistant Professor

Ph.D., Northwestern University

**Stanley Miedich**, Assistant Professor

D.B.A., University of Colorado

**Leo L. Pipino**, Assistant Professor\*

Ph.D., University of Massachusetts, Amherst

**David Ronen**, Assistant Professor

Ph.D., Ohio State University

**Vicki L. Sauter**, Assistant Professor

Ph.D., Northwestern University

**Lois VanderWaardt**, Assistant Professor\*

J.D., Washington University

**Ilene G. Wittels**, Visiting Assistant Professor; Director,

Gerontology Program

Ph.D., Washington University

**David Bird**, Instructor

M.S., Washington University

**Lindell Chew**, Director, Business Development Center;

Instructor

M.B.A., University of Missouri-Columbia

**Marilyn M. Clarkson**, Instructor

M.B.A., Auburn University

**Robert Conrey**, Instructor, Assistant Director of Graduate

Studies

M.B.A., Louisiana State University

**John Cox**, Instructor

M.A., University of Missouri-Columbia

**Jane Dauten**, Assistant to the Dean; Instructor

M.B.A., Southern Methodist University

**Christiana Dugopolski**, Instructor

M.B.A., University of Missouri-St. Louis

## School of Business Administration

# Business Administration

**Terrence Etter**, Assistant Dean for Continuing Education-Extension; Instructor  
M.B.A., University of Arkansas

**Carol Fontana**, Assistant Director of Graduate Studies; Instructor

M.B.A., University of Missouri-Kansas City

**Fred Hale**, Instructor

M.B.A., St. Louis University

**William Heinbecker**, Director of Computer Center, Instructor

M.A., Washington University

**Margaret Hicks**, Instructor

M.B.A., Southern Illinois University

**Beryl Lycan**, Area Director East-West Gateway Area; Instructor

M.A., Central Missouri State University

**Harold Mack**, Instructor

M.S., Washington University

**Michael Pyle**, Instructor

M.B.A., St. Louis University

**Otilia N. Voegtli**, Instructor

M.B.A., University of Missouri-St. Louis

**William L. Webster**, Instructor

M.B.A., Old Dominion University

**Bernard W. Weinrich**, Associate Director for the Business Development Center, Instructor

M.B.A., St. Louis University

**Wayne Winter**, Instructor

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. Four members of the current faculty have been cited as outstanding teachers by the UMSL Alumni Association. At the same time, the School of Business Administration has a strong research orientation. During the 1979-80 academic year, the faculty was responsible for 25 articles published in scholarly journals, 21 articles already accepted for publication in the 1980-81 academic year, 37 articles submitted for publication and currently pending review, 45 papers presented at professional meetings and one completed book.

## Undergraduate Studies

### Degrees and Emphasis Areas

The School of Business Administration offers work leading to the B.S. 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 Academic Advising Office.

### University Business Development Center (UBDC)

The Business Development Center is a part of the School of Business Administration and the University of Missouri Extension Division. The UBDC is a unique vehicle that mobilizes students, faculty, and other professional resources for Small Business and Community Economic Development. Through the UBDC, the Service Learning and Experiential Education Program combines regular classroom and internship credit for up to a full year of academic credit. It also provides junior and senior undergraduate students with an opportunity to test, in a practical setting, some of their university-gained knowledge. Students selected for the program receive a nominal stipend through the Center.

### Admission to the School of Business Administration

The school offers a two-year, junior-senior level program. Admission prerequisites are:

- 1 At least a 2.00 grade point average for all work attempted at UMSL.

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**2** At least a 2.00 grade point average for all qualifying work, with a minimum of 60 semester hours. Of those 60 hours, no more than 15 may be in introductory business administration courses (below the 200 level). Normally, qualifying work includes the following:

**Business Administration 103**, Introduction to Business Data Processing

**Business Administration 131**, Elementary Statistics

**Business Administration 140**, Fundamentals of Financial Accounting

**Business Administration 145**, Managerial Accounting

**Economics 51**, Principles of Microeconomics

**Economics 52**, Principles of Macroeconomics

**3** Completion of both the university and school's general education requirements.

## 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 UMSL are expected to take most of their specific business work during their junior and senior years. A student may, however, 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 UMSL at the 200- or above level must be validated. Validation is determined by the appropriate discipline and may include: 1) Passing an approved 200- or above level course in that area, or 2) Passing a proficiency examination.

Business students transferring from other institutions must complete at least 21 hours in business at UMSL on a regular graded basis.

## 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 combined effect of these requirements is as follows:

**1** Demonstration of basic skills in the communicative area by a minimum grade of C in English 10, English Composition **or** a

satisfactory score on the English placement test. For more information see p. 19.

**2** Effective Fall semester, 1980, new students with 0 to 89 semester hours which are applicable to a degree at UMSL must complete English 160, Advanced Expository Writing **or** its equivalent. Refer to university General Education Requirements, p. 19.

**3** Three courses in the humanities chosen from art appreciation, music appreciation, philosophy, or literature.

**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 p. 20 in this *Bulletin* 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 (It should be noted that Mathematics 30, College Algebra 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 (13) 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 Math 80.) Also required is **one** quantitative course from the following:

**Business Administration 231**, Intermediate Statistics

**Business Administration 308**, Production and Operations Management

**Business Administration 331**, Multivariate Analysis

**Business Administration 375**, Operations Research

**Economics 365**, Economic Statistics and Econometrics

**Mathematics 175**, Analytic Geometry and Calculus II (which has a prerequisite of **Mathematics 80**, Analytic Geometry and Calculus I)

## School of Business Administration

# Business Administration

### Degree Requirements

#### Bachelor of Science in Business

**Administration** Candidates for the BSBA degree must complete the following **Business Administration** courses:

- 103**, Introduction to Business Data Processing
- 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
- 391**, Business Policy and Administration (seminar)

A minimum of **18** hours must be taken in business electives.

#### Free Electives

In addition to the above, there are approximately 30 free elective hours. Up to 9 may be taken in the School of Business Administration; the remaining must be earned outside the school.

The degree program requires a minimum of 45 hours in Business Administration courses and a **total of 120 hours**.

#### 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 courses are allowed in any discipline, with the exception of accounting, in which 18 hours beyond required courses are allowed. The combined hours in business and economics courses may not exceed 78.

#### Pass-Fail Option

Business students may take up to 24 hours on pass-fail. Exempt from this option are specific degree requirements, including such courses as Economics 51, Economics 52, Math 30, Math 102, English 10 and English 160; courses fulfilling the mathematics-language option; and the required business courses. Up to 12 of the allowed 24 hours of pass-fail may, however, be in business electives. Students should consult the pass-fail regulations regarding courses in their particular emphasis area.

### Graduate Studies

The School of Business Administration offers three master's 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 rather than on any single factor. 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 Admission Test (GMAT). This test is given several times each year. A three and one-half hour aptitude test, it is designed to measure certain mental capabilities important in graduate business studies. It 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 must be made directly to the Educational Testing Service, Box 966, Princeton, New Jersey 08540. Additional information may be obtained from the admissions adviser or the office of the graduate business studies director.

#### MBA Program

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's 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

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

# Business Administration

concepts and interrelationships of four broad categories fundamental to management training.

- 1 The external environment confronting business organizations and management's response to interactive legal, economic, social, and political issues.
- 2 The internal operation of various business organizations and management's role in channeling human behavior to satisfy both personal and organizational goals.
- 3 The broad organizational functions, including basic concepts, terminology and interaction of the accounting, marketing, finance, and production disciplines.
- 4 The dynamic quantitative management decision making models and their growing importance 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 last semester. There is no thesis requirement.

## Degree Requirements

### Master of Business Administration

**(MBA)** 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 UMSL.

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 either: Mathematics 101, Survey Calculus **or** Mathematics 102, Finite Mathematics, with a grade of C or better by the end of their first semester. Graduate credit is not given for these courses.

### Required Basic Courses

The following courses or their equivalents are required of all degree candidates:

**Business Administration 410**, Managerial Economic Analysis

**Business Administration 411**, Analysis of National Economic Environment

**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 480**, Computer Programming and Applications

**Quantitative 481**, Statistical Analysis for Management Decisions

**Quantitative 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 483**, Production and Operations Management

## Electives

The 18 hours of electives allow a modest degree of specialization. Up to 9 hours beyond the second-level courses listed may be selected in one area. No more than 6 hours of electives may be taken at the 300 level. Nine elective hours may be taken outside the School of Business if students have advance approval of their advisers for the specific courses desired.

## Previous Education

Students with previous education in business must take at least 39 hours, regardless of the number of required courses which may be waived.

Depending upon students' undergraduate transcripts and the applicability of prior business courses, students with undergraduate background in business may waive up to 21 hours of the 60-hour program. As a consequence, the development and sequencing of study programs is individually determined by students and their advisers.



# School of Business Administration

## Business Administration

### 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's degrees from accredited institutions, but it is not restricted to any single undergraduate major.

#### Degree Requirements

**MS in MIS Program** 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.

Students are required to have completed the equivalent of either **Mathematics 101**, Survey Calculus or **Mathematics 102**, Finite Mathematics, with a grade of C or better by the end of their first semester. Graduate credit is not given for these courses.

#### Required Basic Courses

The following courses or their equivalents are required of all degree candidates:

**Business Administration 410**, Managerial Economic Analysis

**Business Administration 411**, Analysis of National Economic Environment

**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 480**, Computer Programming and Applications

**Quantitative 481**, Statistical Analysis for Management Decisions

**Quantitative 482**, Operations Research Methods

### Required Specialization Courses

The following courses are required:

**Quantitative 484**, Business Information Systems

**Quantitative 485**, Computer-Based Information Systems: Theory and Practice

**Quantitative 488**, Information System Design

**Quantitative 489**, Data Base Management Systems

**Business Administration 490**, Policy Formulation and Administration

At least three of the following courses are also required:

**Quantitative 486**, Advanced Statistical Methods for Management

**Quantitative 487**, Advanced Operations Research Applications

**Quantitative 491**, Computer Systems Concepts

**Quantitative 492**, Information System Management

**Quantitative 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 or without the School of Business Administration. These courses may be taken at the 300 or 400 course level. The 6 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 designed primarily for students with undergraduate majors in accounting seeking further accounting and business training either to prepare themselves for entry into the field of public, corporate, or not-for-profit accounting or to further existing careers. Other students may be admitted to the program but will be required to eliminate all business and accounting deficiencies before starting the 30 credit hour sequence of courses.

#### Degree Requirements

##### MAcc Program

Students will be required to take a minimum of 30 credit hours of graduate business and accounting courses, no more than 6 credit hours of which may be at the 300 course level.

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Successful completion of a minimum of 6 credit hours of courses in written and/or oral communication is a prerequisite to the program.

Students are also required to have completed the equivalent of either **Mathematics 101**, Survey Calculus or **Mathematics 102**, Finite Mathematics, with a grade of C or better by the end of their first semester. Graduate credit is not given for these courses.

#### Business Background Requirements

Before beginning the 30 credit hour sequence of graduate business and accounting courses, all students must have an adequate background in business and economics. The background must include at least one 3 credit hour course (or its equivalent) in each of the following subject matter areas: macroeconomics, microeconomics, statistics, financial accounting, managerial accounting, marketing, production, finance, business law (uniform commercial code), management, business policy, and management information systems.

#### Accounting Background Requirements

In addition to the business background courses, students must have completed certain upper level undergraduate accounting courses (or their equivalents) prior to their starting the 30 credit hour sequence of graduate business and accounting courses. The following two courses are required of all students:

**Business Administration 340**, Intermediate Accounting I  
**Business Administration 341**, Intermediate Accounting II

In addition, all students must have successfully completed at least three of the following courses:

**Business Administration 342**, Advanced Accounting  
**Business Administration 345**, Cost Accounting  
**Business Administration 347**, Income Taxes  
**Business Administration 348**, Auditing

#### Program Requirements

**Graduate Accounting Courses** - At least 12 and no more than 18 credit hours of graduate accounting courses must be taken, at least 12 of which must be at the 400 course level. All students must take the Accounting Theory course and an accounting seminar.

#### Graduate Courses in Business or Related

**Fields** - At least 12 and no more than 18 credit hours of graduate courses in business or related fields must be taken, at least 12 of which must be at the 400 course level.

#### 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 Special Interdisciplinary Degree section of this Bulletin.



#### Career Outlook

The current economic climate appears to favor students with business training. Business school

## School of Business Administration

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graduates with the BSBA degree, male and female alike, usually obtain entry-level positions in areas requiring accounting, finance, management, computer science, 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 UMSL'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.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department. \*Starred prerequisites may be taken concurrently with listed offering.

### Business Administration

#### 36 Introduction to Accounting (3)

An introduction to the nature of accounting information and its use by managers and investors. **The course is designed as a multi-media, home-study course intended to meet the needs of off-campus students.**

Topics include: the nature of financial reporting, analysis of financial statements, budgeting, cost-volume-profit analysis, capital project evaluation, income recognition concepts, and the accounting accumulation process. Not available to students with previous fundamentals of accounting.

#### 37 Introduction to Accounting II (3)

Prerequisite: Accounting 36. A continuation of Accounting 36. **The course is designed as a multi-media, home-study course intended to meet the needs of off-campus students.** Topics include: mass processing of accounting information, accounting for selected balance sheet accounts, cost and managerial accounting concepts, relevant costs for decision-making, capital budgeting, income tax planning, and accounting for not-for-profit organizations.

#### 103 Introduction to Business Data Processing (3)

Prerequisites: None. The basic concepts of data processing and the fundamental principles of

computer-based information systems are studied. The role of data-processing professionals and the uses of computers in business are examined. A basic programming language is introduced. Credit will not be awarded for both Business Administration 103 and Computer Science 22.

#### 104 Introduction to FORTRAN Programming (3)

Prerequisites: Business Administration 103. A study of the principles of programming digital computers using the FORTRAN language. Credit not granted for both Business Administration 104 and Computer Science 122.

#### 109 Introduction to COBOL Programming (3)

Prerequisite: Business Administration 103. Fundamentals of computer programming using the COBOL language. The programming of business applications for the computer is stressed.

#### 131 Elementary Statistics (3) (Formerly Elementary Statistics 31)

Prerequisite: Mathematics 102. An introduction to statistical methods and concepts used in the decision processes of business problems. Statistical measures and estimators are examined in relation to the estimation and testing problems of statistical inference.

#### 140 Fundamentals of Financial Accounting (3)

Prerequisite: Sophomore standing. A one-semester course in financial accounting theory and practices with primary emphasis upon the accounting cycle and the preparation of financial statements for proprietary, partnership, and corporate entities.

#### 145 Managerial Accounting (3)

Prerequisite: Accounting 140 or equivalent. This is an advanced course that goes beyond the scope of a second-semester course in the fundamentals of accounting. The development, interpretation, and use of relevant cost behavior, control, and traceability concepts for management planning, controlling, and decision-making are emphasized. Topics include: an introduction to product costing, the contribution concept, direct costing, performance standards and variance analysis, responsibility accounting, segment profitability, alternative choice decisions, and capital budgeting.

#### 156 Legal Environment of Business (3)

Prerequisite: Economics 51 and Accounting 140. An introduction to the nature and meaning of law, sources of law, and legal process and institutions. The legal environment of business is defined as: the attitude of government toward business, the historical development of this attitude; current trends of public control in taxation, regulation of commerce and competition; freedom of contract, antitrust legislation and its relationship to marketing, mergers and acquisitions; and labor management relations.

#### 202 Fundamentals of Production (3)

Prerequisite: Economics 51, Statistics 131, and

# Business Administration

**Accounting 145.** An examination of the concepts, processes, and institutions which are fundamental to an understanding of the production function in business enterprise. Emphasis is on the management and organization of production operations, and upon the application of scientific and quantitative methods to the solution of production problems.

## **204 Financial Management (3)**

Prerequisites: Accounting 140, Economics 52, and \*Statistics 131. The study of a firm's needs for funds; the institutions, instruments, and markets concerned with raising such funds; and the techniques of analysis used to determine how effectively these funds, once raised, are invested within the firm.

## **205 Introduction to Management Information Systems (3) (Formerly 110)**

Prerequisites: A programming language course (e.g., Business Administration 104 or Business Administration 109 or Computer Science 122). The concept of an integrated management information system is explored. Data requirements and data relationships used to successfully implement business oriented systems (e.g., accounting, marketing, financial and production information systems) are examined. The economic tradeoffs between various data support systems are analyzed.

## **206 Basic Marketing (3) (Formerly 106)**

Prerequisite: Accounting 140, Economics 51, and \*Statistics 131. An examination of the character and importance of the marketing process, its essential functions, and the institutions performing them. Attention is focused on the major policies (such as distribution, product, price, and promotion) which underlie the multifarious activities of marketing institutions and the managerial, economic, and societal implications of such policies.

## **209 Advanced COBOL and Data Management (3)**

Prerequisite: Business Administration 109 with a grade of C or better. The following advanced COBOL programming techniques are explored: tape and disk file design and manipulation; sort and merge techniques; report writer features; library modules; communication modules; and data base management concepts.

## **210 Management as a Behavioral Science I (3) (Formerly 310)**

Prerequisite: Statistics 131 and 3 hours in anthropology, psychology, or sociology. Organization theory examined as to its historical basis and current status, from a systems perspective. Nature and relevance of individual and organizational goals considered. Technological and structural influence on organizational behavior is examined. Characteristics of individuals and groups in an organization context explored.

## **221 Financial Markets and Institutions (3)**

(Same as Economics 221)

Prerequisite: Economics 51 and 52. Demand, supply, and flow of funds in the macrofinancial system, determinants of the structure of interest rates, and the impact of monetary and other governmental policies on interest rates, securities prices, and flows of funds. Examines types and historical development of financial intermediaries, including their regulatory environment, decision-making within individual intermediaries, and how their portfolio decisions affect flows of funds in the economy.

## **224 Introduction to Systems Programming (3)**

Prerequisites: Grade of A or B in either Business Administration 104 or Business Administration 109 or Computer Science 122. Development and interpretation of machine languages, addressing techniques, symbolic coding, and assembly systems. A particular computer and programming system will be used extensively to illustrate concepts and to give students actual experience in programming.

## **231 Intermediate Statistics (3)**

Prerequisite: Elementary Statistics 131, Mathematics 101, and Mathematics 102. Further study of basic topics in statistics to include analysis of time dimensional processes, elements of statistical decision theory, and nonparametric procedures.

## **253 Managerial Economics (3)**

(Same as Economics 253) Prerequisite: Economics 51 and Mathematics 101. Applications of microeconomic theory to the decision-making process in the business firm. Discussion of cost behavior, price and output determination under various competitive conditions, as well as factors affecting wages, interest, and profits.

## **256 Business Law (3)**

Prerequisite: Accounting 140 and Economics 51. Introduction to legal instruments and statutes centering on such things as contracts, agencies, partnerships, unincorporated organizations, corporations, negotiable instruments, bailment, personal and real property, bankruptcy and receivership. Includes a survey of federal regulatory legislation to motivate and preserve competition and to protect the public.

## **270 Management of Promotion (3)**

Prerequisite: Business Administration 206. A study of the design, organization, and implementation of the marketing "communications mix." Various methods, such as advertising, personal selling, and publicity are analyzed as alternatives for use alone or in combination to stimulate demand, reseller support, and buyer preference. Particular topics considered include: media selection, sales promotions, packaging, selling strategy, and their relationships in the promotion process.

## **275 Marketing Intelligence (3)**

Prerequisite: Business Administration 206. An investigation of the acquisition, presentation, and application of marketing information for management. Particular problems considered are defining information

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# Business Administration

requirements, evaluating research findings, and utilizing information. Statistical methods, models, and/or cases are employed to illustrate approaches to marketing intelligence problems, such as sales forecasts, market delineation, buyer motives, store location, and performance of marketing functions.

### **289 Career Planning (1)**

Prerequisite: A minimum of junior standing. The emphasis of this course will be to assist business students to develop an understanding of themselves as related to employment, to develop an understanding of the world of work, and to integrate these so that effective career decisions can be made.

### **295 Business Administration Problems (1-10)**

Prerequisite: To be determined each time the course is offered. Study of selected special problems in business and administration. May be repeated for credit with different topics.

### **296 Independent Study (1-3)**

Prerequisite: Consent of instructor and dean. Occasional special individual study topics under the guidance of a specific professor.

### **301 Buyer Behavior (3)**

Prerequisites: Business Administration 206 and 3 hours of psychology or sociology, or consent of instructor. A study of consumer functions and concepts in economics, marketing, and related subjects such as decision-making, attitude formation, cognition, perception, and learning as related to marketing phenomena-product image, brand loyalty, shopping preference, and diffusion of innovations. These are considered in context with political, social, market, and legal influences on buyer behavior.

### **302 Quantitative Marketing Methods (3)**

Prerequisites: Business Administration 206, Mathematics 102, or consent of instructor. Applications of stochastic, deterministic, and simulation techniques to decision areas, such as market potential, product diversification, physical distribution alternatives, retail location, media selection, and market exposure. Quantitative and computerized methods are used heavily to enhance decision-making in marketing, especially the selection, allocation, budgeting, and forecasting of marketing resources.

### **303 Industrial Marketing (3)**

Prerequisites: Senior standing and Business Administration 206 or consent of instructor. A study of the nature of the industrial marketplace, concentrating on those aspects that differentiate it from consumer markets. The major focus of the course is strategy, starting with the analysis of the market wants and segments, the concepts of pricing, the distribution arrangements, and buyer/seller relations. In this last area, consideration will be given to service, sales technical development, sales promotion, and advertising as found in the industrial marketplace. At all times, emphasis is given to relating industrial marketing strategy to basic concepts in underlying business

disciplines. Lectures and case discussions are used heavily in the course.

### **305 Computer Systems (3)**

Prerequisites: Business Administration 205 or Business Administration 209 or Computer Science 222 or consent of the instructor. Computer systems, their hardware and basic operating software, are studied with attention to the factors involved in computer system implementation and maintenance. Examples of integrated business computer systems, including communication systems, are analyzed.

### **308 Production and Operations Management (3)**

Prerequisite: Business Administration 202 and Mathematics 101 and 102. Application of the tools and techniques of statistical decision theory and operations research to production and operating problems. Emphasis is on the use of mathematical modeling and simulation techniques to analyze complex and ill-structured problems in large scale systems.

### **309 Personnel Management (3)**

Prerequisite: Business Administration 210 or consent of instructor. A study of personnel practices and policies, acquisition, maintenance, and utilization of an effective work force. Employee selection, development, job performance, compensation, and collective bargaining. Emphasis on practical applications.

### **310 Business System Design (3)**

Prerequisites: Business Administration 209 or Computer Science 322 or Computer Science 376. System analysis and design techniques are explained. System implementation and post-implementation analysis techniques are discussed. A system development project is required.

### **311 Management as a Behavioral Science II (3)**

Prerequisite: Business Administration 210. Using a task, people, structure, and technology perspective, the organization is viewed as a social-technological system. Various methods of changing organizations to meet both individual and organizational goals are considered through the use of cases, exercises, and readings.

### **312 Industrial and Labor Relations (3)**

Prerequisite: Business Administration 210. Emphasis is on the dynamic relationship between management, employees, unions, and government as determinants in the efficient and effective use of human resources. Current issues and case materials are used to supplement text and lecture.

### **315 Marketing Management (3)**

Prerequisite: Senior standing and 9 hours in marketing, including Business Administration 206 or consent of instructor. An intensive analysis of major marketing decisions facing the firm, such as level, mix, allocation, and strategy of marketing efforts. Specific decision areas investigated include market determination, pricing, physical distribution, product policy, promotion, channel management, and buyer behavior.

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Competitive, political, legal, and social factors that may affect such areas of decision are discussed. Cases, models, and problems are used heavily.

## **318 Industrial Psychology (3)**

(Same as Psychology 318) Prerequisite: Psychology 101 or Business Administration 210. Activities of the applied psychologist. Selection and placement, testing and interviewing, and personnel research. Morale, motivation, and job satisfaction. Leadership skills and styles, creative management, and industrial mental health. Psychology in advertising and marketing.

## **330 Applied Linear Statistical Models (3)**

Prerequisites: Statistics 131, Math 101 and Math 102. A study of linear statistical models for regression, analysis of variance, and experimental designs as applied in management sciences

## **331 Multivariate Analysis (3)**

Prerequisite: Statistics 131 and Mathematics 101 and 102. A study of statistical techniques applicable to multi-variable relationships.

## **334 Investments (3)**

Prerequisite: Business Administration 204. Financial analysis of debt and equity instruments available on organized exchanges and in less tangible "over the counter" markets. Techniques of such analysis being presented in context with economic and management circumstances within the company, industry, and economy.

## **340 Intermediate Accounting I (3)**

Prerequisite: Accounting 140 with a minimum grade of C, \*Statistics 131, and Accounting 145. Accounting theory and practice related to the acquisition, use, and disposal of current, fixed, and intangible assets (excluding long-term investments in securities). Other topics include current liabilities and income tax accounting. Expanded coverage is afforded the theoretical foundations of financial accounting, and reporting the accounting model and information processing, and the financial statements of profit-seeking enterprises.

## **341 Intermediate Accounting II (3)**

### **(Formerly Advanced Accounting)**

Prerequisite: Accounting 340 with a minimum grade of C, or consent of department. Accounting theory and practice related to issued corporate debt and equity, and long-term investments in securities. Other topics include pension accounting, statement of changes in financial position, earnings per share calculations, and inflation accounting

## **342 Advanced Accounting (3)**

### **(Formerly Consolidation and Specialized Accounting Problems)**

Prerequisite: Accounting 341 with a minimum grade of C, or consent of department. Accounting theory and practice related to partnerships, business combinations, consolidated financial statements, financial reporting by multinational companies, and non-profit organizations.

## **345 Cost Accounting (3)**

Prerequisite: Accounting 145 with a minimum grade of C, or consent of department. The study of the basic principles of cost determination for and control of manufacturing and distribution activities. The accumulation and tracing of costs to products, processes, and responsibility centers for purposes of financial accounting and management control are emphasized. Topics covered include: job-order costing, process costing, and the development and use of standard costs within a system of absorption costing.

## **347 Income Taxes (3)**

Prerequisite: Accounting 140 with a minimum grade of C and Accounting 145, or consent of instructor. Fundamentals of federal income taxation with emphasis on individuals. Topics covered include: determination of income, exclusions, exemptions, personal and business deductions, accounting methods, capital gains and losses

## **348 Auditing (3)**

Prerequisite: Accounting 341 with a minimum grade of C, or consent of department. Examination of fundamental audit objectives and techniques employed in the verification, analysis, and interpretation of accounting records and financial statements. The work of the independent public accountant is emphasized.

## **349 Business Income Taxation (3)**

Prerequisite: Business Administration 347. A study of federal income taxation of partnerships and shareholders and corporations, including subchapter S (small business) corporations with emphasis on problems encountered in their formation, operation, liquidation, and sale.

## **350 Financial Policies (3)**

Prerequisite: Business Administration 204. The intensification and application of the concepts developed in Finance 204. Special emphasis is given to the development of top management policies and their application toward complex problems of finance. Techniques for identifying and dealing with these problems before they become acute will be investigated. Cases will be integrated with appropriate outside reading.

## **356 Commercial Bank Management (3)**

Prerequisites: Economics 52, Business Administration 204. Corporate finance and micro-economics are applied to matters of importance to commercial bankers. Among the subjects treated are bank asset portfolio construction, lending policies, liabilities management, bank capital structure, short run cash management, financial market rates and flows, and quantitative models for bank management. Commercial bank management is analyzed from an internal viewpoint in terms of what bank managers should look for in asset management and why, what market conditions they should be aware of, and what techniques they can use to meet changing economic and financial conditions.



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### **368 Business Fluctuations and Forecasting (3)**

(Same as Economics 368) Prerequisite: Economics 220. Discussion of factors affecting economic conditions, short-term fluctuations in business activity, and plans and policies for economic stabilization. Emphasis on problems and techniques of forecasting aggregate and industry demand.

### **375 Operations Research (3)**

Prerequisites: Mathematics 101 and Business Administration 202. Applications of the theories and techniques of operations research to problems of business, government, and industry, with emphasis on the construction and utilization of quantitative decision models.

### **380 International Business (3)**

Prerequisite: Economics 51. The U.S. in the world economy; emerging nations; foreign exchange market; foreign investment; commercial documents; world trade; and management of enterprises abroad.

### **385 Operations Research II (3)**

#### **(Formerly Mathematical Programming)**

Prerequisite: Business Administration 375. Topics of special interest including mathematical programming, stochastic decision-making, digital simulation, game theory, and other selected techniques.

### **391 Business Policy and Administration (3)**

Prerequisite: Senior standing and Business Administration 206, 204, and 210. Comprehensive cases are used to examine the dynamics of business management. The role of high echelon management in the administrative process is integrated with the diverse functions of business to develop an operation system. Particular attention is given to formulation of a policy framework and planning and implementing executive action. Both team and individual analyses and reports are utilized with class evaluation and recommendation. (It is preferred that this course be taken in the student's final semester.)

### **392 Entrepreneurship-Small Business Management (3)**

Prerequisite: Economics 51 and 52 and a minimum of six courses from the required Business Administration core. This integrative general management course is designed to communicate the academic principles of business management applicable to the solving of problems of small and medium-size businesses and assist in their development. The course will provide a background in the forms of business, the development of business plans and systems integration, venture capital, accounting, procurement, promotion, financing, distribution, and negotiations for the initial organization operation and expansion of the firm.

### **395 Business Administration Seminar (1-10)**

Prerequisite: To be determined each time the course is offered. May be repeated for credit.

### **410 Managerial Economic Analysis (3)**

Prerequisites: None. Microeconomic analysis of consumers, firms, and government. The concepts and mathematical tools of economic analysis are applied to the production and distribution functions of organizations.

### **411 Analysis of National Economic Environment (3)**

Prerequisites: None. The character and functioning of the national economic system; analyzing and forecasting fluctuations in national income and product, employment and prices; the influence of monetary and fiscal policies. Emphasis is on the acquisition of knowledge concerning forces affecting all business firms.

### **412 Public Policies Toward Business (3)**

Analysis of public policies, as represented by laws, court decisions, and other governmental activities, as they affect efficiency in the public and private sectors, employment, price levels, and business decision-making.

### **415 Societal, Environmental, and Management Decisions (3)**

Prerequisite: Business Administration 410 and 411. An examination of the external relationships of a business enterprise with the broad and diverse interests of society. These are government and social forces that sometimes operate counter to the potential dictates of theoretical internal economic policies for an individual organization. The primary objective is to examine the increasingly complex set of interrelationships among business, government, other economic groups, and "the public." A series of major current problems, chosen to raise some of the major issues involved in these interrelationships, and in particular to explore the development of public policy on such problems.

### **416 International Finance, Investment, and Commercial Relations (3)**

Prerequisite: Business Administration 411. The international monetary system; balance of payments; liquidity; foreign-exchange market; foreign investment; and international and regional financial institutions. Commercial documents; United States trade patterns, composition, and structures; United States commercial policy; regional trade groupings, trade of emerging nations; and international trade organizations.

### **417 International Business Operations (3)**

Prerequisite: Business Administration 416. Functional management within multinational corporations; case studies of operations abroad, and focus on managerial decision-making.



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## **418 Governmental Budgeting and Financial Control (3)**

Prerequisite: Accounting 440. A study of municipal and federal financial control and budgeting procedures with emphasis on public policy. The impact of financial control on top management decisions and the effect of budget strategies on the allocations of public funds.

## **420 Seminar in Business Administration (3)**

An intensive study of a specific area of business administration of some specific business or economic phenomenon, or a specific problem or theory. Several different courses may be offered under this course number. A decimal number following the course is assigned as further identification of the area studied.

## **430 Individual Research (1-10)**

Prerequisite: Consent of instructor and graduate director. Special individual research topics under the guidance of a specific professor.

## **490 Policy Formulation and Administration (3)**

Prerequisite: Accounting 440, Finance 450, Management 460, Marketing 470, and Quantitative 482. This course should be taken during the semester prior to graduation. In no case may it be taken sooner than two semesters prior to graduation. A capstone case course which views policy problems and issues from the perspective of top management. Policy formulation, decision-making processes, and corporate strategy. Implementation of corporate policy requires an examination of leadership, communication, organizational structure, and social responsibility.

## **Accounting (400-level)**

## **440 Financial Accounting: Theory and Practice (3)**

Business organization, operations, and terminology. A survey of the broad areas of accounting, including its mechanisms. Emphasis on the development of a logical framework of underlying concepts upon which practices and procedures are superimposed. Intensive study of balance sheet, income statement and other financial reports, together with the accounting principles underlying them. Statements designed for stockholders and creditors. The interpretative and analytical point of view is stressed.

## **441 Concepts in Management Accounting (3)**

Prerequisite: Mathematics 101 or 102 with a minimum grade of C, and Accounting 440. The development, interpretation, and uses of accounting reports and supplementary information for management planning, control, and decision-making. Emphasizes the application of relevant cost behavior, control, and traceability concepts in the preparation of internal accounting reports, with a secondary emphasis upon product costing techniques as appropriate to financial accounting needs. Topics include break-even analysis,

operational budgeting, direct costing, absorption costing, standard costs and variance analysis, business segment analysis, responsibility accounting, distribution cost accounting, and gross profit analysis.

## **445 Financial Accounting: Advanced Theory and Analysis (3)**

Prerequisite: Accounting 440 or equivalent. Development of a structure of financial theory and analysis of asset and equity valuation methods and their related effects on income determination.

## **446 Topics In Professional Accounting (3)**

Prerequisite: Accounting 440 and Quantitative 481. An investigation of the impact of past, current, and prospective developments upon the role of the professional accountant. Topics include professional ethics, generally accepted auditing standards, types of auditor's opinions, internal control and internal auditing, the use of probability theory and statistical sampling methods in the conduct of an audit, management advisory theory and statistical sampling methods in the conduct of an audit, management advisory services, auditing in mechanized and electronic data processing systems, requirements imposed by the S.E.C. and other regulatory agencies, and legal responsibilities.

## **447 Accounting Systems for Management Planning and Control (3)**

Prerequisite: Accounting 441. A study of advanced managerial accounting techniques useful in facilitating the planning and control process in the modern organization. Emphasis on the implementation and administration of these techniques, their integration with the management information system, and the organizational role of the corporate accountant.

## **448 Seminar in Advanced Theory and Contemporary Issues in Accountancy (3)**

Prerequisite: Accounting 440. Consideration of the positions of several authoritative groups concerning the structure of accounting theory-assumptions, postulates, principles, and practices. Evaluation of these positions in view of confirming and conflicting periodic literature. Critical analysis of topics of current interest and importance in accounting literature.

## **449 Systems Auditing (3)**

Prerequisites: Business Administration 440 and 480 or consent of instructor. Study of techniques involved in the control and audit of computer-based accounting information systems. Emphasis on the review of internal controls at operational and administrative levels and on computer-assisted audit techniques.

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### Finance (400-level)

#### 450 Financial Management (3)

Prerequisite: Mathematics 101 or 102 with a minimum grade of C, and Accounting 440. A consideration of the methods used to determine the firm's need for short and long-term capital, the possible means of securing such capital once a need has been determined, and the techniques for judicious use of the capital in terms of asset investment and asset management decisions. Topics include the finance function, operating and financial methods of capital budgeting decisions, cost of capital, dividend policy, long-term financing, management of current assets, intermediate and short-term financing, and corporate valuation in mergers and consolidations.

#### 451 Advanced Financial Management (3)

Prerequisite: Finance 450 and Quantitative 480 and 481. Exposure to recent financial management theory through selected readings. Financial management problems are considered by the use of cases and simulation models. An original research project under the supervision of the instructor is required.

#### 455 Security Analysis (3)

Prerequisite: Business Administration 450. An indepth study of techniques used in evaluating various financial assets as investment opportunities. Financial assets studied include common stock, preferred stock, and fixed income securities. Other related topics such as sources of investment information and current market trends are discussed.

#### 456 Management of Financial Intermediaries (3)

Prerequisite: Business Administration 441 and Finance 451, or concurrent registration. A consideration of the unique problems of management of institutions which form the money and capital markets in the United States. The impact of monetary and fiscal policies on the dynamic management of the financial assets of numerous financial intermediaries: commercial banks, insurance companies, savings and loan associations, investment bankers, and investment companies.

#### 457 Portfolio Management and Special Topics in Investments (3)

Prerequisite: Business Administration 450, 481, and 334 or 445, or consent of instructor. Traditional portfolio management as well as current portfolio theory is studied. The use of simulation and mathematical models to optimize the return on portfolios is discussed. In addition, special topics of current interest or recent developments in the field of security analysis and portfolio management are presented.

### Management (400-level)

#### 460 Organizational Behavior and Administrative Processes (3)

The theoretical and research contributions of the behavioral sciences to management and administration are examined and applied to selected organizational situations. Areas to be considered from the standpoint of both individual and organizational performance are communication, motivation, conflict, decision-making, goal setting, leadership, organizational design, climate, development and control. Utilizing a system perspective, the course attempts to develop in each student an ability to analyze and solve organizational problems.

#### 461 Managing Human Resources (3)

Prerequisite: Management 460. Examination of human resource management issues from a contemporary manager's viewpoint. Topics examined include: personnel planning, employee selection, performance appraisal, training and development, compensation, legal issues, discipline and labor relations. The course examines these topics as they relate primarily to operational activities in organizations.

#### 462 Advanced Organizational Behavior and Administrative Processes (3)

Prerequisite: Management 460. An indepth examination of selected organizational and individual theories affecting behavior and operating performance. Organizational structure and design, formal and informal organization, decision making, communications and motivation are analyzed for their organizational impact. The course seeks to develop further the ability to analyze and evaluate organizational processes and human behavior.

#### 465 Union-Management Relations and Collective Bargaining (3)

Prerequisite: Management 460 and Business Administration 412. Primary concern is with the setting and the dynamics of contract negotiation and administration. Emphasis is on the development of insight and understanding of the forces affecting the decisions of the parties to a labor contract within the context of the social, political, and economic environment of the organization. A dynamic approach is taken to examine difficulties that arise in attempting to administer a collectively established relationship between employer and employee.

#### 466 Personnel Administration: Theory and Practice (3)

Prerequisite: Management 461 and Quantitative 481. Examination of various methods and procedures (including statistical techniques) critical to the design and operation of a modern personnel management system. Personnel techniques to be studied include: job analysis; employee recruitment, selection and

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placement; performance appraisal; and the measurement of employee attitudes, job satisfaction, and organizational climate. Consideration will be given to relevant legal issues, as well as to the theories or rationale which underlie the various personnel techniques and functions.

## 467 Dynamics of Interpersonal Relations (3)

Prerequisite: Management 460 or academic background in general psychology. The self-concept, personality dynamics, and mechanisms of adjustment. Catalysts and barriers to effective communication. Examination of the functional relationship between ego-needs, perceptual distortion, and stereotypical thinking. Role-playing, the resolution of role-conflict, and objective self-evaluation. The development of cooperation and trust as a prerequisite to effective human relations.

## Marketing (400-level)

### 470 Contemporary Marketing Concepts (3)

Prerequisite: Accounting 440 and Business Administration 410. Designed for students with no prior course work in the field of marketing. A wide spectrum of marketing institutions and activities is covered. The impact of marketing on the total firm, the economy, and society in general is assessed. The course is intended to develop and organize the fundamental marketing concepts necessary to an analytical study of consumer behavior, the economic environment, and four managerial aspects of marketing. The acquisition and utilization of marketing research data for problem-solving is stressed. Relation and integration of basic marketing knowledge to the successful development of sound marketing policy, planning, and strategy is developed.

### 471 Marketing Planning and Strategy (3)

Prerequisite: Marketing 470. Emphasizes the development of a total marketing program through an analytical study of the marketing-mix, the diagnosis of the business situation, along with the influence of exogenous variables and the development of an effective overall marketing strategy. Stresses importance of an integrated marketing plan and utilizes modern decision-making tools. Supplementary readings, journal articles, and current periodicals are used to place the theoretical framework of the course into the contemporary environment of the market place.

### 475 Consumer Motivation and Behavior (3)

Prerequisite: Marketing 470. An analysis of the socio-psychological foundations of consumer behavior including personality differences, needs and wants, status symbols, social change and mobility, fads and fashions. Consumer spending and saving habits, product preferences, leisure-time patterns, shopping behavior, and motivation research also are examined

for their impact on advertising, selling, and marketing management.

### 476 Marketing Communications (3)

Prerequisite: Marketing 470. Deals with managerial decision-making by placing particular emphasis on assimilating and integrating all forms of marketing communication in the development of promotional policies, plans, and procedures. Course approach is analytical rather than descriptive in investigating the areas of advertising, public relations, sales management, packaging, and other forms of demand stimulation.

### 477 Product Planning and Pricing (3)

Prerequisite: Marketing 471 or concurrent registration. A study of product management including the areas of new product development, the concept of the product line, deletion of nonessential products, and establishing the product's price. Also examined are pricing alternatives and the factors influencing price setting in the framework of a contemporary market structure.

### 478 Marketing and Business Research (3)

Prerequisites: Marketing 470. A broad approach to marketing research as a model for acquiring, retrieving, and analyzing decision-making information. Includes market measurement, evaluation of sales and cost effectiveness, sales forecasting, and primary marketing research studies aimed at solving specific problems. Emphasis is placed also on building a theoretical and analytical framework to provide flexibility in the design of marketing experiments and in judging recent research innovations.

### 479 Marketing and Channel Strategy (3)

Prerequisite: Marketing 470 and Quantitative 482. A study of the marketing institutions involved in the distribution of goods and services, industrial and consumer markets, as well as the establishment and integration of marketing channels. The planning and analysis of the macrodistribution and microdistribution systems which contribute to creation of optimal time and place utility. Some attention is paid to quantitative applications to marketing situations including simulation and logistics.

## Quantitative Management Science (400-level)

### 480 Introduction to Computer Programming and Business Application (3)

A particular computer, compiler language, and computer system (University of Missouri Computer Network) are used extensively to illustrate computer system concepts and to give the student actual experience in programming and implementing business oriented systems. Time sharing systems are studied and utilized.

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**481 Statistical Analysis for Management Decisions (3)**

Prerequisite: Mathematics 101 or 102 with a minimum grade of C. Development of the role of statistical evidence in the formation of inference and in the selection of strategies in solving business problems. Probability and probability distributions are studied as a basis of inference and applying Bayesian decision methods. An approach to multivariate analysis provides an integration of analysis of variance and regression methods.

**482 Operations Research Methods (3)**

Prerequisite: Quantitative 481. Development of a working knowledge of operations research techniques, as applied to dynamic business problems. A study of analytical approaches to business programs, construction of mathematical models, and manipulation of model variables for managerial decision-making. Topics include mathematical programming, inventory theory, game theory, queuing theory, sequencing models, and simulation models.

**483 Production and Operations Management (3)**

Prerequisite: Quantitative 482. A study of the basic problems encountered in the administration of the production function. Topics include interpreting the production function; schematic, statistical, and economic analysis of production problems and production simulation models. The case method is used extensively in the course.

**484 Business Information Systems (3)**

Prerequisites: Quantitative 480. A study of business-oriented information systems. The programming language COBOL will be introduced and studied in detail. Emphasis will be on program definition and the use of file structures in business-oriented applications.

**485 Computer-Based Information Systems: Theory and Practice (3)**

Prerequisites: Quantitative 480. Introduction to computer-based information systems. Problems of analysis, design and implementation are examined. Various techniques commonly used in business-oriented applications are surveyed. Use of the computer is required as an integral part of the course.

**486 Advanced Statistical Methods For Management Decisions (3)**

Prerequisite: Quantitative 481. A study of statistical methods applicable to specialized areas of statistical analysis. Topics include Markov Processes, distribution-free tests, sampling theory and methods, experimental design, time series analysis, and spectral analysis.

**487 Advanced Operations Research Applications (3)**

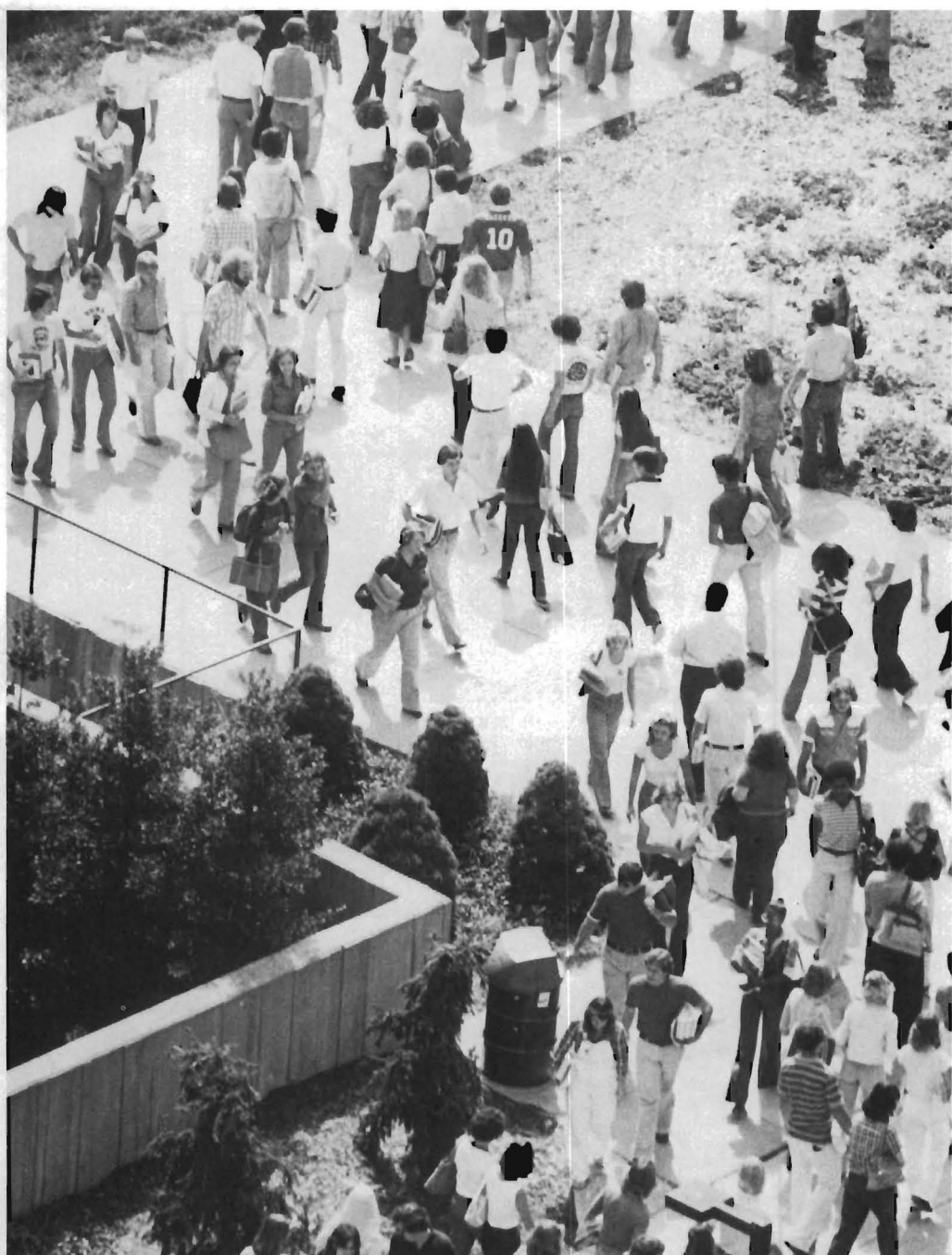
Prerequisite: Quantitative 482. Application of operation research techniques to business problems. After a brief review of these techniques, followed by an examination of typical applications reported in the literature, the major portion of the term is spent in analyzing and solving an actual business operations research problem. A team approach is used, with groups of two or three students responsible for finding and solving an operations research problem in a local company. Primary emphasis is placed on the use of operations research techniques to solve management problems.

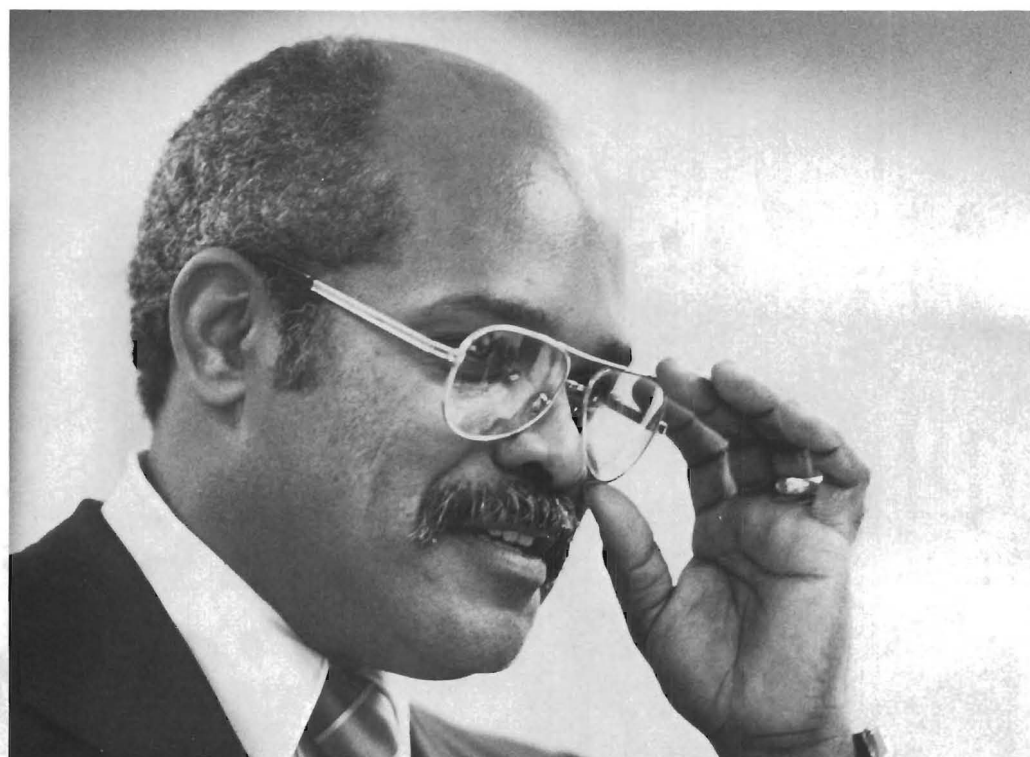
**488 Information System Design (3)**

Prerequisites: Quantitative 485. A study of some advanced techniques used in information systems design including systems analysis. Data base management system concepts will be introduced. Primary emphasis of the course will be on the ability of the student to integrate the concepts and techniques of information systems into a well-defined system design. Semester project required.

**489 Data Base Management Systems (3)**

Prerequisite: Quantitative 485. An introduction to data base processing. Data management and data independence. Data base model philosophies are reviewed. An introduction to commercially available data base management systems is made. A data base management package is used to illustrate basic concepts.







## Undergraduate Studies in Education

### Accreditation

UMSL, 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. 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: Administration, Foundations and Secondary Education; Behavioral Studies; 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:

Adult Education Courses (**ADU ED**)  
Counselor Education Courses (**CNS ED**)  
Early Childhood Education Courses (**ECH ED**)  
School-wide Education Courses (**EDUC**)  
Educational Administration Courses (**ED ADM**)  
Educational Foundations Courses (**ED FND**)  
Educational Psychology Courses (**ED PSY**)  
Educational Statistics & Research Courses (**ED S&R**)

Educational Technology Courses (**ED TEC**)  
Elementary Education Courses (**ELE ED**)  
Evaluation and Measurement Courses (**EVL MS**)  
Physical Education Courses (**PHY ED**)  
Secondary Education Courses (**SEC ED**)  
Special Education Courses (**SPC ED**)

## 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, special education, business education, or physical education settings must apply for admission to the School of Education. Students intending to teach in other secondary school classrooms may elect to pursue the B.S. in education or to receive degrees from other university colleges and schools and meet teacher certification requirements. Students admitted to the school must also be admitted to the teacher education program.

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 2.0 or above grade point average.
- 2 Minimum deficiencies in general education. Students may not have more than 9 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 three stages or levels:

**Level I** After completing 30 semester hours, students should apply for admission to candidacy. The application requires health information, reasons for becoming a teacher, previous experiences working with children and/or youth, and grades received in university-level courses. Upon favorable action by the Teacher Education Council, students will



## Undergraduate Studies in Education

be accepted as official candidates for admission to the program.

**Level II** At the conclusion of 60 hours, official candidates apply for formal admission to the program. Admission requirements include a minimum of 60 hours of approved course work with a 2.0 grade point average and completion of Educational Foundations (ED FND) 111, The School in Contemporary Society, or the equivalent, with a grade of C or better. Students must also submit an Affidavit of Moral Character. Students and their advisers are notified of their status by the Teacher Education Council.

**Note:** Effective September 1, 1982, a 2.50 grade point average is required for admission to student teaching. Students applying for admission for Fall 1982 student teaching must meet the 2.50 grade point average requirement at the time of application.

Application forms for Levels I and II and Affidavit of Moral Character may be obtained in the Office of Student Services and Records, 111 Education Office Building. Students are responsible for making application at both levels.

**Level III** Students must make formal application for admission to student teaching at least one full semester before they plan to do their student teaching. Applications must be filed during the periods designated by the Office of Student Services and Records, 111 Education Office Building. Application forms are available in that office during the first four weeks of the semester before the one in which students plan to do their student teaching (Summer Session not included).

### Health Certificate

A Missouri School Personnel Health Certificate signed by a 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 Student Services and Records.

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 Effective September 1, 1982 a cumulative grade point average of 2.50 or above by the

semester prior to the one in which students plan to do their student teaching. The 2.50 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 general education requirements and near completion of course requirements in the teaching major.
- 5 A grade of C or better in all professional education courses so designated. Lists of these courses are available in the Office of Student Services and Records and from advisers.
- 6 Satisfactory recommendations by students' teaching area representatives in the teacher education program.
- 7 Completion at UMSL of no less than 12 hours of approved course work.
- 8 Grade point average of 2.2 in the teaching field (secondary education students only).
- 9 Completion of prerequisite courses in professional education and psychology:

### Business Education

**ED FND 111**, The School in Contemporary Society  
**Psychology 271**, Adolescent Psychology

and these **Secondary Education (SEC ED)** courses:

- 213**, Techniques of Secondary School Teaching  
**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

### Early Childhood Education

- ED FND 111**, The School in Contemporary Society  
**Psychology 270**, Child Psychology  
**ELE ED 230**, Children's Literature or **ELE ED 336**, Teaching Language Arts and Reading, N-9  
**ELE ED 385**, Teaching Reading in the Elementary School  
**ECH ED 312**, Principles of Early Childhood Education  
**ECH ED 333**, Creative Experiences for Young Children  
**ECH ED 341**, Exploring the Physical World with Young Children  
**ECH ED 351**, Exploring the Social World with Young Children

### Elementary Education

**ED FND 111**, The School in Contemporary Society  
**Psychology 270**, Child Psychology

# Undergraduate Studies in Education

and these **Elementary Education (ELE ED)** courses:

- 230**, Children's Literature or **336**, Teaching Language Arts and Reading, N-9
- 241**, Teaching of Science in the Elementary School
- 246**, Teaching Mathematics in the Elementary School
- 253**, Teaching of Social Studies in the Elementary School
- 385**, Teaching Reading in the Elementary School

## Physical Education: Elementary School Option

**ED FND 111**, The School in Contemporary Society  
**Psychology 270**, Child Psychology  
**ELE ED 210**, Elementary School Organization, Management, and Techniques of Teaching

and these **Physical Education (PHY ED)** courses:

- 165**, Physical Education Activities in the Elementary School
- 191**, Clinical Experience-Elementary School Physical Education
- 280**, Human Anatomy and Physiology

**plus three** of the analysis and teaching courses (see Course Descriptions, p. 238) and **six** of the following **Physical Education (PHY ED)** courses:

- 130**, Elements of Health Education
- 232**, Sports Medicine
- 261**, Physical Activities for the Exceptional Learner
- 275**, Psychology of Sport
- 276**, Sociology of Sport
- 277**, History and Philosophy of American Physical Education and Sport
- 282**, Physical Growth and Motor Development
- 283**, Kinesiology
- 284**, Physiology of Human Exercise

## Physical Education: Secondary Education Option

**ED FND 111**, The School in Contemporary Society  
**Psychology 271**, Adolescent Psychology  
**SEC ED 213**, Techniques of Secondary School Teaching

and these **Physical Education (PHY ED)** courses:

- 165**, Physical Education in the Elementary School
- 192**, Clinical Experience-Secondary Physical Education
- 280**, Human Anatomy and Physiology

**plus three** of the analysis and teaching courses (see Course Descriptions,) and **seven** of the following **Physical Education (PHY ED)** courses:

- 232**, Sports Medicine
- 261**, Physical Activities for the Exceptional Learner
- 275**, Psychology of Sport
- 276**, Sociology of Sport
- 277**, History and Philosophy of American Physical Education and Sport
- 282**, Physical Growth and Motor Development
- 283**, Kinesiology
- 284**, Physiology of Human Exercise

## Secondary Education

**ED FND 111**, The School in Contemporary Society  
**Psychology 271**, Adolescent Psychology  
**SEC ED 213**, Techniques of Secondary School Teaching  
**SEC ED 385**, Problems of Teaching Reading in the Secondary School (English education only)

## Special Education

**ED FND 111**, The School in Contemporary Society  
**Psychology 270**, Child Psychology

and these **Elementary Education (ELE ED)** courses:

- 230**, Children's Literature or **336**, Teaching Language Arts and Reading, N-9
- 241**, Teaching of Science in the Elementary School
- 246**, Teaching Mathematics in the Elementary School
- 253**, Teaching of Social Studies in the Elementary School
- 385**, Teaching Reading in the Elementary School

and these **Special Education (SPC ED)** courses:

- 313**, The Psychology and Education of Exceptional Individuals
- 330**, Introduction to Mental Retardation
- 332**, Education of the Mentally Retarded

**Note:** Students in all programs are strongly urged to take **ED PSY 312**, Psychology of Teaching and Learning, before student teaching. Special education students are advised to complete these courses prior to student teaching, too:

- EVL MS 310**, Interpretation of Educational Tests and Measurements
- SPC ED 315**, Speech and Language Problems of Exceptional Children
- SPC ED 320**, Behavior Management
- ELE ED 389**, The Analysis and Correction of Reading Problems in the Classroom

## Undergraduate Studies in Education

### General Education Requirements

Students in the School of Education must meet university and departmental general education requirements specified for their degrees.

### Certification

In cooperation with the Missouri State Department of Elementary and Secondary Education, the school is responsible for issuing teaching certificates to students completing B.S. in education degree requirements, recommending for certification students completing degrees in other UMSL colleges and schools as well as all certification requirements, and advising and ultimately recommending for certification those postdegree students who meet requirements.

By completion of undergraduate programs at UMSL, certification may be obtained in the following fields: elementary education, early childhood education, special education: educable mentally retarded (EMR), music education, and physical education, as well as the secondary education areas of biology, business education, chemistry, English, foreign language (French, German, Spanish), mathematics, physics, and social studies. Graduate programs leading to certification in counseling, reading, psychological examiner, school administration (elementary and secondary principal), and special education: behavioral disorders (BD), learning disabilities (LD), educable mentally retarded (EMR), and early childhood special education (ECSE) are also available; see Graduate Studies sections for each department of the School of Education.

### Special Certification Requirement

Every student seeking a teaching certificate must satisfactorily complete SPC ED 313, The Psychology and Education of Exceptional Individuals. This course meets the requirements of Missouri law mandating such a course before a teaching certificate may be issued.

### New State Certification Requirements

**1** The State of Missouri now requires that all persons certificated after September 1, 1982 have a cumulative grade point average of 2.5 or higher. Graduates of UMSL teacher education programs must meet this new requirement.

**2** Students who intend to become certified to teach in Missouri need to be aware that the

Department of Elementary and Secondary Education has recently revised and passed new state certification requirements in all teaching fields (Special Education—pending). The effective dates for these new requirements are as follows: Elementary Education—September 1, 1982; Secondary Education—September 1, 1984; Special Education—September 1, 1985 (projected). In order to ensure that all new requirements will be met, students should consult advisors in the Office of Student Services and Records to determine how these changes will effect their programs

### Student Teaching

The student teaching experience in the Early Childhood, Elementary Education, 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.

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** the Winter semester. While enrolled in student teaching, students may not carry more than 15 semester hours. When students are admitted to student teaching, the Office of Student Services and Records works out 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.

Students who withdraw from student teaching at any time after being admitted to it 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 Student Services and Records. 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

## Undergraduate Studies in Education

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 Director of the Office of Student Services and Records 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 Student Services and Records, 111 Education Office Building.

## Application for Degree and/or Certificate

**Bachelor of Science in Education** Candidates for the B.S. in education degree must complete degree and certificate application forms in the Office of Student Services and Records 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 A.B. degree with teacher certification must fill out a state certification form with the office during the last month of the semester in which their requirements will be completed.

## Graduate Studies in Education

### Graduate Studies

#### Degrees and Areas of Emphasis

M.Ed. degree programs are offered in educational administration, elementary education, guidance and counseling, and secondary education. Within these programs, a number of emphasis areas are available, including community education, elementary and secondary school administration, special education, elementary and secondary reading, general and school counseling, and secondary curriculum and instruction. Course concentrations are available in adult education, educational technology, and physical education.

Programs leading to the Ed.D. degree in educational leadership 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, pp. 29-37 in this *Bulletin*. The minimum number of hours required for the M.Ed. degree is 32. The school has adopted a flexible policy on comprehensive examinations with options 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, 152 Education Office Building. 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 comprehensive examination option. 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 fill out state certification forms in the Office of Student Services and Records, 111 Education Office Building, during the semester in which those requirements will be completed.

## Graduate Studies in Education

### Doctor of Education Degree

The Ed.D. degree in educational leadership 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 the 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. Programs focus on the interactive aspects of educational variables such as curriculum development, instructional planning, administrative and supervisory processes, foundational perspectives, use of instructional media, and applied research techniques to maintain and improve quality instruction in viable learning environments.

**Behavioral-developmental processes** place primary emphasis on the nature of individuals. Leadership capabilities are shown by mastery of concepts of change strategies through a social science perspective. Through their understanding of technology and research relating to childhood-adolescent-youth and adult years, graduates become potential agents of change in schools. Hence, 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.

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 limited, 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 experience is 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; December 1 for the winter semester; and May 1 for the summer session. This means that these documents should be filed with the admissions director 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.

### Degree Requirements

At least 90 hours beyond the baccalaureate degree are required for the Ed.D. degree. The credits are distributed as follows:

#### 1 Core Studies

##### **General Foundations, 12 hours from:**

Philosophical, historical, and comparative foundations of education  
Psychological, sociological, and anthropological foundations of education  
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 (15-27)  
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 Student Services and Records - 111 EOB**

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 - 152 EOB**

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.

### **Teacher Education Resource Center - 158 EOB**

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.

### **Office of Evaluation and Special Services - B9 ED LIB**

The Office coordinates School of Education research efforts in the metropolitan area; provides clinical services in reading, counseling, special education, and related fields; and offers consultative and evaluative services to schools, community agencies, and education-related businesses and groups. The Human Services Unit provides career counseling and career development service to total community.

### **University Child Development Center - 143 EOB**

The Center provides University students with observation, participation, research, and similar educational and clinical opportunities and it also offers child development services to student, faculty, staff, and community families.

### **Midwest Center for Community Education Development - 205 Service Bldg.**

Graduate students interested in community and continuing education may receive assistance from the Center in the form of information,

materials, and training programs. Fellowships are sometimes available. The Center also serves Missouri and Kansas in the promotion and development of community schools and community and continuing education. It is a cooperative venture of the School of Education and Continuing Education-Extension and is supported both by foundation grants and university funds.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this Course Description section, refer to p. 55 in this *Bulletin*.

Prerequisites may be waived by consent of department.

### **Education (EDUC)**

#### **65 The University (3)**

An interdisciplinary course on the principles, development, and organized structure of the university. Special emphasis will be placed on the role of the university in modern society and upon forces affecting the direction of the university and its potential for change. Methods include outside speakers, discussion groups, and laboratory research on UMSL.

#### **204 Special Topics in Education (1-3)**

Prerequisite: Completion of 75 hours and consent of instructor. Examination of a special area or topic within the field of education. Topics to be considered will be announced prior to registration and may vary. For elective credit only. This course may be repeated for different topics. Not to exceed a total of 6 hours credit.

#### **297 Independent Study (1-3)**

Prerequisite: Completion of 75 hours and consent of instructor. Independent study through readings, research, reports, and conferences designed to provide depth in areas of study previously introduced in education courses. For elective credit only. May be repeated; not to exceed a total of 3 hours credit.

#### **306 Graduate Workshop (Credit arranged)**

Prerequisite: Consent of instructor.

#### **308 Graduate Institute (Credit arranged)**

Prerequisite: Consent of instructor.

#### **393 Practicum in Individualized Instruction (3-6) (F,W)**

Prerequisite: Completion of the course(s) to which assigned for instruction and consent of instructor. Supervised instruction in individualized programs. Seminar accompanies instructional experience. May be repeated.

## Support Services

### **408 Graduate Institute (1-10)**

Prerequisite: Consent of instructor.

### **414 Seminar I (3)**

Prerequisite: Admission to doctoral program in education and adviser's consent. Common doctoral seminar. A core studies requirement in the Ed.D. program. Six hours required. Limited to doctoral students only.

### **415 Seminar II (3)**

Prerequisite: Admission to the doctoral program in education and adviser's consent. Emphasis area doctoral seminar. A role specialization requirement in the Ed.D. program. Six to 12 hours required. Limited to doctoral students only.

### **490 Internship (1-10)**

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a

graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

### **491 Staff Development and Professional Growth (1-10)**

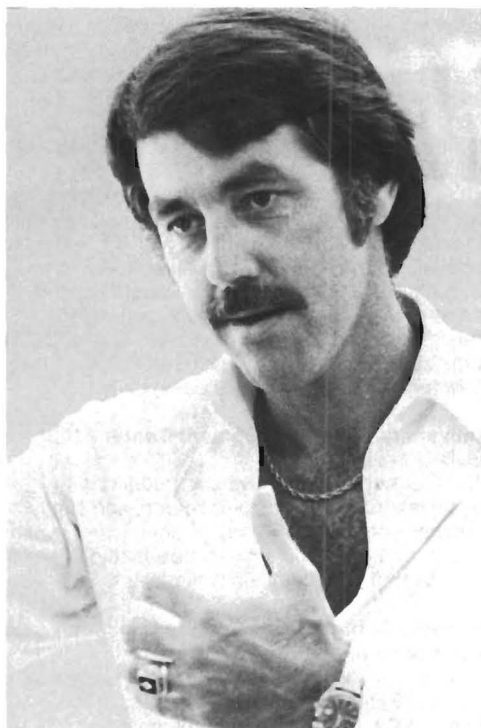
Designed in conjunction with an individual school district or educational agency and related to problems of education confronting that specific district or agency.

### **497 Thesis Research (1-10)**

Prerequisite: Consent of instructor

### **499 Dissertation Research (1-12)**

Prerequisites: Admission to candidacy in the Ed.D. program. Credit awarded only upon successful defense of the dissertation.





# Administration, Foundations, and Secondary Education

## Faculty

**Robert J. Starr**, Chairperson, Associate Professor\*

Ed.D., University of Missouri-Columbia

**H. E. Mueller**, Professor\*, Director of Admissions and Registrar

Ed.D., University of Missouri-Columbia

**Harold E. Turner**, Professor\*

Ed.D., George Peabody College

**Henry R. Weinstock**, Professor\*

Ed.D., University of Georgia

**Joy E. Whitener**, Professor\*, Dean of Evening College

Ed.D., Washington University

**Walter Ehrlich**, Associate Professor\*

Ph.D., Washington University

**Charles J. Fazzaro**, Associate Professor\*

Ed.D., West Virginia University

**Richard J. Friedlander**, Associate Professor\*

Ph.D., University of California-Los Angeles

**Charles R. Granger**, Associate Professor\*

Ph.D., University of Iowa

**Donald R. Greer**, Associate Professor\*, Director of Instructional Technology Center

Ph.D., University of Missouri-Columbia

**Jon C. Marshall**, Associate Professor\*

Ed.D., University of Kansas

**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

**Blanche M. Touhill**, Associate Professor\*, Associate

Vice Chancellor for Academic Affairs

Ph.D., St. Louis University

**Paul D. Travers**, Associate Professor\*

Ed.D., George Peabody College

**Fred Willman**, Associate Professor\*

Ph.D., University of North Dakota

**Edith M. Young**, Associate Professor\*

Ed.D., University of Missouri-Columbia

**A. Nancy Avakian**, Assistant Professor\*, Assistant Vice

Chancellor for Academic Affairs

Ed.D., State University of New York, Albany

**Susan H. Bannon**, Assistant Professor\*

Ed.D., Louisiana State University

**Charles Hicks**, Assistant Professor\*

Ph.D., Michigan State University

**Jane A. Miller**, Assistant Professor\*

Ph.D., Tulane University

**Wendell L. Smith**, Assistant Professor\*, Dean of

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Ph.D., Ohio State University

**William Venable**, Assistant Professor\*, Assistant

Director, Midwest Community Education Development

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Ph.D., University of Michigan

**James E. Walter**, Assistant Professor\*

Ph.D., University of Wisconsin-Madison

**Jane Z. Flinn**, Instructor

M.A., University of Pennsylvania

M.Ed., University of Toronto

\*members of Graduate Faculty

The faculty of the Department of Administration, Foundations, and Secondary Education (AFSE) are housed on the second floor of the Education Office Building. Answers to questions about the department and its offerings may be obtained from the department office, 269 EOB.

## Program Information

The department coordinates programs that prepare students for teaching these subjects in secondary schools (grades 7-12): biology, chemistry, English, French, German, mathematics, music, physics, social studies, 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 arts and sciences plus certification, or the bachelor of science in education degree which includes Missouri certification. Business education students have only the latter option.

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 in Adult Basic Education, secondary education with emphasis in reading, and secondary education and certification. It also 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.

## Administration, Foundations, and Secondary Education

### 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, (see p. 19 in this *Bulletin*) and the following education and psychology courses meeting the state professional education standards:

#### Program Requirements

##### 24 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  
**SEC ED 290**, Secondary School Student Teaching  
**SPC ED 313**, The Psychology and Education of Exceptional Individuals

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.

Postdegree certification students may take ED FND 330, History of American Education, in lieu of ED FND 111.

#### 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: economics, history, political science, psychology, or sociology; and meet these minimum social science requirements: American history, 9 hours; European or world history, 9 hours; United States

and/or state government, 6 hours; economics, 3 hours; sociology, 3 hours; geography, 3 hours.

#### Electives

17-27 hours

**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 (see p. 19 in this *Bulletin*) and the following education and psychology courses:

#### Program Requirements

##### 24 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  
**SEC ED 267**, Curriculum and Methods of Teaching Business Subjects  
**SEC ED 290**, Secondary School Student Teaching  
**SPC ED 313**, The Psychology and Education of Exceptional Individuals

Postdegree certification students may take ED FND 330, History of American Education, in lieu of ED FND 111.

#### 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

# Administration, Foundations, and Secondary Education

**Note** Grades of C or better are required in all courses in the academic major and in SEC ED 267 and 290.

## Electives

21 hours to be selected only after consulting with an adviser.

**Total: 120 hours**

## Graduate Studies

### Master of Education: Secondary Education

The M.Ed. program with specialization in secondary education is flexibly designed to allow for the special interests of teachers, department chairpersons, curriculum workers, and instructional supervisors.

Candidates' programs may be planned to range from 8 hours in the teaching field and 24 hours in professional courses to 23 hours in the teaching field and 9 hours in professional courses. Programs must be planned with advisers and meet the approval of the department, school, and Graduate School.

### Degree Requirements

The minimum 32-hour program includes the following requirements and recommendations:

#### 1 Educational Foundations

**ED FND 421**, Philosophy of Education  
See adviser for requirements.

#### 2 Teaching Field

8 hours required. Courses approved by the Graduate School for M.Ed. programs are to be selected in consultation with an adviser in the candidate's teaching field.

#### 3 Secondary Education

At least 3 hours in one or more of the following

**Secondary Education** or other courses:

**SEC ED 415**, The Secondary School Curriculum  
**SEC ED 416**, Curriculum Construction for Secondary Schools  
**SEC ED 420**, The Improvement of Secondary School Teaching  
**EVL MS 431**, Classroom Measurement and Evaluation II  
**ED S&R 427**, Educational Statistics

#### 4 Electives

Additional courses may be taken in the School of Education and/or the teaching field to provide a consistent program.

### 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 candidate'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

The minimum 32-hour program includes the following requirements and recommendations:

#### 1 Educational Foundations

**ED FND 421**, Philosophy of Education  
See adviser for requirements.

#### 2 Teaching Field

Eight or more hours are required to be selected in consultation with an advisor 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  
**EDUC 490**, Internship or **ED ADM 497**, Problems

#### 3 Secondary Education

At least 3 hours in one or more of the following courses:

**SEC ED 415**, The Secondary School Curriculum  
**SEC ED 416**, Curriculum Construction for Secondary Schools  
**SEC ED 420**, The Improvement of Secondary School Teaching  
**EVL MS 431**, Classroom Measurement and Evaluation II  
**ED S&R 427**, Educational Statistics

#### 4 Electives

Additional courses may be taken in the School of Education and/or teaching field to provide a consistent program

### 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

## Administration, Foundations, and Secondary Education

\*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.

### 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 UMSL 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

The minimum 32-hour program includes the

following requirements and recommendations:

#### 1 Educational Foundations

**ED FND 421**, Philosophy of Education  
See adviser for requirements.

#### 2 Secondary Education

At least 3 hours in one or more of the following **Secondary Education (SEC ED)** or other courses:

**SEC ED 415**, The Secondary School Curriculum

**SEC ED 416**, Curriculum Construction for Secondary Schools

**SEC ED 420**, The Improvement of Secondary School Teaching

**EVL MS 431**, Classroom Measurement and Evaluation I

**ED S&R 427**, Educational Statistics

#### 3 Courses in Reading

Required courses in reading must 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

All of the above are required for certification in reading by Missouri Teacher Certification regulations.

#### 4 Teaching Field

Courses approved for the M.Ed. program in candidates' teaching fields are to be selected in consultation with an adviser.

### Master of Education: Secondary Education and Certification

The M.Ed. in secondary education requires a minimum of 32 hours of graduate credit. If certification is obtained with undergraduate courses alone, students must take an additional 24 hours of professional preparation for a total of 56 hours. Under the combined program, up to 15 hours may be applied to both the M.Ed. and certification, reducing the necessary total to a minimum of 42 hours.

# Administration, Foundations, and Secondary Education

## Degree Requirements

### Required and Recommended Courses

#### 1 Professional Requirements

**SEC ED 2XX**, Curriculum and Methods of Teaching \_\_\_\_\_

**SEC ED 290**, Secondary School Student Teaching

#### 2 Certification and M.Ed. Requirements

**ED PSY 312**, The Psychology of Teaching and Learning

**ED PSY 418**, The Psychology of Adolescence

**SPC ED 412**, Psychology of Exceptional Children

**ED FND 421**, Philosophy of Education

**SEC ED 420**, The Improvement of Secondary School Teaching

#### Electives

Selected graduate courses, including at least 8 hours in the teaching specialty.

#### 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).

#### Master of Education: Educational

**Administration** The M.Ed. degree in educational administration may be earned upon completion of a minimum of thirty-three (33) credit hours of a planned program. The student must submit a planned program before completing twelve (12) of the required credit

hours. The planned program must include those courses marked with an asterisk listed in the following pages under **1 Common Educational Foundations**, and **2 Administrative Foundations**. The remainder of the courses should be selected from those listed under **3 Technical Aspects of Educational Administration**, and **4 Human Aspects of Educational Administration**. The student is expected to earn from nine (9) to twelve (12) credit hours from **both** elective areas 3 and 4.

Persons who complete the M.Ed. in either elementary or secondary school administration and possess a Missouri elementary teaching certificate or a Missouri secondary teaching certificate qualify for either a Missouri elementary principal's or Missouri secondary principal's certificate. Under current State regulations, however, persons who complete **only** the M.Ed. meet the requirements for principals in schools rated A or AA or assistant principals in schools rated AAA.

Those who wish to become elementary or secondary principals or directors but who do not possess a Missouri elementary teaching certificate or a Missouri secondary teaching certificate may have to take additional courses. Such persons should contact a member of the educational administration faculty for advice.

#### Advanced Certification Studies in Educational Administration

The Advanced Certification Studies (ACS) program is a natural extension of the M.Ed. program in educational administration. It is a planned sixty credit-hour course of study. While persons completing the ACS do not receive an additional graduate degree, such as the educational specialist, they do qualify for certification as principals in AAA rated elementary or secondary schools. The appropriate two-year course of studies also qualifies persons to be directors of elementary or secondary education in Missouri school districts.

So that students who already have an appropriate master's degree from UMSL or another NCATE accredited institution do not have to take an inordinate number of courses, flexibility has been planned into the ACS program. Advisers can provide assistance in evaluating previous work and planning the ACS.

## Administration, Foundations, and Secondary Education

**Master of Education: Educational Administration and Advanced Certification Studies** The recommended curriculum for the M.Ed. in educational administration includes 32 semester hours; for the ACS, it is 60 hours.

### Degree Requirements

#### 1 Common Educational Foundations

(9 hours required for M.Ed.; 12 hours for ACS)

**ED FND 421**, Philosophy of Education

**\*ED PSY 411**, Psychology of Learning Processes or **SPC**

**ED 412**, Psychology of the Exceptional Child

**EVL MS 431**, Classroom Measurement and Evaluation  
II or **ED S & R 430**, Research Design for Educators

**ED S & R 427**, Educational Statistics (ACS only)

\*Students who have already had a graduate or undergraduate course related to Educational Psychology or Psychology of the Exceptional Child **need not** take ED PSY 411.

#### 2 Administrative Foundations

(15 hours required for both M.Ed. and ACS)

**ED ADM 414**, Foundations of Educational Administration

**ED ADM 411**, Theory and Organizational Development in Educational Administration

#### For elementary school administration

**ED ADM 441**, Elementary School Administration  
(Prerequisite **ED ADM 411**)

**ELE ED 425**, Elementary School Supervision

**ELE ED 410**, Elementary School Curriculum

#### For secondary school administration

**ED ADM 451**, Secondary School Administration  
(Prerequisite **ED ADM 411**)

**SEC ED 425**, Secondary School Supervision

**SEC ED 415**, Secondary School Curriculum or

**SEC ED 416**, Curriculum Construction for Secondary Schools

#### 3 Technical Aspects of Educational Administration

(Electives, 3-6 hours for M.Ed., 12-18 hours for ACS)

**ED ADM 460**, Legal Aspects of Educational Administration

**ED ADM 465**, State and Federal Financing of Public Education

**ED ADM 466**, Principles of Public School Finance in Missouri

**ED ADM 425**, The Administration of Organizational Change Strategies in Schools

**ED ADM 429**, The Department Head

**ED ADM 475**, School Buildings and Sites

**ED ADM 480**, Administration of Adult and Community Education

**ED ADM 481**, Programming in Community Education

**ED ADM 485**, Financing of Community Education

**SEC ED 418**, The Junior High School

#### For elementary school administration

**ELE ED 422**, Curriculum Construction in Elementary Schools

**ELE ED 411**, The Elementary Teacher: Humanizing Decision-Making

#### For secondary school administration

**SEC EC 420**, Improvement of Secondary School Teaching

**SEC ED 422**, Individualizing Instruction in Secondary Schools

**SEC ED 416**, Curriculum Construction for Secondary Schools

**ED ADM 456**, Extracurricular Activities

#### 4 Human Aspects of Educational Administration

(Electives, 3-6 hours for M.Ed., 12-18 hours for ACS)

**ED ADM 470**, Administration of Professional Personnel

**ED ADM 422**, Leadership in School District Administration

**ED ADM 432**, Problems in School Public Relations

**ED ADM 416**, Educational Administration and Policy Making

**ED ADM 473**, Professional Negotiations in Educational Organizations

**ED FND 422**, Analysis of Education Issues

**ED FND 435**, History of Western Education

#### For elementary school administration

**ED PSY 417**, Psychology of the Elementary School Child

#### For secondary school administration

**ED PSY 418**, Psychology of Adolescence

**Master of Education: Educational Administration with Emphasis in Community Education** This is a 32 semester hour program for those students interested in Community Education.

# Administration, Foundations, and Secondary Education

## Degree Requirements

### 1 Common Educational Foundations

(9 hours required)

**ED FND 421**, Philosophy of Education

**\*ED PSY 411**, Psychology of Learning Processes or **SPC**

**ED 412**, Psychology of the Exceptional Child 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 Educational Psychology or Psychology of the Exceptional Child **need not** take ED PSY 411.

### 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**, Elementary School Curriculum

#### For secondary administration community education

**ED ADM 451**, Secondary School Administration

**SEC ED 425**, Secondary School Supervision

**SEC ED 415**, Secondary School Curriculum or **SEC ED 416**, Curriculum Construction for Secondary Schools

### 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

**EDUC 490**, Internship

### 4 Recommended Electives

**ED ADM 485**, Financing of Community Education

**ED ADM 432**, Problems in Public School Relations

**ED ADM 460**, Legal Aspects of Educational Administration

**ED ADM 465**, State and Federal Financing of Public Schools

**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 6 hours in one of these fields.

### 6 Internship or Field Study

(Required ACS only)

**EDUC 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, 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.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of the department. \*Starred prerequisites may be taken concurrently with listed offering.



## Administration, Foundations, and Secondary Education

### Adult Education (ADU ED)

#### 310 Community and Adult Education (3)

Prerequisites: For upper division students, practitioners, or by consent of instructor. This course presents an overview of the models, practices, programs and processes of community and adult education.

#### 311 Teaching Basic Reading Skills to Adults (3)

Prerequisite: None. Description: A study of the reading process and of the characteristics of adult learners with a focus on instructional techniques and materials useful in upgrading the performance of adults with deficient reading skills.

#### 412 Foundations of Adult Education (3)

Prerequisite: None. A comprehensive systematic foundation for adult education. It will relate, (a) the pragmatic philosophy and objectives of adult education in America to (b) the continuing education of the adult in a progressive social context.

#### 413 Improvement of Instruction in Adult Education (3)

Prerequisites: ADU ED 412 or consent of instructor. A study of selected methods and instructional techniques appropriate for the teaching of adults. An examination of current research will be made as it relates to the problems of instructing adults.

#### 414 Curriculum Theory and Development in Adult Education (3)

Prerequisites: ADU ED 412 and ADU ED 413 or consent of instructor. A study of curriculum theory and its application to adult education. Particular emphasis will be placed on the development of model curricula for various programs in adult education.

#### 425 Principles of Business Education (3)

Prerequisite: Business education certification and consent of instructor. Designed for the business education teacher, this course examines in depth the principles, practices, and problems of business education programs. It emphasizes research into historical and philosophical implications, the influence of contemporary attitudes on business education, evaluation of current programs, and development of innovative approaches. It may be applied toward Missouri vocational business education certification.

#### 426 Coordination of Cooperative Education Programs (3)

This course deals with student selection procedures; coordinating vocational instruction and planned employment experiences; research techniques for collecting and analyzing data for process and product evaluation; procedures for implementing new ideas and innovations in cooperative education programs. The course is designed for vocational teachers interested in secondary school cooperative programs, and teachers who wish to qualify as coordinators of cooperative education programs.

#### 427 Improvement of Instruction in Secretarial Subjects (3)

Prerequisite: Business education certification and consent of instructor. Designed for business education teachers, this course examines current trends in planning, organizing, developing, and evaluating instructional materials relevant to business education classes. Emphasis is placed on research techniques and strategies for selecting and utilizing appropriate curriculum materials, resources, and media to match learning needs.

#### 435 Problems of Teaching College Biology (3)

Prerequisite: Teaching experience, 30 semester hours in biology, and consent of instructor. Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

### Educational Administration (ED ADM)

#### 404 Seminar (1-10)

#### 411 Theory and Organizational Development in Educational Administration (3)

Course designed to examine the theory and organizational development in the area of educational administration. A comprehensive examination of the work of scholars in the field will provide an insight into practical functions of theory.

#### 414 Foundations of School Administration (3)

Emphasis on processes common to all phases of educational administration. Conceptual framework for administration of education, decision-making, and organization theory.

#### 416 Educational Administration and Policy Making (3)

Prerequisites: ED ADM 411 and ED ADM 414. Description: This course will provide the prospective school administrator with a unified, comprehensive, and systematic approach to the understanding of the role of the school administrator in policymaking in American public education.

#### 422 Leadership in Educational Administration (3)

Course is designed to acquaint the administrator with the factors of groups and interpersonal relationships directly affecting him in his job performance. The consequences of various types of group relationships upon the institution will be studied in detail. The administrator will study various rationales for and methods of improving interpersonal relationships within his institution.

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## **425 Administration or Organizational Change Strategies in Schools (3)**

Prerequisite: ED ADM 414. This course deals with (1) developing strategies for assessing educational needs, (2) methods of assessing the school's "organizational health," (3) the designing of educational change strategies involving theory-based models, (4) using systems analysis techniques to successfully implement educational change, and (5) methods of involving students and staff in incorporating meaningful organizational change strategies in educational institutions.

## **430 School District Administration (3)**

Prerequisites: ED ADM 414 or consent of instructor. This course will focus on current research about School District Administration. It will also deal with major central office issues including: Board-Superintendent relations, Central office organization, the function and authority of assistant superintendents and program directors, the administrative team approach to school district administration.

## **432 Problems in School Public Relations (3)**

Principles of good public school relations, unique public functions of various school and community groups. Techniques for conducting school public relations.

## **441 Elementary School Administration (3)**

Specialized course in elementary school administration for school administrators, supervisors, and teachers.

## **451 Secondary School Administration (3)**

Specialized course in secondary school administration for school administrators, supervisors, and teachers.

## **456 Extracurricular Activities (3)**

Activities related to the extracurricular program of secondary schools will be studied in depth. Analysis of appropriate activities will include the nature and purposes of these activities.

## **460 Legal Aspects of Educational Administration (3)**

Principles of law as derived from court decisions; statutory and constitutional provisions affecting education. Legal status (power and responsibilities) of school board members, superintendents, principals, teachers, and pupils.

## **465 State and Federal Financing of Public Education (3)**

Economic implications of public education. Determination of policy and practice in financing of public schools by local, state, and federal agencies. Developing principles of adequate tax programs and designing systems of state support of public education.

## **466 Principles of Public School Finance in Missouri (3)**

Course is designed to analyze and study critical areas of public school finance at the local and state levels, highlighting the role of such factors as legislative procedures, principles of local and state support, budgeting and accounting procedures, assessment of property, etc.

## **470 Administration of Professional Personnel (3)**

Problems of procurement, employment, induction, in-service development, salary, negotiation, and welfare policies influencing professional personnel of schools.

## **473 Collective Negotiations in Educational Organization (3)**

Prerequisites: None. This course focuses on the concepts, issues, and processes involved with collective negotiations (bargaining) in American educational organizations. The major issues addressed in the course include: recognition procedures, bargaining unit determination, the scope of negotiations, the proposal and counter-proposal compromise, impasse procedures, and master contract management.

## **475 School Buildings and Sites (3)**

Course is designed to acquaint the administrator with methods and procedures for projecting future building and facility needs of a public school district and for supervising actual planning of facility construction. Maximizing utilization of current facilities will be studied in detail.

## **480 Administration of Adult and Community Education (3)**

Prerequisite: None. A course designed to familiarize the student with the structure, purpose, and processes of community education with particular emphasis being placed on the administrative theories and functions of adult education.

## **481 Programming in Community and Adult Education (3)**

Prerequisite: ED ADM 480. Study and analysis of basic situations in which community and adult educational programming take place. Within this framework, application will be made of a fundamental series of steps essential to sound educational programming.

## **485 Financing of Community Education (3)**

Prerequisite: None. The student will develop the necessary skills needed to construct an operational budget for the administration of community education programs. Emphasis will be placed on developing a support base from federal, state, and local funding resources. The student will be exposed to proposal writing and funding procedures.

## **497 Problems (1-10)**

## Administration, Foundations, and Secondary Education

### Educational Foundations (ED FND)

#### 111 The School In Contemporary Society (3)

Prerequisites: None. The introductory course in teacher education. An examination of the organization and purpose of the school in its social setting. Selected representative educational themes and issues will be studied. Required of students admitted to the School of Education. Prerequisite to other professional courses

#### 251 Black Americans in Education (3)

An examination and analysis of conditions affecting the education of black Americans and their schools, with emphasis on relationships between schools and the black community, and needed changes in education.

#### 330 History of American Education (3) (F,W)

Prerequisite: A course in American history or consent of instructor. An overview of the evolutionary development of American educational theory and practice from the early colonial period to the present. Attention is also given to selected issues in professional education.

#### 332 Progressivism and Modern American Education (3)

Relationship between American progressive school theory and contemporary classroom practices, including the open classroom, the community school, the alternate school, open admissions, and learning by individual contract. Trends will be interpreted in the light of various roles of the classroom teacher in the modern school.

#### 340 Comparative Education (3)

A comparative study of representative systems of education in South America, Europe, and Asia in contrast with the American system.

#### 410 Development and Organization of Urban School Systems (3)

An examination and analysis of the development and existing conditions affecting urban education, with emphasis on current efforts to bring about quality education in urban areas. A review of current projects and research as well as the effect of these projects upon the school systems would be included.

#### 421 Philosophy of Education (3)

A study of the fundamentals of education in the light of modern science and philosophy.

#### 422 Analysis of Educational Issues (3)

Prerequisite: A course in philosophy of education or a course in history of education, or consent of instructor. A critical examination of issues about the elementary and secondary schools. This is done through the analysis of the procedures, resources, and goals that guide school policies and practices.

#### 435 History of Western Education (3)

A course designed to survey the educational development of western civilization from approximately the eighth century B.C. to the present. Salient educational theory and practice will be considered in its appropriate social context.

#### 497 Problems (1-10)

### Educational Statistics and Research (ED S & R)

#### 320 Educational Statistics (3)

Statistical methods for teachers, supervisors, superintendents, and beginning graduate students. Frequency distributions, measures of central tendency, variability, sampling, and correlation.

#### 426 Multifactor Analysis in Education (3)

Prerequisite: ED S & R 427 or equivalent. Description: Classical parametric statistical procedures for analyzing data in which there are two or more independent factors. Primary emphasis is on factorial design. Both analysis of variance and covariance are considered.

#### 427 Educational Statistics (3)

Statistical methods for teachers, supervisors, superintendents, and beginning graduate students.

#### 428 Nonparametric Statistics in Education (3)

Prerequisites: ED S&R 427 or equivalent. Description: Attention is given to alternate analysis procedures to the classical parametric statistics. The nonparametric methods have less stringent data requirements than their parametric counterparts and are thus often more adaptable to much of the behavioral research.

#### 429 Advanced Test Theory in Education (3)

Prerequisites: ED S & R 427 and EVL MS 432 or equivalent. Description: Statistical test theory procedures are presented. True and error score theory in mental measurement and its effect upon other statistical procedures are considered.

#### 430 Research Design for Educators (3)

A primarily non-quantitative course surveying the various techniques and strategies available to the educational researcher for the design and execution of research, as well as for the evaluation of research carried out by others.

### Educational Technology (ED TEC)

#### 245 Audio-Visual Equipment Operation for Classroom Teachers (1)

Prerequisite: None. An entry-level course for all teacher

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education students. May be taken concurrently with ED TEC 246. A self-paced, modularized, and criterion-referenced course. Students will demonstrate competence in operating standards audio-visual equipment normally found in the schools.

## **246 Preparation of Inexpensive Materials for the Classroom (1)**

Prerequisite: None. An entry-level course for teacher education students. May be taken concurrently with ED TEC 245. A lecture-demonstration laboratory course in material preparation for classroom use.

## **247 Integration of Media and Materials in Instructional Planning (1)**

Prerequisite: ED TEC 246 and for secondary education students, SEC ED 213. Course concentrates on the integration of media and materials in lesson planning. Through lecture, demonstration, and individualized instruction the student designs an instructional unit and prepares appropriate material for that unit. ED TEC 246 must be taken prior to, or concurrently with, this course.

## **340 Selection and Utilization of Educational Media (3) (F,W,S)**

Introduction to the selection, use, and evaluation of audio-visual materials and equipment including films, slides, transparencies, projectors, globes, charts, maps, bulletin boards, plus programmed materials, information retrieval systems, and instructional television.

## **345 Preparation of Graphic Materials for Audio-Visual Education (3)**

Prerequisite: ED TEC 340 or consent of instructor. Not open to lower-division students. A lecture-demonstration-laboratory course that emphasizes the graphic arts component of audio-visual material production. Theories of learning and communication are used in the design and production of materials used for classroom settings.

## **346 Instructional Television (3)**

Prerequisite: ED TEC 340 or consent of instructor. Not open to lower-division students. A lecture-demonstration-laboratory course designed to concentrate on the use of instructional television in formal and informal learning situations. Basic scriptwriting, management of ITV systems, and design and production of low-budget programs will be emphasized.

## **353 Principles of Photographic Production for Education (3)**

Prerequisite: ED TEC 340 or consent of instructor. A lecture-demonstration-laboratory course which stresses the application of theories of learning, perception, and retention to the visual medium of still photography. Emphasis on designing and producing photographic material that enhances the teaching-learning process.

## **354 Principles of Motion Picture Production for Education (3)**

Prerequisite: ED TEC 340 or consent of instructor. Open to lower-division students. A lecture-demonstration-laboratory course. Emphasis on application of theories of learning, perception, and retention as they relate to motion picture production. Special attention will be given to the design and production of motion picture material that enhances the teaching-learning process.

## **404 Seminar in Educational Technology Research (3)**

Prerequisite: ED TEC 340 and 12 hours of graduate work in educational technology. Open to graduate students who have completed 12 hours of work in educational technology. A review of research in educational technology with individual indepth study. The student selects a research problem in conjunction with the instructor and completes a review project.

## **432 Educational Technology Systems Design (3)**

Prerequisite: ED TEC 340. A lecture-demonstration course in the application of learning theory to the design of audio-visual materials. Emphasis on educational technology systems design, objectives, constraints, limitations, and evaluation. Methods of analyzing target populations and instructional demands along with decision-making models will be reviewed.

## **433 Educational Technology Systems Management (3)**

Prerequisite: ED TEC 340. Basic principles of management in design and operation of media programs and systems in various educational settings. Emphasis on strategies and alternative structures for achieving and evaluating functions of media centers.

## **435 Diffusion and Adoption of Innovations in Educational Technology (3)**

Prerequisite: ED TEC 340. A lecture course designed to provide an overview of the diffusion and adoption of technical innovations in the educational system. This course will include the technological, sociological, psychological, and political aspects of the process of diffusion and adoption. Various models, techniques, and applications of the diffusion and adoption process emphasized.

## **446 Advanced Instructional Television Production (3)**

Prerequisite: ED TEC 340 and 346. Advanced management, scriptwriting, and production of ITV programs. Laboratory activities in production of systematically designed instruction. Each student will produce ITV programs involving writing, production of graphics, directing, editing, and validating the programs. Education 375 is strongly recommended prior to taking this course.

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### **493 Practicum In Educational Technology (3)**

Prerequisites: ED TEC 340 or consent of instructor. Focus is on the application of principles of instructional development to teaching problems in educational technology. Selecting, developing, adapting, and using instructional technology appropriate to the specific teaching problems is an integral part of the course.

### **Secondary Education (SEC ED)**

#### **160 Shorthand Theory I (2) (F)**

Prerequisite: Typewriting. Study of Gregg Shorthand Theory with emphasis on reading, writing, and taking dictation at moderate rates. Not open to students with previous training in Gregg Shorthand Theory.

#### **161 Shorthand Theory II (2) (W)**

Prerequisite: Shorthand Theory I or equivalent and Business and Professional Typewriting I or equivalent. Review of Gregg Shorthand Theory; development of speed and accuracy in taking dictation; emphasis on transcribing techniques and office-style dictation.

#### **162 Business and Professional Typewriting I (2) (F)**

Prerequisite: Beginning typewriting. Review of typewriting techniques and skills; development of speed and accuracy; instruction in the preparation of business and professional papers and forms with emphasis on word processing and secretarial typing.

#### **163 Business and Professional Typewriting II (2) (W)**

Prerequisite: Business and Professional Typewriting I or equivalent. Preparation of business and professional papers and forms in simulated office situations; instruction in typing short cuts.

#### **213 Techniques of Secondary School Teaching (3) (F,W,S)**

Prerequisite: ED FND 111 and admission to the School of Education. Activities and interaction of teachers and pupils in development of conditions for learning in secondary schools. Analysis of teaching-learning process and examination of studies of teaching.

#### **222 Middle School-Junior High School Organization, Philosophy and Curriculum (3)**

Prerequisites: ED FND 111. Description: A study of the unique history, goals and organization of the middle school-junior high school with a focus on curriculum and instruction. Intended to aid future teachers interested in specializing in Middle School-Junior High school teaching

#### **232 The Curriculum and Methods of Teaching English (3) (F,W)**

(Same as English 262). Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the English courses in the school

curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of English. To be taken concurrently with student teaching.

#### **240 The Curriculum and Methods of Teaching Physical Sciences (3) (F)**

(Same as Chemistry 280 and Physics 280) Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken concurrently with student teaching.

#### **244 Laboratory in Teaching the Life Sciences (2)**

(same as Biology 286) Prerequisite: SEC ED 213. Discussion, development, utilization and evaluation of equipment, materials and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 285/SEC ED 245.

#### **245 The Curriculum and Methods of Teaching the Life Sciences (3) (W)**

(Same as Biology 285) Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the life sciences courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken concurrently with student teaching.

#### **246 The Curriculum and Methods of Teaching Mathematics (3) (W)**

Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the mathematics courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of mathematics. To be taken concurrently with student teaching.

#### **255 The Curriculum and Methods of Teaching History and Social Studies (3) (F,W)**

(Same as History 265) Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the history and social studies courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of

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the scholar in the field of history and social studies (not counted as credit for a major in history) To be taken concurrently with student teaching.

## **261 Methods of Teaching Typewriting (3) (F)**

Prerequisite: Intermediate typewriting or equivalent. Instruction in the methods and techniques used to teach basic and advanced typewriting.

## **262 Methods of Teaching Shorthand (3) (F)**

Prerequisite: Gregg Shorthand Theory II and transcription or equivalent. Instruction in methods and techniques used in teaching Gregg shorthand, dictation, and transcription with emphasis on planning and organizing a shorthand laboratory and a secretarial practice laboratory.

## **263 Methods of Teaching Accounting and Data Processing (3) (W)**

Prerequisite: Business Administration 140, 340, or equivalent. Methods and techniques of teaching data processing and accounting in the secondary schools.

## **264 Methods of Teaching Social Business Subjects (3) (F)**

Prerequisite: Economics 51, Business Administration 106, 156, and 256. Methods and techniques of teaching general business, business law, economics, consumer economics, and business principles and management in the secondary curriculum.

## **265 Secretarial Practice (3) (W)**

Prerequisites: SEC ED 161 and 163 or consent of instructor. Study of secretarial office procedures; office-style dictation for transcription; word processing; office machines; and record management.

## **267 Curriculum and Methods of Teaching Business Subjects (3) (F,W)**

Prerequisite: SEC ED 213, 261, 262, 263 and 292 and a near major in the subject matter. Study of the scope and sequence of business education courses in the high school curriculum, with emphasis on business English, distributive education programs, organizations, and publications. Attention is also directed toward learning the techniques and research tools of the scholar in the field of business education. To be taken concurrently with student teaching. Course meets first four weeks and last week of semester.

## **273 The Curriculum and Methods of Teaching Art (3)**

Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of art courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of art. To be taken concurrently with student teaching.

## **274 The Curriculum and Methods of Teaching Foreign Language (3) (F,W)**

(Same as French 264, German 264, and Spanish 264) Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of foreign language. To be taken concurrently with student teaching.

## **275 Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)**

Prerequisites: Music 112, Music 257/ELE ED 277, and ED FND 111. Concurrent registration in Music 261, Music 268/SEC ED 276 or Music 269/SEC ED 277 and Music 270/SEC ED 278 or Music 271/SEC ED 279. For the music education major. A study of the secondary school music program: curricular objectives, philosophy, and general administrative procedures common to all secondary music classes.

## **276 Curriculum and Methods of Teaching Elementary/Middle School/Junior High Instrumental Music (2)**

Prerequisites: Music 112, Music 257/SEC ED 277 and ED FND 111. Concurrent registration in Music 261, Music 267/SEC ED 275 and Music 270/SEC ED 278. A study of the teaching techniques, materials, curriculum, and organization of the beginning instrumental music program in the elementary and middle school/junior high school.

## **277 Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)**

Prerequisites: Music 112, Music 257/ELE ED 277, and ED FND 111. Concurrent registration in Music 261, Music 267/SEC ED 275 and Music 271/SEC ED 279. For the music education major. A study of the middle school/junior high school general music program emphasizing a conceptually based curriculum: objectives, methodologies, materials, innovations, classroom organization and management.

## **278 Curriculum and Methods of Teaching High School Instrumental Music (2)**

Prerequisites: Music 112, Music 257/ELE ED 277, and ED FND 111. Concurrent registration in Music 261, Music 267/SEC ED 275, Music 268/SEC ED 276. For the music education major. A study of the high school instrumental music program: curriculum, methods, teaching techniques, organization, and administrative procedures for instrumental performance classes.

## **279 Curriculum and Methods of Teaching Secondary Choral Music (2)**

Prerequisites: Music 112, Music 257/ELE ED 277, and ED FND 111. Concurrent registration in Music 261,



## Administration, Foundations, and Secondary Education

Music 267/SEC ED 275, Music 269/SEC ED 277. For the music education major. A study of the secondary choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes.

### **290 Secondary School Student Teaching (6) (F,W)**

Prerequisite: SEC ED 213 and admission to student teaching. Clinical teaching experience in secondary school classrooms under university and school supervision. To be taken concurrently with appropriate curriculum and methods course.

### **292 Field Experience and Seminar in Secretarial Practice (3).**

Prerequisite: ED FND 111, SEC ED 265, and admission to the School of Education. Practical experience in office procedure. To be taken before student teaching.

### **293 Student Teaching in Music Education, K-6 (5)**

Prerequisites: ELE ED 210, SEC ED 213, Music 257/ELE ED 277, Music 267/SEC ED 275; Music 118, Music 268/SEC ED 276, Music 270/SEC ED 278 (instrumental emphasis majors); Music 120, Music 269/SEC ED 277, Music 271/SEC ED 279 (Choral/Vocal emphasis majors); and admission to student teaching. Must be taken "in block" with SEC ED 294 and must immediately precede it in the semester. Clinical teaching experience in music education settings in the schools under university and school supervision with seminar included. Required for all majors in music education.

### **294 Student Teaching in Music Education, 7-12 (5)**

Prerequisite: SEC ED 293. Must be taken "in block" with SEC ED 293 and must immediately follow it in the semester. Clinical teaching experience in music education settings in the schools under university and school supervision with seminar included. Assignments will be in different settings from those of SEC ED 293. Required for all majors in music education.

### **312 Secondary School Curriculum (3)**

Prerequisite: SEC ED 213. Sources, scope, and organization of the curriculum, modern trends and methods of investigation.

### **360 Administration and Supervision of Office Personnel (3) (W)**

Prerequisite: Consent of instructor. An advanced course in office administration and supervision designed to meet the needs of business personnel involved in administrative office management work; emphasis on updating leadership and human relations skills, organizing, planning, controlling office services, and business data processing systems.

### **385 Problems of Teaching Reading in Secondary Schools (3) (F,W,S)**

Prerequisite: ED FND 111. Methods and materials for

improving reading in secondary school classes, including content fields.

### **391 Field Study in Secondary Education (1-10)**

Identification of specific problems in the area of secondary education. Course is conducted as a field study in the public schools. A maximum of 8 credit hours may be applied toward an advanced degree contingent upon adviser approval.

### **393 Student Teaching in Music Education, K-12 (5)**

Prerequisites: SEC ED 294 or equivalent and admission to student teaching. Clinical teaching experience in music education settings in the schools under University and school supervision with seminar included. For students who wish an additional student teaching experience.

### **404 Seminar (1-10)**

### **415 The Secondary School Curriculum (3)**

For secondary school principals, teachers, and superintendents. Present methods in curricular change and methods of curricular investigation.

### **416 Curriculum Construction for Secondary Schools (3)**

Prerequisite: SEC ED 415 or consent of instructor. Designed for those engaged in curriculum revision work and construction of new secondary school courses.

### **418 The Junior High School (3)**

Survey of the progress of junior high school, including study of more important problems of organization and administration.

### **420 The Improvement of Secondary School Teaching (3)**

For secondary school teachers, principals, and superintendents with considerable training in education and experience in teaching. Recent developments in secondary school teaching.

### **422 Individualizing Instruction in Secondary Schools (3)**

The course, based on research and theory, will serve as a model of secondary school individualized instruction and is designed for both teaching and administrative personnel. Macro concepts such as the Model Schools Project, IGE procedures for individualization, I/D/E/A theories of individualization, and other models of individualized instruction may be chosen for individual concentration. Teachers will focus on learning packages, learning contracts, learning centers, audio tutorial teaching, the Keller Plan, independent study, minicourses, and other techniques of individualization.

### **425 Secondary School Supervision (3)**

Methods of improving instruction in junior and senior high schools.



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## **427 Supervision of Clinical Experiences in Teacher Education (3)**

Prerequisite: Teaching experience and consent of instructor. A consideration of the clinical phase of the teacher education program, with special emphasis on student teaching. Examination of role responsibilities and supervisory practices. Study of professional literature for research findings, theoretical formulations, and recent developments in the field.

## **429 The Department Head (3)**

Prerequisite: None. This course emphasizes the role of the department chairperson as an educational leader. Theoretical concepts are related to sound practice. The potential for the job is discussed as well as the roadblocks to successful execution. Appropriate for practicing department chairpersons, school administrators, or classroom teachers interested in acquainting themselves with this position.

## **430 Problems of Teaching English in the Secondary School (3)**

A review of recent developments in the teaching of secondary English. Special attention is given to research involving instructional problems in urban and

suburban schools. The course is designed for teachers, department heads, and supervisors in secondary English programs.

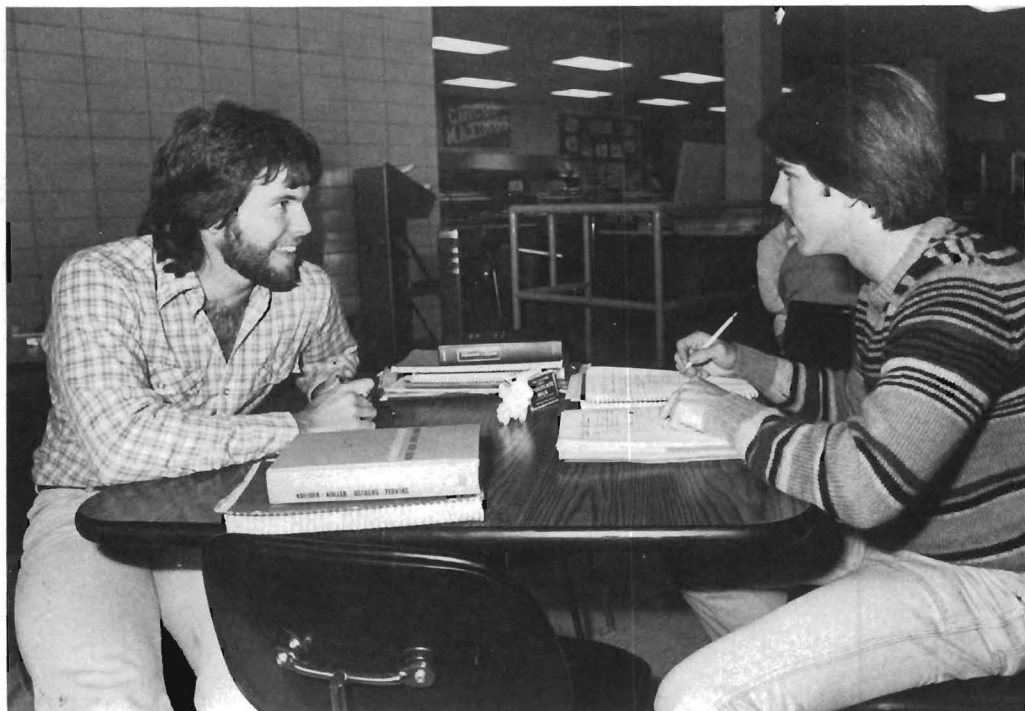
## **452 Problems of Teaching Social Studies in the Secondary Schools (3)**

A review of recent developments in the teaching of secondary school social studies. Special attention is given to research and scholarship involving instructional and curricular problems, especially in the metropolitan St. Louis area. Emphasis is placed upon development of effective materials, techniques, and resources. The course is designed primarily for teachers and supervisors in secondary school social studies programs.

## **491 In-Service Course in Secondary Education (3)**

This course is designed to operate with an individual school district and is related to problems of secondary education viewed from the standpoint of that specific district. This course is specially tailored to a particular situation.

## **497 Problems (1-10)**



## Behavioral Studies

### Faculty

**Arthur E. Smith**, Chairperson; Professor\*

Ph.D., St. Louis University

**William L. Franzen**, Professor\*; Dean, School of Education

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\*; Associate Vice Chancellor, Academic Affairs; Dean, Graduate School

Ed.D., Indiana University

**George E. Mowrer**, Professor\*

Ed.D., University of Missouri-Columbia

**Harold W. Richey**, Professor\*

Ph.D., University of Kansas City

**Walter J. Cegelka**, Associate Professor\*

Ed.D., Syracuse University

**W. Ray Rhine**, Associate Professor\*

Ph.D., University of Texas

**Steven D. Spaner**, Associate Professor\*

Ph.D., Southern Illinois University-Carbondale

**Gaylen R. Wallace**, Associate Professor\*

Ed.D., Oklahoma State University

**Margaret W. Cohen**, Assistant Professor\*

Ph.D., Washington University

**Therese A. Cristiani**, Assistant Professor\*

Ed.D., Indiana University

**Ronald A. Finch**, Adjunct Assistant Professor\*

Director, Counseling Services

Ed.D., Memphis State University

**Virginia M. Johnson**, Assistant Professor\*

Ph.D., Pennsylvania State University

**Julia K. Muller**, Adjunct Assistant Professor\*

Dean, Student Affairs

Ph.D., Southern Illinois University-Carbondale

**Peggy S. Sommers**, Assistant Professor\*

Ed.D., Oklahoma State University

**Richard L. Thurman**, Assistant Professor\*

Ph.D., St. Louis University

**W. Glenn White**, Assistant Professor\*

Ph.D., University of Missouri-Columbia

**John W. Wilde**, Assistant Professor\*

Ph.D., Southern Illinois University-Carbondale

**George J. Yard**, Assistant Professor\*

Ph.D., St. Louis University

The Department of Behavioral Studies is housed on the fourth floor of the Education Office Building. Information about offerings and related matters may be obtained in the departmental office, 469 EOB.

### Degrees and Areas of Concentration

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 children. Students also receive certification as regular elementary or secondary school teachers upon completion of the curriculum.

**Note:** Requirements are changing for teacher certification in Special Education. Please contact your adviser for any changes upon entering the program.

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.

Areas of emphasis are available in Elementary School, Secondary School, or General Counseling. Options available in the Special Education emphasis area are Behavior Disorders, Learning Disabilities, Mental Retardation, and Early Childhood-Special Education.

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 inappropriate for school counselors.

All degree students should consult with their advisers about the requirement of a scholarly paper.

\*members of Graduate Faculty

# Behavioral Studies

## Undergraduate Studies

### Bachelor of Science in Education: Special Education

#### General Education Requirements (46 hours required:)

##### English and Speech (6 hours)

**English 10**, Composition  
**Speech**, 3 hours

**Note:** Effective Fall Semester, 1979, students who enter UMSL with 89 or fewer hours which are applicable to a degree at UMSL must satisfactorily complete English 160, Advanced Expository Writing, or its equivalent. See university general education requirements, p. 19.

##### Mathematics (6 hours)

**Math 50**, Structure of Mathematical Systems I and  
**Math 151**, Structure of Mathematical Systems II

**No credit** toward graduation is granted for Math 15, Mathematics: Ideas and Structures, unless both Math 50 and 151 are completed.

##### Science (8 hours)

3 hours each in biological and physical science courses and 2 hours of a science laboratory

##### Humanities (8 hours)

**Music 136**, Music Fundamentals for the Elementary School Teacher

**plus** two courses from art, music, philosophy, and literature

##### Social Science (18 hours)

**Psychology 3**, General Psychology  
**Psychology 270**, Child Psychology

**Three hours** selected from among these  
**Political Science** courses:

**11**, Government in Modern Society: American Politics  
**176**, Community Politics

and these **History** courses:

**3**, American Civilization  
**4**, American Civilization

##### Geography 101, Introduction to Geography

#### Related Area Requirements (12 hours)

**PHY ED 130**, Elements of Health Education  
**PHY ED 165**, Physical Education Activities in the Elementary School  
**ELE ED 177, (Music 137)**, Elementary School Music  
**ELE ED 179 (Art 139)**, Art Activities for Elementary Schools

#### Program Requirements (24 hours)

**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  
**241**, Teaching of Science in the Elementary School  
**246**, Teaching Mathematics in the Elementary School  
**253**, Teaching of Social Studies in the Elementary School  
**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 The following courses in **Special Education (SPC ED)** are required: (33 hours)

**205** Seminar in Classroom Teaching  
**290** Student Teaching in Special Education I  
**291** Student Teaching in Special Education II

**Note:** SPC ED 205, 290, 291 must be taken during the same semester.

**313**, The Psychology and Education of Exceptional Individuals  
**315**, Speech and Language Problems of Exceptional Children  
**320**, Behavior Management  
**330**, Introduction to Mental Retardation  
**332**, Education of the Mentally Retarded  
**EVL MS 310**, Interpretation of Educational Tests and Measurements  
**ELE ED 389**, The Analysis and Correction of Reading Problems in the Classroom

**Electives**  
9 hours

## Behavioral Studies

### Total: 120 hours

**Note:** With the adviser's consent, students in the Special Education Program may omit one of the following:

- PHY ED 130**, Elements of Health Education
- PHY ED 165**, Physical Education Activities in the Elementary School
- ELE ED 177** (MUS 137), Elementary School Music
- ELE ED 179** (ART 139), Art Activities for Elementary Schools
- ELE ED 241**, Teaching of Science in the Elementary School
- ELE ED 253**, Teaching of Social Studies in the Elementary School

However, students also wishing to become certificated in early childhood education must take all of these courses.

## Graduate Studies

**Master of Education: Emphasis in Elementary School Counseling** The courses listed below meet both M.ED degree and certification requirements. Following consultation with the adviser the degree may be obtained without completing all certification requirements providing:

- ED PSY 411**, Psychology of Learning Processes
- CNS ED 411**, Counseling Methods
- 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:

- 411**, Counseling Methods
- 414**, Individual Inventory
- 420**, Group Procedures in Counseling
- 431**, Principles and Procedures of Student Personnel Work
- 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**, Mental Hygiene
- ED PSY 417**, Psychology of the Elementary School Child
- \*SPC ED 412**, Psychology of Exceptional Children

\*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.

### Measurement and Evaluation

- 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 nonschool settings. Students must have their adviser's approval before taking other than required courses.

### Area of Specialization

The following courses in **Counselor Education (CNS ED)** are required:

- 411**, Counseling Methods
- 420**, Group Procedures in Counseling
- 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:

- 404**, Seminar
- 411**, The Psychology of Education
- 413**, Mental Hygiene
- 417**, Psychology of the Elementary School Child
- 418**, The Psychology of Adolescence
- 497**, Problems and
- SPC ED 412**, Psychology of Exceptional Children

# Behavioral Studies

## Measurements and Evaluation

At least one course from the following:

- ED S & R 427**, Educational Statistics
- ED S & R 430**, Research Design for Educators
- EVL MS 422**, Individual Intelligence Testing
- EVL MS 431**, Classroom Measurement and Evaluation II
- EVL MS 432**, Educational and Psychological Measurement

## Electives

To be selected following consultation with advisers.

## Master of Education: Emphasis in Secondary School Counseling

The courses listed below meet both degree and certification requirements. In consultation with the adviser the degree may be obtained without completing all certification requirements providing:

- ED PSY 411**, Psychology of Learning Processes
- CNS ED 411**, Counseling Methods
- 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:

- 411**, Counseling Methods
- 414**, Individual Inventory
- 420**, Group Procedures in Counseling
- 431**, Principles and Procedures of Student Personnel Work
- 442**, Career Information
- 443**, Career Development
- 493**, Guidance Practicum I
- 494**, Guidance Practicum II

## Psychological Foundations and Human Development

- ED PSY 411**, Psychology of Learning Processes
- ED PSY 413**, Mental Hygiene
- \*SPC ED 412**, Psychology of Exceptional Children

\*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.

## Measurement and Evaluation

- EVL MS 422**, Individual Intelligence Testing
- EVL MS 432**, Educational and Psychological Measurement

## Special Education Option

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

### Curriculum (3-6 hours)

- SEC ED 415**, The Secondary School Curriculum
- SEC ED 416**, Curriculum Construction for Secondary Schools
- ELE ED 411**, The Elementary Teacher: Humanizing Decision Making
- 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 3 hours must be taken in SPC ED 492, Practicum in Special Education.

## Psychological Foundations and Human Development (3-6 hours)

## School of Education

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**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

### Measurement and Evaluation (3-6 hours)

**ED R & S 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

The U.S. Department of Labor's *Occupations in Demand* (December, 1980), lists Guidance Counselor as a profession with large numbers of job openings available throughout the United States. 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 a variety of business and industry positions, especially in training and personnel areas. Others have moved into roles calling for research and evaluation skills.

### Special Education

The employment outlook for special education teachers continues to be favorable, especially in certain specialties. 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.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of the department. \*Starred prerequisites may be taken concurrently with listed offering.

### Counselor Education (CNS ED)

#### 314 Human Relations Skills for the Teacher (3)

Prerequisite: ED PSY 312 or consent of the instructor. The development of specific skills in human relationships to help further pupil's growth and facilitate useful interaction among teachers, pupils, parents, and others in the school.

#### 330 Principles and Procedures for Student Personnel Work (3)

Student personnel work in educational institutions, objectives of student personnel work, and certain pertinent techniques.

#### 342 Occupational and Educational Information (3)

Nature and use of occupational and educational information. Characteristics, requirements of occupations, and training opportunities.

#### 404 Seminar (3-10)

#### 411 Counseling Methods (3)

Counseling as a professional field; process of counseling; counseling for educational, occupational, social, and personal adjustment.

#### 414 Individual Inventory (3)

Prerequisite: ED S & R 427 and EVL MS 432. Uses of

## Behavioral Studies

educational and psychological appraisal techniques in counseling. Develops counselor's abilities in assisting clients toward self-awareness through the use of test and non-test data. Ethical practices in the use of tests and the maintenance of personnel records are stressed.

### **420 Group Procedures in Counseling (3)**

Emphasis on a survey of theory and research in group structure and processes. Students are expected to participate in an intensive group experience and conduct a group themselves under the instructor's supervision.

### **431 Principles and Procedures of Student Personnel Work (3)**

Student personnel work in educational institutions. Objectives of student personnel work and certain pertinent techniques.

### **436 Student Personnel Work In Higher Education (3)**

A survey course in student personnel administration with an emphasis on understanding the college student and on learning ways to meet both his academic and nonacademic needs.

### **442 Career Information (3)**

Prerequisite: None. Nature and use of occupational and educational information. Characteristics and requirements of occupations and training opportunities. Process of vocational choice.

### **443 Career Development (3)**

Prerequisite: None. Emphasis on current theories of vocational development and their application to interest, aptitude, and ability tests significantly related to vocational development.

### **493 Guidance Practicum (3)**

Prerequisite: Consent of instructor. Supervised practice in counseling

### **494 Guidance Practicum II (3)**

Prerequisite: Grade of B or better in CNS ED 493 and/or consent of instructor. Supervised practice in counseling.

### **497 Problems (1-10)**

## **Educational Psychology (ED PSY)**

### **211 Growth and Development (3)**

Comprehensive study of chronological age norms and the process of growth and development throughout the entire life span. There will be special emphasis on childhood, adolescence, and senescence.

### **312 The Psychology of Teaching and Learning (3)**

Prerequisite: ED FND 111, Psychology 270 or 271 and admission to the School of Education. Application of the principles of psychology to an understanding of the dynamics of teaching behavior and learning behavior.

Involves both theoretical and practical approaches to analysis of the learning environment of the school. Required of all who are preparing to teach

### **404 Seminar (1-10)**

### **411 The Psychology of Education (3)**

An advanced course covering the entire field of educational psychology

### **413 Mental Hygiene (3)**

Psychology of mental health. Emphasis on normal personality and improved self-management

### **416 Psychology of Early Child Development (3)**

A survey of current research on the development of children, ages birth to six; including research in the laboratory, in the home, and in day care and early intervention projects.

### **417 Psychology of the Elementary School Child (3)**

The application of educational psychology to problems of teaching in the elementary school.

### **418 The Psychology of Adolescence (3)**

A critical psychological analysis of studies and investigation of the various aspects of adolescence.

### **420 Behavioral Analysis of Human Learning (3)**

Prerequisite: Graduate standing. A course in the principles of human learning and the technology of behavior modification, from the perspective of the teaching and counseling professions. Emphasis is placed on its application to school learning and behavior problems and social behavioral patterns in a variety of appropriate counseling settings.

### **497 Problems (1-10)**

## **Evaluation and Measurement (EVL MS)**

### **310 Interpretation of Educational Tests and Measurements (3)**

A study of the principles of psychometrics with emphasis upon the classroom interpretation of group tests of intelligence and achievement. Required of all majors in special education.

### **331 Classroom Measurement and Evaluation I (3)**

Tests and measurements for the classroom. Basic measurement principles; test planning; construction and use of selection type tests; supply type tests and performance tests; item analysis procedures; methods of summarizing test scores, determining derived scores and norms, and pupil evaluation.

### **412 Evaluation of Applications of Computers in Education (3)**

Prerequisite: ED S & R 427 or consent of the instructor. Review of a computer language and evaluation of the



## Behavioral Studies

various uses and capabilities of computers in the teaching, administration, and counseling areas of education. Familiarization with computing facilities and package programs.

### **422 Individual Intelligence Testing (3)**

Prerequisite: A course in group testing. Study of the Stanford-Binet Scale and other individual tests of intelligence. Practice in administering and interpreting the tests.

### **431 Classroom Measurement and Evaluation II (3)**

Prerequisite: EVL MS 331 or equivalent is strongly recommended. Descriptive statistical procedures, norms, and correlations; reliability, error of measurement and validity; measurement of aptitude, achievement, interests and attitudes, and personal-social adjustment.

### **432 Educational and Psychological Measurement (3)**

Prerequisite: ED S & R 427. General theory of measurement; interpreting test data; derived scores; theory of psychological tests; reliability and validity; measurement of achievement and aptitude, interests and attitudes, and personal-social adjustment.

### **434 Multivariate Analysis Methods in Education (3)**

Prerequisite: ED S & R 427. The study and application of discriminant, canonical, factor, cluster, and MANOVA analyses in the evaluation of educational problems.

### **435 Multiple Linear Regression in Education (3)**

Prerequisite: ED S & R 427 or consent of instructor. Evaluation of education problems and hypotheses using linear regression models. Application of computer programs to analyze the usefulness and efficiency of educational models for decision making in teaching, administration and counseling.

## **Special Education (SPC ED)**

### **192 Field Experience in Special Education (3).**

Prerequisites: None. Intensive early field experience involving on-site observation and limited participation with exceptional individuals in schools and/or other educational agencies. This course is open to all students.

### **205 Seminar in Classroom Teaching (2)**

Prerequisites: SPC ED 313 and SPC ED 332 and admission to student teaching. Must be taken "in block" with SPC ED 290 and SPC ED 291. Seminar focuses on the student teaching experience as it relates to increasing the student teacher's knowledge of teaching, refining individual teaching styles and skill, extending understanding of curriculum, and developing a classroom organization that will lead to appropriate environment and interaction. Required for all majors in special education.

### **242 Characteristics of Learning Disabilities (3)**

Prerequisite: None. A study of the divergent characteristics of children with perceptual impairments. This course consists of fifteen one-half-hour tapes designed to offer instruction at an undergraduate level on the nature of children with learning disabilities; the roles of educators, parents, and auxiliary personnel in diagnosis and remediation. Historical perspectives and future trends will be explored. The tapes are followed by student contact with the instructor for discussion, work evaluation, and testing.

### **290 Student Teaching in Special Education I (5)**

Prerequisites: SPC ED 313, SPC ED 320, SPC ED 332, and admission to student teaching. Must be taken "in block" with SPC ED 205 and SPC ED 291 and must immediately precede SPC ED 291 in the semester. Clinical teaching experience in special education classrooms in schools under University and school supervision. Required for all majors in special education.

### **291 Student Teaching in Special Education II (5)**

Prerequisites: SPC ED 290. Must be taken "in block" with SPC ED 205 and SPC ED 290 and must immediately follow SPC ED 290 in the semester. Clinical teaching experience in special education classrooms in schools under University and school supervision. Assignments will be in different school districts, buildings, serving families of different socio-economic and cultural backgrounds, and at different grade levels from those of the SPC ED 290 assignments. Required for all majors in special education.

### **311 Sex Education for Exceptional Individuals (3)**

Prerequisite: Consent of the instructor. This course is designed to give teachers a thorough knowledge and understanding of the issues, problems, teaching techniques and the current curricular resources of teaching sex education to handicapped individuals.

### **313 The Psychology and Education of Exceptional Individuals (3)**

Prerequisite: Psychology 270 or 271 or equivalent. The psychology and education of individuals with special problems and/or abilities. Survey of theories and strategies for the learning-teaching process and sources of assistance to educators and parents. Required in certification programs.

### **315 Speech and Language Problems of Exceptional Children (3)**

Prerequisites: ED FND 111, SPC ED 313 and Admission to the School of Education. Study of the problems associated with speech and language development and the techniques employed by classroom teachers to lessen these problems for children. Required for all majors in special education.

### **320 Behavior Management (3)**

Prerequisites: SPC ED 313 and an appropriate introductory course in the special education area of

# Behavioral Studies

concentration. An indepth exploration of various behavior control techniques that are particularly applicable to exceptional children. Students will be required to conduct at least one behavior modification project with exceptional children.

## **330 Introduction to Mental Retardation (3)**

Prerequisites: ED FND 111, SPC ED 313 and admission to the School of Education. An introductory course dealing with the characteristics, classification, and causes of the mentally retarded.

## **332 Education of the Mentally Retarded (3)**

Prerequisites: ED FND 111, SPC ED 313, SPC ED 330 and admission to the School of Education. Methods and techniques of use in the education of mentally retarded children. Required of all who are preparing for certification in special education for the mentally retarded.

## **370 Sensory-motor Development of the Severely Handicapped (3)**

Prerequisite: SPC ED 330 or equivalent or consent of instructor. An examination of basic sensory-motor development and associated disorders to enable teachers to work more effectively with occupational and physical therapists. Basic techniques used by therapists are presented, together with an exploration of the teacher's role regarding sensory-motor programming. Required for certification for teaching individuals with severe handicaps.

## **390 Student Teaching In Special Education III (5)**

Prerequisites: SPC ED 291 or equivalent and admission to student teaching. Clinical teaching experience in special education classrooms in schools under University and school supervision with seminar included. For students who wish an additional student teaching experience.

## **412 Psychology of Exceptional Children (3)**

An indepth analysis of the unique psychological problems of exceptional children and youth. Current psychological theories and research emphasized.

## **416 Current Research in Psychology of Exceptional Children (3)**

Prerequisite: Permission of instructor/adviser. A study of current issues, trends, and major research in special education. Areas of investigation shall center around major developments in exceptionalities, situations relative to programming projected needs and considerations and utilization of investigation of the exceptional individual. Graduate students should have experience or an undergraduate background in exceptionalities prior to admission to this course.

## **421 Prescriptive Teaching of Exceptional Children (3)**

Prerequisite: SPC ED 412. Course will instruct teachers on how to develop and implement prescriptive

educational programs for exceptional children and adolescents based upon available information. Students will become familiar with prescriptive systems which will enable them to utilize sources of information for remedial and developmental needs.

## **430 Education of the Mentally Retarded (3)**

A study of the psychological aspects of mental retardation with regard to etiology, intellectual capabilities, characteristics and personality structure. Application to learning theories with emphasis upon curricular approaches and materials. Administrative organization and structure for provision of services.

## **431 Problems in Mental Retardation (3)**

Prerequisite: Consent of instructor. A study of learning characteristics, evaluation, teaching techniques, and methods and curriculum adaptations for the mentally retarded.

## **443 Learning Disabilities (3)**

Prerequisite: SPC ED 412. An advanced study of the pedagogical and theoretical problems germane to the area of learning disabilities with particular emphasis on the application of current research findings to the solutions of these problems.

## **444 Education of Children with Learning Disabilities (3)**

Prerequisite: SPC ED 443. A systematic study of modern educational procedures for children with learning disabilities. Methods and materials for educating children with learning disabilities are stressed.

## **450 Introduction to Behavioral Disorders (3)**

Prerequisite: SPC ED 412. An advanced study of the pedagogical and sociological problems germane to behavioral disorders, with particular emphasis on the application of current research findings to the solutions of these problems.

## **452 Education of Behaviorally Disordered Children (3)**

Prerequisite: SPC ED 450. A systematic study of modern educational practices for behaviorally disordered children. Methods and materials for educating behaviorally disordered children is stressed.

## **462 Introduction to Early Childhood-Special Education (3)**

Prerequisite: SPC ED 412. A study of issues and concepts central to special education for the young handicapped child. Focus will be on program models, screening and assessment procedures, and curriculum concepts. An ecological approach to special education will be emphasized.

## **463 Curriculum, Methods, and Materials in Early Childhood-Special Education (3)**

Prerequisite: SPC ED 412 and 462. Indepth study of

## Behavioral Studies

integrated assessment-based curriculum development for pre-school handicapped children. Emphasis will be on individualized educational planning and implementation.

### **470 Introduction to the Severely Handicapped (3)**

Prerequisite: SPC ED 412 or consent of instructor. Introduces students to characteristics of and services for the severely handicapped: origins and impact of multiple disabilities; reorientations in goals, interventions and service-delivery. Required for certification in teaching the severely handicapped.

### **472 Screening and Diagnosis of the Developmentally Delayed (3)**

Prerequisites: EVL MS 310 or equivalent; and SPC ED 462 or SPC ED 470 or consent of instructor. This course addresses the content, techniques, and special problems related to the assessment of handicapped individuals in the birth to five developmental range. Students gain experience in construction, administration, and interpretation of assessment tools used with low functioning handicapped individuals. Required for certification in Severe Handicaps and Early

Childhood-Special Education.

### **473 Methods and Curricula for the Severely Handicapped (3)**

Prerequisites: SPC ED 462 or SPC ED 470 or consent of the instructor. The course begins with the application of the clinical teaching model to the Severely Handicapped population regarding objectives, training methods, and program progress monitoring. It also includes critical analyses of existing curricula and methods of classroom or living unit organization. Required for certification in Severe Handicaps.

### **492 Practicum in Special Education (3-6)**

Prerequisite: Two courses in area of concentration. A supervised internship in educating exceptional children in a school setting or other appropriate site.

### **497 Problems (1-10)**

Prerequisites: SPC ED 412 Psychology of exceptional child or equivalent. Selected problems on student-learner exceptionalities for individuals at the post-baccalaureate level.

# Childhood Education

## Faculty

**Richard W. Burnett**, Chairperson, Professor\*, Director of Reading Clinic

Ed.D., Indiana University

**Wallace Z. Ramsey**, Professor\*, Graduate Coordinator

Ed.D., University of Missouri-Columbia

**Doris A. Trojcek**, Professor\*, Associate Dean, School of Education

Ed.D., Indiana University

**Huber M. Walsh**, Professor\*

Ed.D., University of California-Los Angeles

**Dick D. Miller**, Associate Professor\*

Ed.D., Utah State University

**Robert E. Rea**, Associate Professor\*

Ph.D., Southern Illinois University-Carbondale

**Lloyd I. Richardson, Jr.**, Associate Professor\*

Ph.D., George Peabody College

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Ed.D., Oklahoma State University

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Ph.D., St. Louis University

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Ph.D., St. Louis University

**Anne D. Lally**, Instructor

M.Ed., University of Missouri-St. Louis

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M.Ed., University of Missouri-St. Louis

**Patricia B. Rothman**, Instructor

M.A., George Mason College, University of Virginia

\*members of Graduate Faculty

The faculty of the Department of Childhood Education have their offices on the third floor of the Education Office Building. Questions about departmental matters should be directed to 369 EOB.

## Program Information

The department coordinates programs leading to the B.S. in education degree in early childhood education and elementary education. A special feature of these programs is their many opportunities to work with children in schools as part of the professional course work.

**NOTE** Students majoring in elementary and early childhood education should be aware that new State certification requirements are going into effect September 1982. To determine how these requirements affect your program, consult the Office of Student Services and Advisement

For graduate students the Department of

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

The following 46 hours are required in both undergraduate programs:

### English and Speech (6 hours)

**English 10**, Composition

**Speech: 3 hours**

**Note:** Effective Fall Semester, 1979, students who enter UMSL with 89 or fewer hours which are applicable to a degree at UMSL must complete satisfactorily English 160, Advanced Expository Writing, or its equivalent. See university general education requirements, p. 19.

### Mathematics (6 hours)

**Math 50**, Structure of Mathematical Systems I  
**and**

**Math 151**, Structure of Mathematical Systems II

**No credit toward graduation is granted for Math 15, Mathematics: Idea and Structures, unless both Math 50 and Math 151 are completed.**

### Science (8 hours)

**Biological Science: 3 hours**

**Physical Science: 3 hours**  
and 2 hours of a science laboratory

### Humanities (8 hours)

**Music 136**, Music Fundamentals for the Elementary School Teacher

**plus two** courses from art, music, philosophy, and literature.

### Social Science (15 hours)

**Psychology 3**, General Psychology

**Psychology 270**, Child Psychology

**Political Science 11**, Government in Modern Society:  
American Politics

**and** the following courses:

## Childhood Education

**History 3**, American Civilization

**History 4**, American Civilization

### 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 nursery school through grade three. Students electing this program will work directly with young children as a part of their professional courses.

### General Education Requirements

Students are required to take the general education requirements listed above and, in addition:

**Sociology 224**, Sociology of the Family

### Area of Concentration

Degree candidates must complete 12 hours in the humanities, social or natural sciences, and mathematics. Courses selected must be numbered 100 or above and may not be used to meet the professional education requirements. Courses may not be taken in more than three departments.

### Program Requirements

39 hours required:

**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 or **336**, Teaching the Language Arts in the Elementary School

**385**, Teaching Reading in the Elementary School

plus these **Early Childhood Education (ECH ED)** courses:

**205**, Seminar in Classroom Teaching

**290**, Student Teaching in Early Childhood Education I

**291**, Student Teaching in Early Childhood Education II

**NOTE** ECH ED 205, 290, and 291 must be taken during the same semester.

**312**, Principles of Early Childhood Education

**333**, Creative Experiences for Young Children

**341**, Exploring the Physical World with Young Children or **ELE ED 241**, Teaching of Science in the Elementary School

**351**, Exploring the Social World with Young Children or **ELE ED 253**, Teaching of Social Studies in the Elementary School

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.

### Electives

23 hours

**Total: 120 hours**

### Bachelor of Science in Education: Elementary Education

The elementary education program prepares students to teach in grades kindergarten through six and in non-departmentalized grades, seven and eight.

### General Education Requirements

In addition to the general education requirements listed above, students must also take Geography 101, Introduction to Geography.

### Area of Concentration

Degree candidates must complete 12 hours in the humanities, social or natural sciences, and mathematics. Courses selected must be numbered 100 or above and may not be used to meet requirements in professional education or related areas. Courses may not be taken in more than three departments.

### Related Area Requirements

11 hours required:

**PHY ED 130**, Elements of Health Education

**PHY ED 165**, Physical Education Activities for the Elementary School

**ELE ED 177**, (Music 137), Elementary School Music

**ELE ED 179** (Art 139), Art Activities for Elementary Schools

### Program Requirements

36 hours required:

**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:

# Childhood Education

- 205**, Seminar in Classroom Teaching  
**230**, Children's Literature or **336**, Teaching the Language Arts in the Elementary School  
**241**, Teaching of Science in the Elementary School  
**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

**NOTE** ELE ED 205, 290, and 291 must be taken during the same semester.

**385**, Teaching Reading in the Elementary School  
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.

## Electives

15 hours

**Total: 120 hours**

## Graduate Studies

### Master of Education in Elementary Education Study Programs

#### I Elementary Education with 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, Elementary School Curriculum; ELE ED 411, The Elementary Teacher: Humanizing Decision-Making; and 6 hours selected, in consultation with advisers, from among cognate fields or professional education.

##### 2 Content Competencies (12 hours)

Both programs require a three-phase sequence as follows: Students desiring to specialize through a sequence of courses should select at least 9 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 6 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 411 in phase one, each candidate selects a curricular area or areas, identifies an adviser from the childhood education graduate 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 411, should be taken at the beginning of the program: ELE ED 422 and 423 constitute the final two program courses.

Electives should be selected according to candidates' needs and/or interests.

### II Elementary Education with Certification 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 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 must 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 or 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

## Childhood Education

\*493, Clinical Methods in Child Study I

\*494, Clinical Methods in Child Study II

and also

\*EVL MS 422, Individual Intelligence Testing

**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.

### 3 Electives

**English 220**, Development of the English Language

**ED FND 421**, Philosophy of Education (recommended)

**SEC ED 385**, Problems of Teaching Reading in the Secondary School or **ELE ED 385**, Teaching Reading in the Elementary School

these **Elementary Education (ELE ED)** courses:

**482**, Problems and Research in Teaching Elementary School Reading

**484**, Developmental Reading (K-13)

Other courses may be selected from cognate fields after conferring with an adviser in reading.

### III Elementary Education and Teaching

**Certification Program** A combined M.ED. and certification option follows. Students should consult certification advisers. Graduate credit will not be given for courses at the 100 or 200 level.

#### 1 Core Requirements

##### Professional Education:

**ED FND 111**, The School in Contemporary Society (or graduate equivalent)

these **Elementary Education (ELE ED)** courses (or graduate equivalents):

**177 (Music 137)**, Elementary School Music

**179 (Art 139)**, Art Activities for Elementary Schools

**205**, Seminar in Classroom Teaching

**230**, Children's Literature and Reading or **336**, Teaching the Language Arts in the Elementary School

**246**, Teaching Mathematics in the Elementary School

**290**, Elementary School Student Teaching I

**291**, Elementary School Student Teaching II

**NOTE** ELE ED 205, 290, and 291 must be taken during the same semester.

**PHY ED 130**, Elements of Health Education

**PHY ED 165**, Physical Education Activities in the Elementary School

### 2 Certification and M.Ed. Requirements

**ELE ED 385**, Teaching Reading in the Elementary School

**ED PSY 312**, Psychology of Teaching and Learning or

**ED PSY 411**, Psychology of Learning Processes

**SPC ED 313**, The Psychology and Education of

Exceptional Individuals or **SPC ED 412**, Psychology of Exceptional Children

**18 hours graduate 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" continues to open employment opportunities within a somewhat restricted employment field. As in the past, early childhood and elementary education graduates at all degree levels 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.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this Course Description section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of department. \*Starred prerequisites may be taken concurrently with listed offering

### Early Childhood Education (ECH ED)

#### 205 Seminar in Classroom Teaching (2)

Prerequisites: ELE ED 230 or ELE ED 336; ELE ED 385; ECH ED 333, ECH ED 341, and ECH ED 351; and admission to student teaching. Must be taken "in block" with ECH ED 290 and ECH ED 291. Seminar focuses on the student teaching experience as it relates to increasing the student teacher's knowledge of teaching, refining individual teaching styles and skill, extending understanding of curriculum, and developing a



# Childhood Education

classroom organization that will lead to appropriate environment and interaction. Required for all majors in early childhood education.

## **290 Student Teaching in Early Childhood Education I (5)**

Prerequisites: ELE ED 230 or ELE ED 336; ELE ED 385; ECH ED 333, ECH ED 341, and ECH ED 351; and admission to student teaching. Must be taken "in block" with ECH ED 205 and ECH ED 291 and must immediately precede ECH ED 291 in the semester. Clinical teaching experience in early childhood education classrooms in the schools under University and school supervision. Required for all majors in early childhood education.

## **291 Student Teaching in Early Childhood Education II (5)**

Prerequisite: ECH ED 290. Must be taken "in block" with ECH ED 205 and ECH ED 290 and must immediately follow ECH ED 290 in the semester. Clinical teaching experience in early childhood education classrooms in the schools under University and school supervision. Assignments will be in different school districts, buildings serving families of different socio-economic and cultural backgrounds, and at different age/grade levels from those of the ECH ED 290 assignments. Required for all majors in early childhood education.

## **312 Principles of Early Childhood Education (3)**

Prerequisite: ED FND 111 and ED PSY 312. Study of basic principles underlying good schools for young children. Students will use a theoretical base as well as on-site observations to develop an awareness of the use of effective teaching-learning strategies. Scheduling, classroom arrangement, and child management practices will be considered. Throughout the course students will be expected to begin developing their own philosophy of early childhood education.

## **314 Curriculum, Methods, and Materials for Early Childhood Education (3)**

Prerequisite: ECH ED 312. Curriculum development for preschool and early primary: writing and sequencing objectives, constructing activities and materials, and observing and recording child performance. Areas include visual and auditory skills, gross and fine motor skills, language and cognition, as well as affective behavior. Individualization according to learning style, rate, and experiential background is included.

## **317 Assessing Individual Needs for Early Childhood (3)**

Prerequisites: ED FND III, ED PSY 312. Techniques of observing children and using assessment instruments to plan an individualized program for early childhood.

## **321 Parent and Community Resources in Early Childhood Education (3)**

Prerequisite: Admission to School of Education or graduate status. Competencies for working with parents

and community agencies will be developed through a study of the community and community resources. Procedures for parent participation and use of service agencies in the education of all young children, including those with special needs, will be examined.

## **331 Language Acquisition and Development in Early Childhood (3)**

Prerequisite: ED PSY 312. A study of the sequential development of language, methods, and materials for fostering language growth and the effects environmental and cultural factors have on the acquisition process. Development of teacher competency in identification of language problems for purpose of referral.

## **333 Creative Experiences for Young Children (3)**

Prerequisite: ECH ED 312 and completion of humanities requirements in general education. A study of and experiences with materials, techniques, and resources for promoting effective cognitive and motor development through the use of art media, songs and rhythms, play and creative dramatics.

## **336 Teaching Language Arts and Reading, N-9 (3)**

Prerequisites: 6 hours English-Speech; ED PSY 312. This course involves study of the methods and materials for implementing a total language arts program, including reading, in the elementary school. Emphasis is placed on using the language experience approach in teaching listening, reading, spelling, handwriting, grammar, and spoken and written composition as basic skills.

## **341 Exploring the Physical World with Young Children (3)**

Prerequisite: ECH ED 312 and completion of science requirements in general education. A study of and experiences with materials, techniques, and resources for broadening the child's awareness and understanding of science.

## **346 The Acquisition of Mathematical Concepts (3)**

Prerequisite: ELE ED 246 (or equivalent) or consent of instructor. Applications of the major theorists (Bruner, Gagne, Piaget, etc.) to mathematics for children of mental ages 3-8. Considerations suggested by research and implications in the areas of logical thinking, pre-number ideas, geometry, topology, problem solving, and arithmetical operations.

## **351 Exploring the Social World with Young Children (3)**

Prerequisite: ECH ED 312 and completion of social science requirements in general education. A study of and experience with materials, techniques, and resources for furthering the child's mastery of the skills of communication; his understanding of people, social roles, society, and various cultures; his ability to develop satisfying relationships with peers and adults.

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### **390 Student Teaching In Early Childhood Education III (5)**

Prerequisite: ECH ED 291 or equivalent and admission to student teaching. Clinical teaching experience in early childhood education classrooms in the schools under university and school supervision with seminar included. For students who wish an additional student teaching experience.

### **410 Foundations of Preschool Education (3)**

Prerequisite: A course in child psychology or equivalent. A study of the various types of early childhood programs and the philosophy upon which they are based. Attention will also be directed to the implementation of such programs, problems of parent involvement, and the social environment of the children.

## **Elementary Education (ELE ED)**

### **082 Effective Reading and Study Skills (2)**

Designed to increase reading rate and comprehension and to develop study techniques appropriate to the purpose and difficulty of materials. Use is made of mechanical pacer, comprehension tests, vocabulary materials, and lecture demonstrations. **No credit toward a degree.**

### **177 Elementary School Music (2)**

(Same as Music 137) Prerequisite: Music 136 or consent of department. The role of the classroom teacher in the development of the elementary school general music program; selection of music, demonstration and practice of methods, and study of resources. This course will not apply toward requirements for a music major.

### **179 Art Activities for Elementary Schools (3)**

(Same as Art 134) A study of art principles; provides laboratory experience with various media and materials. Stresses curriculum planning and developments of the elementary school program in art.

### **205 Seminar in Classroom Teaching (2)**

Prerequisites: ELE ED 230 or ELE ED 336, ELE ED 241, ELE ED 246, ELE ED 253, ELE ED 385 and admission to student teaching. Must be taken "in block" with ELE ED 290 and ELE ED 291. Seminar focuses on the student teaching experience as it relates to increasing the student teacher's knowledge of teaching, refining individual teaching styles and skill, extending understanding of curriculum, and developing a classroom organization that will lead to appropriate environment and interaction. Required for all majors in elementary education.

### **210 Elementary School Organization, Management and Techniques of Teaching (3)**

Prerequisite: ED FND 111 and admission to the School of Education. Organization and management of the elementary classroom emphasizing social factors

affecting elementary schools. Formal and informal organizations in the schools relating to administrative-teacher-pupil interactions and teacher-learning environment and general techniques of teaching.

### **230 Children's Literature and Reading (3)**

Prerequisite: ED FND 111 or equivalent and admission to the School of Education. A course designed to provide a knowledge of the various types of children's literature, including comics, television, and films; criteria for selecting and evaluating reading and viewing material.

### **241 Teaching of Science in the Elementary School (3)**

Prerequisites: ED FND 111, junior standing, and completion of science requirements in general education. A study of elementary school science emphasizing the current science curricular content, methods of teaching, and instructional materials. Analysis of forces affecting objectives, materials, and teaching techniques.

### **246 Teaching Mathematics in the Elementary School (3)**

Prerequisites: ED FND 111, junior standing, and completion of mathematics requirement in general education. Organization and implementation of a modern elementary school mathematics program.

### **253 Teaching of Social Studies in the Elementary School (3)**

Prerequisites: ED FND 111, junior standing, and completion of social studies requirements in general education. A study of elementary school social studies emphasizing the current social studies curricular content, methods of teaching, and instructional materials. Analysis of forces affecting objectives, materials, and teaching techniques.

### **277 Teaching Music in the Elementary School (3)**

(Same as Music 257) Prerequisite: Music 112 and ED FND 111. For the music education major. A study of the elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources.

### **290 Elementary School Student Teaching I (5)**

Prerequisites: ELE ED 230 or ELE ED 336, ELE ED 241, ELE ED 246, ELE ED 253, ELE ED 385 and admission to student teaching. Must be taken "in block" with ELE ED 205 and ELE ED 291 and must immediately precede ELE ED 291 in the semester. Clinical teaching experience in elementary school classrooms under University and school supervision. Required for all majors in elementary education.

### **291 Elementary School Student Teaching II (5)**

Prerequisite: ELE ED 290. Must be taken "in block" with

## Childhood Education

ELE ED 205 and ELE ED 290 and must immediately follow ELE ED 290 in the semester. Clinical teaching experience in elementary school classrooms under University and school supervision. Assignments will be in different school districts, buildings serving families of different socio-economic and cultural backgrounds, and at different grade levels from those of the ELE ED 290 assignments. Required for all majors in elementary education

### **310 Elementary School Curriculum (3)**

Prerequisites: ED FND 111 and junior standing. Study of modern education with regard to objectives, content, and methods in elementary school curriculum.

### **336 Teaching the Language Arts in Elementary School (3)**

Prerequisites: ED FND 111 and junior standing. This course will involve a study of methods and materials essential for implementing a modern language arts program in the elementary school. Emphasis will be placed on listening, speaking, and writing skills development.

### **346 Advanced Methods in Elementary School Mathematics (3)**

Prerequisite: ELE ED 246 or consent of instructor. Review, evaluate, develop, and provide classroom trial of instructional components prepared for teaching mathematics. The course will develop greater depth of preparation in elementary program content, programs for exceptional children, and curricular extensions such as transformational geometry, rational numbers, and intuitive algebra.

### **385 Teaching Reading in the Elementary School (3)**

Prerequisites: ED PSY 312 and junior standing. Methods and materials of improving word perception, vocabulary, comprehension, and interest in independent reading.

### **387 Teaching Reading and Language Arts to Culturally Diverse Children (3)**

Prerequisites: ED FND 111 and senior standing. A systematic study of the problems of teaching reading and related language arts in ghetto schools. Attention is given to the ways in which the selection of materials and methodology of teaching reading to inner city children is influenced by their physical and psychological needs, their experience backgrounds, their spoken language patterns, their cultural heritage, and the sociology of their environment.

### **389 The Analysis and Correction of Reading Problems in the Classroom (3)**

Prerequisite: ELE ED 385 or SEC ED 385, or equivalent. A study of causes of reading difficulties and procedures that may be used to analyze and correct them in the group setting.

### **390 Elementary School Student Teaching III (5)**

Prerequisites: ELE ED 291 or equivalent and admission to student teaching. Clinical teaching experience in elementary school classrooms under University and school supervision with seminar included. For students who wish an additional student teaching experience.

### **391 Field Study in Elementary Education (3) (F,W,S)**

### **405 Seminar (1-10) (F,W,S)**

### **410 Elementary School Curriculum (3)**

Survey methods of modern educational thought with regard to objectives, content, and methods in elementary school curriculum.

### **411 The Elementary Teacher: Humanizing Decision-Making (3)**

Instructional decision-making skills will be developed through the analysis of problem situations. Through the implementation of decision-making models, students will analyze concrete classroom problems, consider alternative solutions, and plan and evaluate subsequent outcomes.

### **422 Curriculum Construction in Elementary Schools (3)**

A study of the elementary curriculum with regard to selection of objectives and content and to provisions for curricular change.

### **423 Curricular Implementation in the Elementary School (3)**

Prerequisite: ELE ED 422. Culminating experience for curricular project developed in 422. Course will include procedures and techniques for curricular design implementation in the field.

### **425 Elementary School Supervision (3)**

Organized to study such problems in field of supervision as will meet needs of superintendents, principals, and special supervisors.

### **427 Supervision of Clinical Experiences in Teacher Education (3)**

Prerequisite: Teaching experience and consent of instructor. A consideration of the clinical phase of the teacher education program, with special emphasis on student teaching. Examination of role responsibilities and supervisory practices. Study of professional literature for research findings, theoretical formulation, and recent developments in the field.

### **430 Problems of Teaching the Language Arts (3)**

Procedures used in teaching integrated language arts in elementary schools.

### **432 Problems and Research in Elementary School Language Arts (3)**

Prerequisite: EVL MS 431, ELE ED 430 and 6 hours of

## Childhood Education

English. A systematic study of research in teaching speaking, listening, written composition, handwriting, spelling, and linguistics as it focuses on the problems of teaching these skills in the elementary school. Attention is given to innovations in the field.

### **436 Children's Literature I: Survey and Analysis (3)**

A survey of children's literature published in the last 10 years. Special emphasis will be placed on the relationship between children's literature and contemporary issues of society. Students will experience the materials themselves rather than reading about books. In addition, students will begin to study the literary elements that make literature interesting and meaningful for children.

### **437 Children's Literature II: Selection and Functions (3)**

Prerequisite: ELE ED 436. The study of the literary elements that make literature interesting and meaningful for children will be completed. Further emphasis will focus on the application of trade books for children as resources in school curricula planning.

### **441 Problems and Research in Teaching Elementary School Science (3)**

Prerequisite: 8 hours of science, ELE ED 241 and ED PSY 411. A thorough examination of research related to elementary school science instruction with particular emphasis on innovative programs. Includes methods of investigation and techniques for interpreting the professional literature.

### **443 Teaching Physical Science in the Elementary School (3)**

Activity oriented experiences with basic physical science concepts, laboratory skills and techniques that are appropriate for elementary school teachers. The physical science concepts in elementary school curricula will be analyzed in depth.

### **444 Environmental Studies for Elementary Teachers (3)**

Activity-oriented training in developing environmental awareness, field and/or laboratory skills and techniques, and the use of elementary environmental curricula. Materials and activities appropriate for one's students and locale will be developed.

### **445 Problems of Teaching Arithmetic in the Elementary School (3)**

A study of the mathematics program in the elementary school from the viewpoint of goals, content, techniques, and evaluation.

### **446 Curriculum and Methods of Teaching Measurement in Mathematics: Metric and Standard Systems (3)**

Prerequisite: ELE ED 246 or ECH ED 346. Curricular development and implementation reflecting recent research findings. Content, materials, methods of

teaching the general topic: measurement. Applications in both the metric and standard systems.

### **447 Problems and Research in Teaching Elementary School Mathematics (3)**

Prerequisite: ELE ED 445. A thorough examination of research related to recurrent problems in elementary school mathematics instruction, as well as current problems arising within modern programs. Includes methodology appropriate to investigation of such problems and techniques for assessment of the literature.

### **448 Diagnosis and Remediation of Disabilities in Learning Mathematics (3)**

Prerequisite: ELE ED 445. Causes of mathematical disabilities. Materials and techniques for diagnoses and corrective programs for children and youth.

### **450 Problems of Teaching Social Studies in the Elementary School (3)**

A classroom-oriented study of curricular and instructional problems encountered in social studies. Emphasis is placed upon development of materials, techniques, and resources.

### **452 Problems and Research in Teaching Elementary School Social Studies (3)**

Prerequisite: ELE ED 450. An advanced study of pedagogical problems germane to social studies education with particular emphasis on application of research findings to the solution of classroom problems.

### **482 Problems and Research in Teaching Elementary School Reading (3)**

Prerequisite: ELE ED 385 or equivalent. A systematic study of research as it focuses on the problems of teaching reading in the elementary school. Attention is given to innovations in the field.

### **484 Developmental Reading (K-13) (3)**

Prerequisite: ELE ED 385, SEC ED 385, or equivalent. Designed to update the classroom teacher's skill in reading instruction. Study of basic reading instruction at all grade levels with special emphasis on current instructional programs, innovative approaches to reading instruction, basic teaching techniques, commercial reading materials, and recent research findings which have a bearing on methodology.

### **486 Clinical Diagnosis and Treatment of Reading Disabilities (3)**

Prerequisite: A graduate course in reading and in measurement or statistics. Etiology of specific reading disability; procedures that are used to diagnose and treat in the clinical setting.

### **488 Supervision of School Reading Programs (3)**

Prerequisite: ELE ED 385 or SEC ED 385. Processes and techniques of developing, evaluating and/or modifying the reading program in a school or district. The course would enable those seeking positions as

## Childhood Education

consultants, coordinators, and directors of reading to conform with standards specified by the International Reading Association.

### **493 Clinical Methods in Child Study I (3)**

Prerequisite: ELE ED 486 and EVL MS 422. Clinical experience in diagnosing learning problems, especially reading disability, in school children.

### **494 Clinical Methods in Child Study II (3)**

Prerequisite: ELE ED 493. Clinical experience in applying remedial procedures to school children with learning problems, especially reading disability.

### **495 Supervision of Practicum in Clinical Reading (3)**

Prerequisite: ELE ED 385 or SEC ED 385, ELE ED 486, EVL MS 422, ELE ED 493 and ELE ED 494. Supervising graduate students in diagnosis and remedial process within Reading Clinic.

### **497 Problems (1-10 arranged) (F,W,S)**

Selected problems to meet the needs of individual students.



## School of Education

# Physical Education

### Faculty

**Dennis Fallon**, Associate Professor\*

Ph.D., University of Minnesota

**Charles G. Smith**, Associate Professor\*, Director of Athletics

M.S., Washington University

**Bruce A. Clark**, Assistant Professor\*

Ph.D., University of Illinois

**Kathleen M. Haywood**, Assistant Professor\*

Ph.D., University of Illinois-Urbana-Champaign

**Thomas J. Loughrey**, Assistant Professor\*

Ph.D., University of Iowa

**Susan Fisher**, Instructor

M.A., Northeast Missouri State University

\*members of Graduate Faculty

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 MT.

### Degrees and Areas of Concentration

The department coordinates work in physical education. At the undergraduate level this work leads to the B.S. in Education degree.

Two options are available to physical education majors: elementary or secondary school physical education. Students thinking of physical education careers are urged to give careful consideration to teaching at the elementary school level.

At the graduate level the Department of Physical Education offers work leading to the M.Ed. degree. Students who elect the Physical Education option make Physical Education their teaching field in either the Elementary or Secondary Education Master's degree program.

All Master's degree students should consult with their advisers about the requirements.

## Undergraduate Studies

### Bachelor of Science in Education: Emphasis in Physical Education

**General Education Requirements (42 hours required):**

### English

**English 10**, English Composition or demonstration of proficiency (See university general education requirements, p. 19 in this *Bulletin* for more information)

**Speech 101**, Effective Speaking (recommended)

**Note:** Effective Fall Semester, 1979, students who enter UMSL with 89 or fewer hours which are applicable to a degree at UMSL must satisfactorily complete English 160, Advanced Expository Writing, or its equivalent. See university general education requirements, p. 19 for more information.

### Mathematics and Science (three courses)

**Math 02**, Fundamentals of Algebra or demonstration of proficiency (See general education requirements).

**Chemistry 1**, General Chemistry (recommended)

**Biology 1**, General Biology and **Biology 3**, General Biology Laboratory (recommended)

### Humanities (three courses)

### Social Sciences

Three courses, including Psychology, 3, General Psychology, and one American history or government course meeting the university requirement. See university general education requirements, p. 20 in this *Bulletin*.

### Electives

6-9 hours

### Program Requirements

Students must pass proficiency examinations in aquatics, social dance, team sports, lifetime sports, first aid and cardio-pulmonary resuscitation, gymnastics, and physical fitness. The proficiency examinations are regularly scheduled each semester. Students are urged to complete these requirements as early in the program as possible because they are necessary for entry into corresponding analysis and teaching courses and are **required prior to student teaching**. No credit hours are granted for satisfying this requirement

Students are required to take at least **four** analysis and teaching courses in **Physical Education (PHY ED) (12 hours)**.

# Physical Education

The following theory of **Physical Education (PHY ED)** 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**, Sociology of Sport
- 277**, History and Philosophy of American Physical Education and Sport
- 280**, Human Anatomy and Physiology
- 282**, Physical Growth and Motor Development
- 283**, Kinesiology
- 284**, Physiology of Human Exercise

## Elementary School Option

**1 Option Requirements** The following **Physical Education (PHY ED)** courses are required: **(19 hours)**

- 130**, Elements of Health Education
- 191**, Clinical Experience-Elementary School Physical Education
- 268**, The Curriculum and Methods of Teaching Physical Education
- 290**, Student Teaching in Physical Education I
- 291**, Student Teaching in Physical Education II

## 2 Program Requirements: (12 hours)

- 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
- ELE ED 210**, Elementary School Organization, Management, and Techniques of Teaching

**Total: 120 hours**

## Secondary School Option

**1 Option Requirements** The following **Physical Education (PHY ED)** courses are required:

- 192**, Clinical Experience-Secondary Physical Education
- 268**, The Curriculum and Methods of Teaching Physical Education
- 290**, Student Teaching in Physical Education I
- 291**, Student Teaching in Physical Education II

## 2 Program Requirements (12 hours)

- 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

**SEC ED 213**, Techniques of Secondary School Teaching

**Total: 120 hours**

## Graduate Studies

### Master of Education: Physical Education

**Option** Students in Elementary or Secondary Education Master's degree programs may elect Physical Education as their teaching field. For further information about this option, see Elementary Education or Secondary Education elsewhere in this *Bulletin* or consult an adviser.

## 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.

## Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p. 55 in this *Bulletin*. Prerequisites may be waived by consent of the department. \*Starred prerequisites may be taken concurrently with listed offering

### 122 Analysis and Teaching of Aquatic Sports (3)

Prerequisites: Established proficiency in aquatics or consent of instructor. Study and performance of aquatic skills. Particular emphasis on safety and instructional techniques leading to the Water Safety Instructor's Certificate.

### 124 Analysis and Teaching of Gymnastics (3)

Prerequisites: Established proficiency in gymnastics or consent of instructor. The study of selected gymnastic movement. Emphasis will be given to teaching skills and techniques.



## Physical Education

### **125 Analysis and Teaching of Team Sports (3)**

Prerequisites: Established proficiency in team sports or consent of instructor. The study and performance of selected team sports. Particular emphasis will be given to skill analysis, strategy, and teaching of basketball, soccer, volleyball, field hockey, baseball, softball, and flag football

### **126 Analysis and Teaching of Lifetime Sports (3)**

Prerequisites: Established proficiency in lifetime sports or consent of instructor. Study and performance of selected lifetime sports. Particular emphasis will be given to skill analysis, strategy, and teaching of badminton, tennis, golf, and archery.

### **130 Elements of Health Education (3)**

Prerequisite: ED FND 111 and admission to the School of Education. Basic school health for teachers. Considers health as it relates to the school and the child

### **132 Personal Health (3)**

Prerequisites: NONE. A study of factors that contribute to physical and mental well-being at all stages of the life cycle. Particular attention will be given to the identification and analysis of individual health behaviors

### **153 Analysis and Teaching of Social Dance (3)**

Prerequisites: Established proficiency in social dance or consent of instructor. The study and performance of social dance forms. Particular emphasis will be given to contemporary American square dance, international folk dance, and American and Latin ballroom dances.

### **158 Analysis and Teaching of Modern Dance (3)**

Prerequisite: PHY ED 256 or consent of instructor. Course emphasizes movement theory and the application of movement theory to the teaching of modern dance.

### **165 Physical Education Activities in the Elementary School (3)**

Objectives of physical education for the elementary school child with applications of choice of activities, organization of program, theory, and practices.

### **190 Clinical Experience in Physical Gerontology (3)**

Prerequisite: Consent of instructor. Early supervised experience in gerontological physical activity programming. Seminar precedes and accompanies clinical experience

### **191 Clinical Experience-Elementary School Physical Education (3)**

Prerequisite: PHY ED 165. Early professional preparation in elementary school physical education process and practice. Seminar precedes and accompanies clinical experience.

### **192 Clinical Experience-Secondary Physical Education (3)**

Prerequisite: Consent of instructor. Supervised experience in junior or senior high physical education programs. Seminar precedes and accompanies clinical experience.

### **193 Clinical Experience in Youth Sport Programs (3)**

Prerequisite: Consent of instructor. Supervised clinical experience in youth sport programs. Seminar precedes and accompanies clinical experience.

### **204 Special Topics in Physical Education (1-3)**

Prerequisite: Consent of instructor. Independent study through readings, reports, field study, or research.

### **232 Sports Medicine (3)**

Prerequisite: PHY ED 280. A study of the medical supervision of sports participants, training, prevention, and care of injuries. Course grants Red Cross First Aid Certificate

### **256 Rhythm and Movement (3)**

Prerequisite: PHY ED 165. Exploration into locomotor and nonlocomotor forms and expressive movement through rhythm for children. Implications for methodology in concept teaching for elementary educators.

### **257 Creative Dance for Children (3)**

Prerequisite: PHY ED 256 or consent of instructor. A study of the physical and aesthetic expression of children through the medium of dance, with particular emphasis on creating and teaching dances.

### **261 Physical Activity for the Exceptional Learner (3)**

Prerequisite: SPC ED 311 and SPC ED 313. A study of the specific physical activity and exercise needs, interests, and problems of the exceptional learner with considerable emphasis on the development of methods and competencies in modifying physical activities.

### **268 The Curriculum and Methods of Teaching Physical Education (3)**

Prerequisite: SEC ED 213 or ELE ED 210. A study of the scope and sequence of the physical education courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of physical education. To be taken concurrently with student teaching.

### **275 Psychology of Sport (3)**

Prerequisite: Psychology 3 and 270 or 271. A study of the following aspects of psychology as they influence performance in sport and physical activity: learning, retention, transfer, practice, motivation, anxiety, stress, relaxation, and fatigue.

# Physical Education

## **276 Sociology of Sport (3)**

Prerequisite: Sociology 10. Study of sport in the socio-cultural process of school and society.

## **277 History and Philosophy of American Physical Education and Sport (3)**

Prerequisite: Junior standing. A chronological study of the role of sport in American society and the development of physical education as a profession. Of particular interest will be the effect of religion, philosophy, economics, politics, and education upon physical education and sport.

## **280 Human Anatomy and Physiology (5).**

Prerequisites: Biology 1 and 3 or consent of instructor. Study of the basic aspects of human anatomy and physiology and their relationship to concepts in sport and physical activity. Two hours laboratory per week.

## **282 Physical Growth and Motor Development (3)**

Prerequisite: Psychology 270 and PHY ED 165. Examination of physical growth and motor development of the human being from infancy through pre-adolescence. Emphasis on evaluative tools, techniques, and studies of research findings. Laboratory and field experience for observation of infants and children. Participation in practical development of experimental environment that is to facilitate neuropsychological competency of pre-school children. Elective course suggested for students of early childhood, special education, elementary education, and physical education.

## **283 Kinesiology (3)**

Prerequisite: PHY ED 280. A study of the biomechanics of human motion with particular application to performance in sports activities.

## **284 Physiology of Human Exercise (3)**

Prerequisite: PHY ED 280. A study of the physiological effects of human exercise and sport activities upon the human body; exercise metabolism; work and fatigue; development of strength and flexibility; and cardiorespiratory effects of exercise.

## **290 Student Teaching in Physical Education I (5)**

Prerequisites: SEC ED 213; eight of the following courses: PHY ED 124, PHY ED 125, PHY ED 130, PHY ED 153, PHY ED 232, PHY ED 256, PHY ED 275, PHY ED 276, PHY ED 277, PHY ED 283, and/or PHY ED 284; and admission to student teaching. Must be taken "in block" with PHY ED 268 and PHY ED 291 and must immediately precede PHY ED 291 in the semester. Clinical teaching experience in physical education settings in the schools under University and school supervision. Required for all majors in physical education.

## **291 Student Teaching in Physical Education II (5)**

Prerequisite: PHY ED 290. Must be taken "in block"

with PHY ED 268 and PHY ED 290 and must immediately follow PHY ED 290 in the semester. Clinical teaching experience in physical education settings in the schools under University and school supervision. Assignments will be in different school districts, buildings serving families of different socio-economic and cultural backgrounds, and at different grade levels from those of the PHY ED 290 assignments. Required for all majors in physical education.

## **292 Internship in Physical Gerontology (6-12)**

Prerequisites: PHY ED 190, Clinical experience in Gerontological Physical Education. Clinical experience in selected gerontological setting as a physical education practitioner under University and institution supervision. Experiences will include at least two separate experiences completed concurrently or successively. Seminar accompanies internship experiences.

## **330 Prescribing Physical Activity (3)**

Prerequisites: PHY ED 280, 283, 284, or consent of instructor. Prescription of physical activity for individualized and group programming based upon physical fitness assessment. Health, nutrition, age, physical fitness and related components are considered in developing specialized exercise programming based upon current physiological and biomechanical research.

## **390 Student Teaching in Physical Education III (5)**

Prerequisites: PHY ED 291 or equivalent and admission to student teaching. Clinical teaching experience in physical education settings in schools under University and school supervision with seminar included. For students who wish an additional student teaching experience.

## **461 Problems of Teaching Physical Education to Exceptional Individuals (3)**

Prerequisite: Consent of instructor. A study of current programs, problems, research, and trends in programs of physical education for exceptional individuals.

## **465 Problems of Teaching Physical Education in the Elementary School (3)**

Prerequisite: Consent of instructor. A study of current practices, problems, trends, and research involved in analyzing and developing strategies for the improvement of the program of physical education in elementary schools

## **468 Problems of Teaching Physical Education in the Secondary School (3)**

Prerequisite: Consent of instructor. A study of current practices, problems, trends, and research involved in analyzing and developing strategies for the improvement of the secondary school physical education instructional program.

## Physical Education

### **475 Psychomotor Learning (3)**

Prerequisite: PHY ED 275. Application of specific principles of psychology to the teaching of physical education and sport. Involves both practical and theoretical approaches to motor learning. Explores techniques of improving physical education in the school through the understanding of various concepts of motor learning and skill acquisition.

### **476 Social Analysis of Sport (3)**

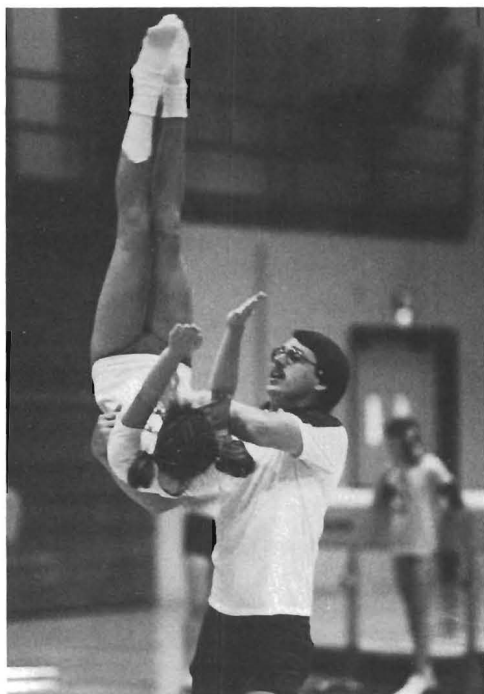
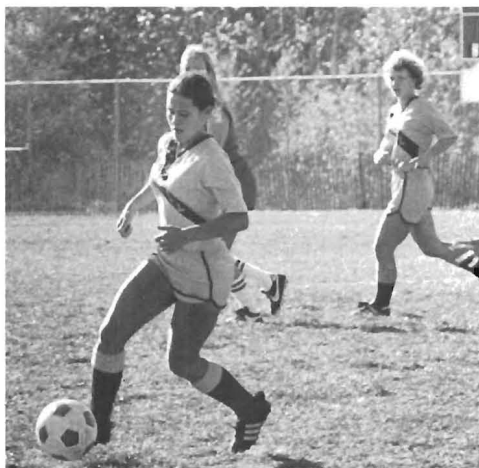
Prerequisite: PHY ED 276 or consent of instructor. A study of basic social processes in sport, such as socialization, social facilitation, and assimilation.

### **484 Physiological Bases of Physical Performance (3)**

Prerequisite: PHY ED 280, PHY ED 284 or consent of instructor. Physiological bases and contemporary trends in the study of human performance and exercise stress; analyze research literature, and study experimental strategies with the focus upon application to teaching and coaching.

### **497 Problems (1-10)**

Selected problems to meet the needs of individual students.



## Interdisciplinary Programs

# Master's Degree in Public Policy Administration (MPPA)

### Faculty

**E. Terrence Jones**, Director of MPPA Program  
Professor of Political Science and Public Policy  
Administration

Ph.D., Georgetown University

**Joseph P. McKenna**, Professor of Economics and  
Public Policy Administration

Ph.D., Harvard University

**Sharon Levin**, Associate Professor of Economics and  
Public Policy Administration

Ph.D., University of Michigan

**Andrew D. Glassberg**, Assistant Professor of Political  
Science and Public Policy Administration

Ph.D., Yale University

**James M. Krueger**, Assistant Professor of Accounting  
and Public Policy Administration

D.B.A., Indiana University

**Vicki L. Sauter**, Assistant Professor of Management  
Science and Public Policy Administration

Ph.D., Northwestern University

**J. Frederick Springer**, Assistant Professor of Political  
Science and Public Policy Administration

Ph.D., University of California-Davis

\*member of Graduate Faculty

The master's program in public policy administration 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. Combining the faculties and resources of the economics and political science departments and the School of Business Administration, the program includes courses in policy analysis, public administration, management, accounting, and economics in the basic curriculum. The MPPA program 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.

### Facilities and Cooperative Centers

In addition to the distinguished doctoral-level faculty in business, economics, and political science, students have access to courses and faculty in other social sciences, the administration of justice department, Center of Community and Metropolitan Studies, and Center for International Studies. The full facilities of the Computer Center, including the urban data program, are available. UMSL is also a member

of the Inter-University Consortium for Political 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*, see p. 29. Students entering the MPPA program may be required to take up to 9 hours of prerequisites in mathematics, accounting, and social science. These courses would not count toward the 42 hours required for the MPPA degree.

### Degree Requirements

The program includes 42 hours, 27 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 27 hours in the Core Curriculum sequence as follows:

### Management Science

**Business Administration 480**, Introduction to  
Computer Programming and Business Application  
**Business Administration 481**, Statistical Analysis for  
Management Decisions

Students must also take **one** of the following:

**Business Administration 482**, Operations Research  
Methods  
**Business Administration 484**, Business Information  
Systems  
**Business Administration 485**, Computer Information  
Systems  
**Business Administration 486**, Advanced Statistical  
Methods for Management Decisions  
**Economics 365**, Economic Statistics and Econometrics  
**Sociology 475**, Introduction to Evaluation Research  
Methods

### Public Administration

**Business Administration 460**, Administrative  
Processes  
**Political Science 440**, Proseminar in Public  
Administration

## Interdisciplinary Programs

# Master's Degree in Public Policy Administration (MPPA)

### Policy Analysis

**Political Science 400**, Approaches to the Study of Public Policy

**Political Science 409**, Cases in Public Policy Analysis

### Governmental Accounting and Economics

**Business Administration 418**, Governmental Budgeting and Financial Control

**Economics 421**, Public Sector Microeconomics

A full range of graduate-level offerings in the social science departments and 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 examination 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 6 hours may be earned through an internship. MPPA students employed in public agencies may receive up to 6 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 the 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 student with all prerequisites)

#### First Semester

**Business Administration 460**, Administrative Processes

**Business Administration 480**, Introduction to Computer Programming and Business Application

**Political Science 400**, Approaches to the Study of Public Policy

**Political Science 440**, Proseminar in Public Administration

Total: 12 hours

#### Second Semester

**Business Administration 418**, Governmental Budgeting and Financial Control

**Business Administration 481**, Statistical Analysis for Management Decisions

**Economics 421**, Public Sector Microeconomics and 3 hours of special field electives or internship

Total: 12 hours

#### Third Semester (Summer)

6 hours of special field electives or internship

Total: 6 hours

#### Fourth Semester

**Business Administration 482**, Operations Research Methods

**Political Science 409**, Cases in Public Policy Analysis and 6 hours of special field electives or internship

Total: 12 hours

## Career Outlook

The current outlook for graduates of the interdisciplinary Master 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.

## Course Descriptions

For course descriptions, refer to the appropriate Course Description sections for Business Administration, Economics, and Political Science in this *Bulletin*.

# Gerontological Studies

## Faculty

**Ilene G. Whittels**, Director of Gerontology Program,  
Visiting Assistant Professor, School of Business  
Ph.D., Washington University

A Certificate in Gerontological Studies, a multi-disciplinary course of study, is available. This program provides an opportunity for students to obtain a focused specialty in gerontology in addition to their majors. It utilizes offerings in the College of Arts and Sciences and the Schools of Business Administration and Education. It is appropriate for students in any of the Schools of the University. 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.

## Program Requirements

### 1 Natural Sciences

**Biology 111**, Issues in Geriatric Health Care (2)

**Biology 311**, Physiology of Aging (3)

### 2 Social and Policy Issues

**Sociology 380**, Selected Topics in Social Policy: The Use of Community Resources in Aging (1)

**Social Work 330**, Social Work Practice with the Aged (3)

### 3 Business and Management

**Business 395**, Business Administration Seminar: Aging in the Work Place (3)

### 4 Psychology and Counseling

**Psychology 272**, Adult Development and Aging (3)

**Psychology 280**, The Psychology of Death and Dying (3)

**Education 404**, Seminar: Counseling the Older Adult (3)

### 5 Physical and Health Education

**Physical Education 190**, Clinical Experience in Physical Gerontology (3)

**Physical Education 292**, Internship in Physical Gerontology (variable)

**Physical Education 330**, Prescribing Physical Activity (3)

### 6 Humanities

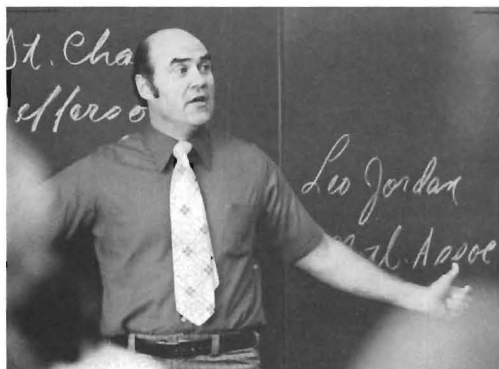
**Art 74**, Special Topics in Studio: Teaching Art to Older People (1)

No more than 3 credit hours from Research/Practicum Experience courses may be applied. The Research/Practicum must have the approval of the Director of the Gerontology Program

For more information, contact the director.

University of Missouri-St. Louis

## Evening College





## Evening College

### Administration

**Joy E. Whitener**, Dean; Professor, School of Education  
Ed.D., Washington University

**Donald G. Bowling**, Assistant Dean  
M.A., Northeast Missouri State University

**Harry Gaffney**, Assistant Dean  
Ph.D., St. Louis University

### General Information

The Evening College provides a number of undergraduate degree programs for students who, for various reasons cannot 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.

**Degrees and Academic Areas** The Evening College offers the Bachelor of Arts (A.B.) with 11 possible majors, Bachelor of Science (B.S.) with 7 major options, Bachelor of Social Work (B.S.W.), and Bachelor of General Studies (B.G.S.) degrees. Minors are also available in several areas. Courses are offered in 28 academic areas, including administration of justice, anthropology, art, astronomy, biology, business administration, chemistry, computer science, economics, education, English, French, geography, geology, German, history, home economics, library science, mathematics, music, philosophy, physics, political science, psychology, sociology, social work, Spanish, and speech communication. Preprofessional courses are also available for most professional programs.

### 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.

Transfer students or students with 40 or more semester hours who wish to be assigned advisers and to graduate from the Evening College must file declaration of degree candidacy forms.

**Facilities** The facilities of the university, including the library, laboratories, cafeteria, bookstore, health service, placement service, admissions office, and cashier's 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, a national honorary scholastic society, was established at UMSL in August, 1976. 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.

### General Education Requirements

All candidates for a degree through the Evening College must meet the university general education requirements as explained on pp. 19-20 in this *Bulletin*.

### Degree Programs

**Bachelor of Arts** Majors available for the A.B. degree are biology, chemistry, economics, English, history, mathematics, physics, political science, psychology, speech communication, and sociology. Minors are also available in several areas. For further information, consult the appropriate departmental section of the College of Arts and Sciences in this *Bulletin*.

## Evening College

**Bachelor of Science** The B.S. degree is available in administration of justice, business administration, chemistry, economics, education, mathematics—computer science, and physics (with an applied physics option). The B.S. in education offers specializations in early childhood education, elementary education, special education, and secondary education with eleven teaching areas. For further information, consult the appropriate departmental section of the College of Arts and Sciences in 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 offered only 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.

#### 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 UMSL.

3 Study programs should be structured to meet students' unique educational goals and should not be readily available under any other UMSL 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 B.G.S. program

**Personal Emphasis Area** In consultation with an adviser, students shall develop a personal emphasis area of at least 30 hours that meets their educational goals. 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 department 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 UMSL, of which 15 hours must be in the personal emphasis area. No more than 24 hours may be taken pass-fail.

#### 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.

## Evening College

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 3 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** Credit not exceeding 6 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.

## Certificate

**Writing Certificate** The Writing Certificate provides the opportunity for students to focus on a specialty in writing. A minimum of 18 hours of writing courses is required. For more information, see the Certificate Programs section in this *Bulletin*.

## Career Outlook

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 a number of professional counselors with extensive experience in adult interests and motivations who will help students make vocational choices or give indepth personal counseling. For an appointment, call the Evening College office.

University of Missouri-St. Louis

**School of Optometry**



## School of Optometry

### Faculty

**Jerry L. Christensen**, Dean; Professor  
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  
**William F. Long**, Associate Professor  
Ph.D., Michigan State University; O.D., Indiana University  
**Thomas W. Robertson**, Assistant Professor  
Ph.D., University of Miami  
**Vinod Anand**, Adjunct Assistant Professor  
Ph.D., University of Punjab, India  
**Joseph Feder**, Adjunct Professor, Chemistry  
Ph.D., Illinois Institute of Technology  
**Donald Grogan**, Associate Professor, Biology  
Ph.D., University of Missouri-Columbia  
**Sally Hebert**, Adjunct Assistant Professor  
D.M.D., Washington University School of Dental Medicine

### General Information

After more than ten years of study and planning for a school of optometry to meet Missouri's long-term need for optometric practitioners, the School of Optometry at the University of Missouri-St. Louis came into existence on June 1, 1980. This school will allow Missourians the opportunity to study optometry within the state and at less cost than at other schools and colleges of optometry. With only thirteen other schools of optometry in the United States, and a national need for approximately 1400 new optometrists by the end of the 1980s, the graduating classes of this school of optometry will help meet the expected demand for optometric practitioners.

### Professional Program

Doctors of Optometry are health-care practitioners who provide primary vision care including the prevention, detection, diagnosis, treatment and management, of visual and ocular problems. They also enhance visual performance, provide vision and ocular health education, and devise and administer continuing programs of vision and ocular care.

A thorough evaluation of the internal and external structure of the eyes permits the detection of such systemic diseases as diabetes, hypertension, and arteriosclerosis, and eye diseases such as glaucoma and cataract that require referral to other health-care practitioners for treatment.

The School of Optometry offers a four-year program leading to the Doctor of Optometry (O.D.) degree. The first year of this program stresses basic health science courses such as gross anatomy, neuroanatomy, biochemistry, and human physiology. Visual science courses taught during the first professional year include ocular anatomy, geometric optics, physical optics, and physiological optics (vision) courses. Year-long courses in clinical optometry and ophthalmic optics are featured in the second year, as well as courses in systemic pathology, ocular pathology, ocular physiology, and other visual science courses. In the third and fourth years, students spend the majority of their time involved with patient care in the clinic and also take courses dealing with contact lenses, systemic pharmacology, ocular pharmacology, vision performance, low vision and rehabilitation, and public health.

### Admissions Policies

Candidates for admission to the School of Optometry should meet all the requirements for admission to the University of Missouri-St. Louis; however, admission to the professional program is based primarily on the quality of the applicant's scholarship in the required preoptometry courses, the Optometry College Admission Test (OCAT) scores, and the interview and letters of recommendation. All courses offered to satisfy the admissions requirements must be acceptable to the department offering that course toward major requirements, and must be taken in a fully accredited institution or must be acceptable to an accredited institution for degree credit. Applicants must have completed 90 semester-hours or 135 quarter-hours (the equivalent of three years of college education) prior to matriculation. Not more than 60 semester-hours or 90 quarter-hours of credit earned at a two-year institution will apply toward the credit hour requirement. Applicants holding a bachelor's degree will be given preference over applicants with similar academic credentials but without a degree.

### College-Level Prerequisite Courses

#### Biology

Two semesters or three quarters including laboratory.

#### General Chemistry

Two semesters or three quarters including laboratory.

## School of Optometry

### Organic Chemistry

One semester or two quarters including laboratory.

### Physics

Two semesters or two quarters including laboratory. Courses must cover mechanics, heat, sound, light, and electricity.

### Mathematics

One semester or one quarter in calculus and one semester or one quarter in statistics. (The statistics course does not have to be offered through the mathematics department to be acceptable for credit.)

### Psychology

Two semesters or three quarters.

### Social and Behavioral Sciences

Two semesters or two quarters (in addition to the psychology requirement). Courses must be taken in sociology, economics, anthropology, history, political science, or psychology.

### English

Two semesters or three quarters. Courses should stress English Composition. In addition, a course in speech communication is strongly recommended.

These courses satisfy the minimum prerequisite course requirements for matriculation into the School of Optometry. Additional courses will have to be taken to fulfill the 90 semester hour (135 quarter hour) requirement.

## Optometry College Admission Test (OCAT)

All applicants are required to take the Optometry College Admission Test. This test is designed to measure vocabulary strength, study-reading and quantitative abilities, and general scientific knowledge in the areas of biology, chemistry, and physics. For testing times and locations, please write to the School of Optometry or: Optometry College Admission Test, Psychological Corporation, 304 East 45th St., New York, New York 10017.

## Selection Procedures

The Admissions Committee reviews and evaluates all applicants, and selects 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 College Admission Test, and the letters of reference. Those applicants whom the Committee considers most competitive will be scheduled for an interview. The entering class will be selected from this group of interviewed applicants.

## Acceptance Procedures

Students admitted to the program will begin receiving notices of acceptance in December of the year prior to matriculation. Some notices of acceptance may be received as late as May.

If acceptance to the class is conditional, the terms of the condition must be met prior to matriculation.

## Fees

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

### Regular Semester

The following fees are based on 12 or more credit hours.

|                      |            |
|----------------------|------------|
| Incidental Fee       | \$ 480.00  |
| Supplemental Fee     | 960.00     |
| Student Activity Fee | 36.00      |
| Total                | \$1,476.00 |

### Summer Session

The following fees are based on 6 or more credit hours.

|                      |          |
|----------------------|----------|
| Incidental Fee       | \$240.00 |
| Supplemental Fee     | 480.00   |
| Student Activity Fee | 17.50    |
| Total                | \$737.50 |

### Contract Fee

All non-resident optometry students are also required to pay a contract fee of \$5,500 (\$2,750 per regular semester). The contract fee is in addition to the other required fees listed above.

For further information on required fees, optional fees, and the refunding policy, see the Admissions and Academic Policies section in this *Bulletin*.

# School of Optometry

## Financial Aid

Students who need financial assistance should contact the Office of Student Financial Aid. UMSL attempts to assist as many students as possible, and encourages students who can demonstrate academic promise and financial need to apply for financial assistance. For information regarding available sources of student financial assistance contact:

Office of Student Financial Aid  
Room 209 Woods Hall  
University of Missouri-St. Louis  
8001 Natural Bridge Road  
St. Louis, Missouri 63121

## Class Size

Each entering class will be limited to 40 students.

## Residence

The UMSL School of Optometry is state supported and therefore gives preference to students who are residents of Missouri. Twenty-five of the forty available positions are reserved for Missouri residents. The remaining fifteen places will be allocated to residents of other states. Preference will be given to applicants from midwestern states. Contracts with other midwestern states will be developed such that the state involved will pay the difference between the out-of-state and in-state tuition.

## 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:

- 1 Application
- 2 Official high school and college transcripts, followed by semesterly or quarterly updated transcripts
- 3 Official **OCAT** results
- 4 A composite evaluation prepared by the preprofessional advisory committee is required if available at the educational institution the applicant is attending. An applicant should contact his/her local preprofessional college adviser for additional information and application forms. Those applicants not currently attending college or who are at an institution not offering

a committee evaluation will be required to submit four letters of recommendations.

Early submission of applications is encouraged.

**Applications must be complete by February 1 to be considered for admission to the class entering in September of the same year.**

All correspondence concerning admissions matters should be addressed to:

Chairperson Admissions Committee  
School of Optometry  
University of Missouri-St. Louis  
8001 Natural Bridge Rd.  
St. Louis, Missouri 63121.

## Career Outlook

The professional services offered by an optometrist include evaluation of the health status of the visual system, medication of the optical defects of the eye, improvement of the vision performance of the patient, and diagnosis of general health problems based on ocular signs and symptoms.

Graduates from the School of Optometry should have no problem starting their practices in the states of their choice. The practice of optometry can be carried out in solo, associate, or group practice. While the American Optometric Association recommends fourteen optometrists per 100,000 people, currently there are only nine optometrists for every 100,000 people in the United States. In Missouri alone, thirty-one counties do not have practicing optometrists, another twenty-two counties have only one. At the present, the number of optometrists per population in Missouri is not far below the national average; however, a significant proportion of the optometrists in the state are in the higher age brackets. If the number of optometrists in the state does not increase, there will be an optometric manpower shortage by 1990. Other states are also experiencing shortages of optometrists. Depending upon their population, these states need between ten and thirty additional optometrists every year.

The practice of optometry also can be carried out in the military services or U.S. Public Health Services. Optometric education and vision research offer other career opportunities.



## School of Optometry

As a health-care profession, a career in optometry is both rewarding and intellectually challenging. Vision is man's most important sense and its preservation and enhancement brings a great sense of satisfaction and accomplishment.

### Course Descriptions

For a general explanation of the course numbering system and symbols used in this section, refer to p 55 in this *Bulletin*

#### First Year

##### Fall Semester

###### 501 Physiological Optics I (1)

An introduction to the various topic areas of vision science such as ocular anatomy and physiology, optics of the eye, eye movements, sensory physiology, visual psychophysics, binocular vision, and perception. Comparative anatomy and physiology of the visual systems of various animal species will be considered.

###### 502 Gross Human Anatomy and Histology (4)

Structure of the human body with special emphasis on anatomy of the head and neck. The microanatomy of the basic tissue types and organs will also be examined

###### 503 Microbiology

Bacteriology, virology and immunology with consideration to their involvement in human disease. Ocular manifestations will be examined.

###### 504 Neuroanatomy (4)

The anatomy of the skull with emphasis on the orbit. Detailed gross and microscopic anatomy of the human central nervous system with a special emphasis on the nuclei, cranial nerves and the visual system.

###### 505 Optics I (4)

The principles of geometrical optics as applied to refracting and reflecting surfaces, thin lenses, thick lenses and lens systems. The optics of various ophthalmic instruments and techniques will be examined.

###### 506 Optometric Orientation (2)

An introduction to the contemporary practice of optometry beginning with a consideration of the history of the optometric profession and concluding with the consideration of the present day scope of optometric practice. The role of optometry in the total health care system will be evaluated along with future projections.

###### 507 Epidemiology (2)

A review of descriptive statistics, probability, sampling, correlation, prediction, and their use in optometry and vision research. The essentials of epidemiological study procedures and their significance in health care. Epidemiology of major systemic disorders and disorders of the visual system.

##### Winter Semester

###### 510 Ocular Anatomy (3)

Detailed macroscopic, and light and electron microscopic study of the eyeball, orbit, optic nerve, and visual pathways. Embryology of the eye.

###### 511 Human Physiology (4)

Study of the function of the body's major organ systems. Physiology of the central, peripheral, and autonomic nervous systems, cardiovascular, respiratory, endocrine, digestive, and reproductive systems.

###### 512 Biochemistry (2)

Basic concepts of general and cellular biochemistry. Study of nomenclature structure, and reactions of organic molecules. Some emphasis on visual system — tears, intraocular fluids, lens, and photochemistry.

###### 513 Optics II (3)

Radiometry and photometry. Physical optics including diffraction, interference, polarization, scatter, birefringence, and holography. Fundamentals of photography.

###### 514 Clinical Optometry I (3)

Introductory clinical optometry, patient orientation, essentials of the case history, clinical testing of interpupillary distance, versions, accommodation, and pupillary reflexes.

###### 515 Physiological Optics II (4)

The eye as an image forming mechanism, the schematic eyes, the optical role of the pupil, the retinal image and its evaluation. Nature, classification, and etiology of ametropia. Mechanism and optical aspects of accommodation.

#### Second Year

##### Fall Semester

###### 520 Ophthalmic Materials I (3)

History of ophthalmic materials; physical characteristics of lenses, lens aberrations, lens design, ophthalmic prisms, multifocal lenses, lens specifications, physical characteristics of frames, lens and frame specification, fitting and dispensing concepts.

###### 521 Clinical Optometry II (6)

Development of clinical skills necessary for patient care in the areas of refraction, ocular motility, binocular integration, and visual performance.

###### 522 Systemic Pathology (4)

Principles of health and disease. A survey of disease, disease processes, and disease manifestations. A study of tissue changes in inflammation, tumor formation, allergies, disturbances of metabolism and circulation, and injuries.

# School of Optometry

## 523 Ocular Physiology (3)

The physiology of the eye, aqueous production and drainage, intraocular pressure, corneal and lens metabolism, ocular circulation, retinal and optic nerve metabolism, tear fluid formation and physiology.

## 524 Physiological Optics III (4)

Monocular sensory mechanisms of vision, photoreception, visual neuro-physiology, spatial and temporal effects, visual acuity and resolution, adaptation, brightness discrimination, color vision. Topics include a consideration of both the psychophysical aspects and neurophysiological bases of these mechanisms.

## Winter Semester

## 530 Ophthalmic Materials II (3)

Special lenses and frames, protective eyewear, unique designs, low-vision aids, aniseikonic lenses, fitting and dispensing. Optics and design of contact lenses, contact lens specification, fabrication, verification, and modification of contact lenses.

## 531 Clinical Optometry III (6)

Continuation of clinical optometry II, correlation and analysis of optometric data, the process of patient care - diagnosis, prognosis and therapy. Preview discussion of optometric specialty areas. Limited clinical experience.

## 532 Physiological Optics IV (6)

Ocular motility. The anatomy, physiology, and neurology of the intra- and extraocular muscle systems. Measurement, characteristics, and control of ocular movements. Binocular vision and space perception. Visual direction, theory of correspondence, binocular eye movement, fusion, rivalry, ocular dominance, and stereopsis. Developmental aspects and neurophysiological mechanisms.

## 533 Ocular Pathology I (4)

The etiology, epidemiology, symptoms, signs, and course sequelae of ocular disease and anomalies. Disease and anomalies of lids, orbit, conjunctiva, cornea, sclera, iris, ciliary body, lens, vitreous, retina, choroid, and optic nerve.

## 534 Physiological Optics V (2)

Perception and information processing. Theories of perception. The perception of time, size, shape, distance, and motion. Perceptual and sensory deprivation, and perceptual adaptations.

## Third Year

## Summer Session

## 540 General Clinic I (10)

The clinical examination and care of general clinic patients, along with the fitting and dispensing of lenses and frames.

## 541 Interpersonal Relations (2)

Principles of human interpersonal relationships. The development of patient-doctor relationships. Emphasis will be on preparing the student to understand and deal with the many human interpersonal relationships necessary in the practice of optometry.

## 542 Clinic Seminar I (2)

Presentation and discussion of interesting clinical patients. Additional clinical testing techniques and concepts. Further discussion of patient data analysis — the process of determining diagnosis, prognosis, and therapy. Further discussions in the optometric specialties.

## Fall Semester

## 550 General Clinic II (6)

Same as General Clinic I.

## 551 Clinical Medicine (3)

The etiology, epidemiology, symptoms, signs, and course sequelae of the major or more common, or both, health problems in the U.S.A. Principles of emergency care.

## 552 Clinic Seminar II (2)

Same as Clinical Seminar I.

## 553 Contact Lenses I (3)

Historical development of the contact lens and its use. Basic theories and methods of fitting. Contraindications for fitting. Fitting of hard and soft contact lenses and their modification, post fitting care and problems; care and treatment of contact lenses. Limited clinical experience.

## 554 Binocular Vision Anomalies (4)

The etiology, epidemiology, symptoms, signs and course sequelae of the obstacles to binocular vision — sensory, integrative, and motor. The detection, diagnosis, prognosis, and orthoptic treatment of such anomalies. Clinical care of aniseikonias.

## 555 General Pharmacology (2)

General pharmacological principles, methods of administration, various systemic drugs and their pharmacological action and side effects, with emphasis on those that affect the visual system. Agencies, laws, and drug abuse.

## 556 Ocular Pathology II (3)

Ocular manifestations of systemic diseases and anomalies. The etiology, epidemiology, symptoms, signs and course sequelae of visual and ocular neurological anomalies, lid and pupillary anomalies, paralytic strabismus, and visual field problems.

## Winter Semester

## 560 General Clinic III (4)

Same as General Clinic I.

## School of Optometry

### **561 Special Clinic I (2)**

The clinical examination and care of patients in the optometric specialty areas.

### **562 Clinic Seminar III (2)**

Same as Clinic Seminar I.

### **563 Contact Lenses II (4)**

Advanced contact lens fitting, theories and clinical methods for meridional, prism segment, and bifocal contact lenses. Fitting keratoconus, astigmatic corneas, aphakic eyes, and high refractive errors. Use and fitting of haptic lenses, cosmetic shells, and prosthetic eyes. Limited clinical experience.

### **564 Low Vision (3)**

The etiology, epidemiology, symptoms, signs, and course sequelae of low vision problems. Methods of testing, prognosis, selection of therapy, design of environmental and optical aids, problems of rehabilitation. Agencies, laws, public and social assistance for the partially sighted and blind. Study of the psychology, unique examination procedures and care of geriatric patients and their problems and needs.

### **565 Ocular Pharmacology (3)**

Pharmacology, uses, doses, contraindications, adverse effect of drugs producing miosis, mydriasis, cycloplegia, accommodation, and corneal anesthesia. The pharmacology, use contraindications, and adverse effect of drugs commonly used in treating visual and ocular problems.

### **566 Public Health (1)**

History of public health, sociological aspects of health care, the financing of health care, organizations of health care. Methods of payment.

### **567 Vision Performance (3)**

The etiology, epidemiology, symptoms, signs, and course sequelae of learning, perceptual-motor, and other vision performance problems and their detection, diagnosis, prognosis and therapy. Study of the psychology, unique examination procedures, and care of pediatric patients and their problems and needs.

## **Fourth Year**

### **Summer Session**

#### **570 General Clinic IV (8)**

Same as General Clinic I.

#### **571 Specialty Clinic II (6)**

Same as Specialty Clinic I

#### **572 Clinic Seminar IV (2)**

Same as Clinic Seminar I.

### **Fall Semester**

#### **580 General Clinic V (6)**

Same as General Clinic I.

#### **581 Specialty Clinic III (4)**

Same as Specialty Clinic I.

#### **582 Clinic Seminar V (2)**

Same as Clinic Seminar I.

#### **583 Practice Management I (2)**

The development and management of an optometric practice from a patient and community service point of view — office design, office routine, patient care administration, personnel management, recall systems, developing patient and interprofessional relationships through effective communication.

#### **584 Affiliated Clinic I (4)**

The clinical examination and care of clinic patients in the School of Optometry's affiliated clinics. These clinics offer unique patient populations.

#### **585 Public Health II (2)**

Local, state, and federal organizations involved in health care, comprehensive health planning and new trends in health care delivery, hospital organization, assessment of quality of health care delivery, health and patient — community education, organization of health services.

#### **586 Environmental Vision (2)**

The principles of efficient illumination, vision requirements in homes, schools, business, industry, and vision safety in the environment. Vision screening in schools, industry, community, motor vehicle examinations. The relationships between vision and avocational efficiency. The roles of patient care and human engineering in maximum visual performance.

### **Winter Semester**

#### **590 General Clinic VI (6)**

Same as General Clinic I.

#### **591 Specialty Clinic IV (6)**

Same as Specialty Clinic I.

#### **592 Clinic Seminar IV (2)**

Same as Clinic Seminar I.

#### **593 Practice Management II (2)**

The establishment, development, and management of an optometric practice from a business point of view. Legal development, governmental relationships, legislation and the legislative process; licensing procedures, state boards, and laws, malpractice, professional ethics, taxes, fee structures, insurance, and accounting methods.

#### **594 Affiliated Clinic II (4)**

Same as Affiliated Clinic I.

## School of Optometry

### 595 Elective (2)

An elective series covering vision science and the clinical practice of optometry. Possible topics include: Color vision, electrodiagnostic evaluations, advanced neuro-ophthalmic evaluation, special contact lenses, corneal physiology, and emergency care

### 596 Recent Advances (2)

Recent information relating to the visual process and the practice of optometry.



## School of Nursing

### Faculty\*

**Shirley A. Martin**, Dean, Professor  
R.N., Ph.D., St. Louis University

**Eleanor J. Sullivan**, Assistant Professor  
R.N., Ph.D., St. Louis University

\*Additional faculty will be appointed during the winter and summer semesters of 1981.

### General Information

A national movement in nursing encourages preparation for entry into professional nursing practice to begin at the baccalaureate level. The majority of registered nurses in practice today have earned either a diploma in nursing from a hospital school of nursing or an associate degree in nursing from a two- or four-year college. Many of these registered nurses are enrolling in a college or university program offering a bachelor of science degree in nursing (B.S.N.). The School of Nursing offers a baccalaureate completion program for the registered nurse. The program is designed for registered nurses who may pursue studies on either a full- or part-time basis. Qualified students will be admitted in the fall of 1981. The School will apply for National League for Nursing accreditation following graduation of the first class.

### Admission Policies

Candidates for admission to the School of Nursing must meet all requirements for admission to the University of Missouri-St. Louis. In addition, the student must be a graduate of either a diploma school of nursing or an associate degree program in nursing and be licensed as a registered nurse in the state of Missouri. Additional admission requirements include the following:

- 1 Completion of prerequisite lower division general education courses.
- 2 Cumulative grade point average of 2.5 (4.0 scale) on at least 30 hours of college level course work.

### General Education Requirements

All nursing majors must complete the general education requirements of both the University and

the School of Nursing. The University requirements include:

- 1 Demonstration of basic skills in the communicative area by a minimum grade of C in a college level English composition course or a satisfactory score on the English placement test.

- 2 Successful completion of English 160, Advanced Expository Writing, **or** its equivalent.

- 3 Demonstration of basic skills in mathematics by a minimum grade of C in two years of high school mathematics, a passing grade in a college level mathematics course, a passing grade in Mathematics 02, **or** a satisfactory score on the mathematics placement test.

- 4 Three courses in the humanities which include art, music or theater appreciation, philosophy, and literature.

- 5 Additional courses in natural and behavioral sciences.

Applicants should contact the academic advising office in the School of Nursing for admission information.



## UMR Graduate Engineering Center

### Faculty

**Edward C. Bertinoli**, Director, Professor  
Ph.D., Kansas State University

**C. Ben Basye**, P.E., Professor  
Ph.D., Iowa State University

**Anton deS. Brasunas**, P.E., Professor  
Sc.D., Massachusetts Institute of Technology

**Herbert A. Crosby**, Professor  
D.Sc., Washington University

**Daniel C. St. Clair**, Associate Professor  
Ph.D., University of Missouri-Rolla

**Keytack H. Oh**, Assistant Professor  
Ph.D., Ohio State University

**David A. Shaller**, Assistant Professor  
J.D., Cleveland State University

### General Information

The UMR Graduate Engineering Center offers course work leading to the Master of Science degree in ten areas of engineering and computer science. In addition, the Professional Development degree is also available to persons wishing a more flexible post-baccalaureate degree.

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 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.

### Degree Areas

Degree areas are as follows:

- Aerospace Engineering
- Chemical Engineering
- Civil Engineering
- Computer Science
- Electrical Engineering
- Engineering Mechanics
- Engineering Management
- Environmental Engineering
- Mechanical Engineering
- Metallurgical 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 ECPD-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 Graduate Engineering Center. Course descriptions are listed in the UMR graduate catalog.

### Fees

Registration fees for UMR Graduate Engineering Center programs are different from those on the UMSL Campus. For information about the UMR evening program on the UMSL Campus, write to UMR Graduate Engineering Center, UMSL Campus, 8001 Natural Bridge Road, St. Louis, Missouri 63121, or phone 553-5431.

## Reserve Officers Training Corps

Students interested in officer education programs may enroll in the Army ROTC program hosted by Washington University or the Air Force ROTC program sponsored by Parks College of St. Louis University. The programs provide undergraduate and graduate students with the opportunity to combine academic study with a military officer's training program.

For further information concerning the Army ROTC program, contact the Professor of Military Science, UMSL, telephone 553-5176; or the Professor of Aerospace Studies, Parks College of St. Louis University, telephone 337-7500, extensions 230 and/or 259

## Course Descriptions

### Aerospace Studies

Two-, three- and four-year scholarships covering tuition, 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 prior to January of their senior year.

Aerospace Studies courses AERO 101 through AERO 202 are basic courses designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in these courses 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.

#### **AS 101: The Air Force Today (2)**

Introduction to contemporary military issues and overall Air Force structure. Professionalism, human rights, and civilian-military relationships are stressed. Leadership Laboratory activities designed to develop leadership potential, and includes military customs and courtesies, drill and ceremonies and base visitations.

#### **AS 102: The Air Force Today (2)**

Continuation of AERO 101. Includes strategic offensive and defense forces, general purpose forces, aerospace support forces, and relationships with U.S. Army forces. Individual communicative skills emphasized.

#### **AS 201: The Development of Air Power (2)**

Study of the development of air power from balloons and dirigibles through WWI and WWII. Leadership Laboratory activities designed to develop each student's leadership potential are included. Classroom activity, one hour per week; Leadership Laboratory, one hour per week.

#### **AS 202: The Development of Air Power (2)**

Continuation of AERO 201 to include the history of air power in Korea, Vietnam, and peaceful employment of United States air power in relief missions. Classroom activity, one hour per week; Leadership Laboratory, one hour per week.

Aerospace Studies courses AERO 301 through AERO 402 are advanced courses designed to improve the communicative and management skills required of Air Force officers. Credit hours for these courses may be included in the 120 hours needed for graduation at the discretion of individual departmental chairpersons.

#### **AS 301: Air Force Management and Leadership (3)**

Integrated management course emphasizing the individual as a manager in an Air Force milieu. Motivational and behavioral processes, leadership, communication, and group dynamics covered for development of the junior officer's professional skills as an Air Force officer. Basic managerial processes involving decision-making, utilization of analytic aids in planning, organizing and controlling in a changing environment are emphasized as professional concepts. Classroom activity, three hours per week; Leadership Laboratory, one hour per week.

#### **AS 302: Air Force Management and Leadership (3)**

Continuation of AERO 301, and includes organizational and personal values, management of forces in change, organizational power, politics, and managerial strategy and tactics within context of the military organization. Actual Air Force cases used to enhance learning and communication processes. Classroom activity, three hours per week; Leadership Laboratory, one hour per week.

#### **AS 401: National Security Forces in Contemporary American Society (3)**

The Armed Forces as an integral element of society; American civil-military relations; environmental context in which U.S. defense policy is formulated and implemented; societal attitudes toward the military leader-manager in a democratic society; fundamental values and socialization processes associated with the Armed Services. Individual and group oral and written reports. Classroom activity, three hours per week; Leadership Laboratory, one hour per week.



# Reserve Officers Training Corps

## **AS 402: National Security Forces In Contemporary American Society (3)**

Continuation of AERO 401. Requisites for maintaining adequate national security forces; political, economic and social constraints on the national defense structure; impact of technological and international developments on strategic preparedness, formulation and implementation of national security policy. Classroom activity, three hours per week; Leadership Laboratory, one hour per week.

## **Military Science**

Prerequisites may be waived by consent of professor of military science. Course credit is for two semesters or one full year enrollment in the course.

### **MS 101 Fundamentals of Leadership and Management I (1) (F)**

Provides an overview of the organizational make-up and role of the US Army and the Army ROTC. Provides an appreciation of the military profession and its customs, traditions, and courtesies. Provides an introduction to the responsibilities and obligations of an Army officer. Provides an introduction to concepts and methods of individual and small unit military tactics. Develops leadership and managerial abilities. Provides fundamentals of orienteering or marksmanship depending on choice of student.

### **MS 102 Fundamentals of Leadership and Management II (1) (W)**

Prerequisite: MS 101, equivalent or consent of Professor of Military Science (PMS). Provides an introduction to theoretical and practical aspects of supervision. Emphasizes the need for proper motivation and cooperative attitudes as they pertain to both individual and group interaction. Examines principles and techniques of small unit military offensive and defensive operations with emphasis on command and control, communications, weapons systems and military geography. Continues development of leadership and managerial abilities. Provides fundamentals of mountaineering or air assault techniques depending on choice of students

### **MS 201 Applied Leadership and Management I (1) (F)**

Prerequisite: MS 101 and 102, equivalent or consent of Professor of Military Science. Provides a basic background in the skills necessary for military map reading and land navigation to include: 1) military grid reference system; 2) map scale, distance, elevation and relief; and 3) military symbols. Provides for development of a working knowledge of advanced land navigation techniques and aerial photograph interpretation to include: 1) intersection and resection, 2) declination diagram; 3) map orientation and terrain association; and 4) plots interpretation. Continues development of leadership and managerial skills

Provides fundamentals of orienteering or marksmanship depending on choice of student

### **MS 202 Applied Leadership and Management II (1) (W)**

Prerequisites: MS 201, equivalent or consent of Professor of Military Science. Develops principles and techniques of applied leadership through discussion of some of the processes and procedures used by the leader to accomplish organizational objectives to include: 1) decision making; 2) communication; and 3) counseling. Provides practical experience in leadership of small units in the military environment. Examines principles and techniques of small unit military tactical patrolling operations with emphasis on development of pre-planning and execution concepts. Application of concepts practiced through in-class map exercises and field training practicum. Provides an overview of the Army ROTC advanced course. Continues development of leadership and managerial abilities. Provides fundamentals of mountaineering or air assault techniques depending on choice of student.

### **MS 301 Advanced Leadership and Management I (3) (F)**

Prerequisite: MS 101 thru MS 202 or equivalent and selection by Professor of Military Science. Covers the functional roles of the military leader and basic principles of management with emphasis on problem analysis and decision-making, span of control, delegation of authority and responsibility, planning and coordinating. Provides fundamentals of effective methods of instruction and includes practical exercises where each student plans, prepares, and presents part of the instruction. Continues to develop student's ability to communicate orally and in writing. Provides additional insight into areas of Army officer specialization. Stresses practical application in the development of leadership abilities in that students are placed in positions of leadership within the ROTC student structure.

### **MS 302 Advanced Leadership and Management II (3) (W)**

Prerequisite: MS 301. Provides a review of basic military land navigation and map reading techniques. Examines more advanced principles and techniques of small unit military offensive and defensive tactical operations with concentrated study of such factors as command and control, communications, weapons systems, and military geography. Continues emphasis on practical application exercises to further develop student's leadership abilities. Solidifies student's preparation for attendance of the ROTC Advanced Camp during the upcoming summer.

## Reserve Officer Training Corps

### **MS 401 Seminar in Leadership Management and Theory and Dynamics of the Military Team I (3) (F)**

Prerequisites: MS 301 and 302. Explores the practical aspects of military law. Examines the organization, responsibilities, and management of the military unit staff. Provides a working knowledge of proper staffing procedures. Continues development of leadership and managerial abilities through placement of students into key leadership positions within the ROTC student organizational structure. Students plan and conduct majority of leadership practicum for all ROTC students.

### **MS 402 Seminar in Leadership and Management and Theory and Dynamics of the Military Team II (3) (W)**

Prerequisite: MS 401. Provides concepts and practical exercises in the development of interpersonal skills required for effective management. Examines techniques of resource management with particular emphasis toward the military environment. Teaches proper application of tactical military doctrine at the Company/Team level and the planning necessary between elements of the team. Reviews the various roles of the newly commissioned Army officer. Culminates ROTC training to develop leadership and managerial skills. Students continue to be assigned positions of leadership within the ROTC student organizational structure.

### **MS Military Science Leadership Practicum**

Progressive development of leadership abilities through participation in leadership activities including command and staff action, familiarization with the service weapon, drill and ceremonies, field training exercises, and civilian and military guest speakers. Purpose of leadership practicum is to develop leadership through demonstrated teamwork, esprit de corps, and unity of effort toward a common goal, emphasizing duties and responsibilities of junior leaders. Leadership practicum includes five one-hour periods and one Saturday field training exercise each semester. Required of all students.



## Programs at Other Universities

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 degrees.

### Illinois

A cooperative agreement exists between Southern Illinois University-Edwardsville and UMSL 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:

**Architecture** University of Kansas, Lawrence, with a bachelor of architecture or a B.S. and M.S. in architectural engineering.

**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, a B.A. and M.A. in Slavic languages and literature (not Russian), or a Ph.D. in Slavic languages and literature.

**Architecture** Kansas State University, Manhattan, with a bachelor or master of architecture, a B.S. in building construction, a B.S. in interior architecture, or a B.S. or M.S. in landscape architecture.

**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.

UMSL students wishing to study at the following institution and take advantage of the exchange provision, should contact Dr. Edwin Fedder, Director, Center for International Studies.

### National Taiwan Normal University, Taipei

Two undergraduate students may participate in various programs. A provision for faculty exchange also exists.

## Administration

### University of Missouri System

#### Board of Curators

##### Terms Expire January 1, 1981

C. R. Johnston  
Springfield, Missouri

Wallace R. Stacey  
Independence, Missouri

Rex Z. Williams  
Rolla, Missouri

##### Terms Expire January 1, 1983

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Kansas City, Missouri

Robert A. Dempster  
Sikeston, Missouri

William T. Doak, Vice President  
Vandalia, Missouri

##### Terms Expire January 1, 1985

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Dr. Joseph M. Marchello  
University of Missouri-Rolla

Dr. George A. Russell  
University of Missouri-Kansas City

Dr. Barbara S. Uehling  
University of Missouri-Columbia

# Administration

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Vice Chancellor for Academic Affairs

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Thomas E. Jordan, Ed.D.  
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#### Graduate School

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Associate Dean, Director of Research

William P. Heinbecker, M.S.  
Director of Computer Center

#### Libraries

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## Administration

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### Center for Metropolitan Studies

James H. Laue, Ph.D.  
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### Center for International Studies

Edwin H. Fedder, Ph.D.  
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### Office of Student Affairs

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Assistant Dean

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Director of Athletics

### University Relations

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Director

Rainer Steinhoff, M.A.  
General Manager of KWMU Radio

### Administrative Services

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Director of Personnel

William Edwards, M.S.  
Director of the University Center

Paul Elsea, B.S.  
Superintendent of Physical Plant

Kenneth Langston  
Manager of University Bookstore

Bill Moody, M.S.  
Manager of Finance

Robert Proffer, B.A.  
Manager of Budget

James J. Nelson  
Chief of UMSL Police

### Graduate School Committees

#### Graduate Council

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Marcus Allen  
Howard Baltz  
Lawrence Barton  
Harry Bash  
Richard Burnett  
Elizabeth Clayton  
Jerry Cooper  
Joyce Corey  
Charles Dougherty  
James Doyle  
Douglas Durand  
Charles Fazzaro  
Joel Glassman  
Ingeborg Goessl  
Philip James  
Miles Patterson  
Wallace Ramsey  
Janet Sanders  
Harold Turner  
Frederick Wilke

## Administration





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Student Disciplinary  
Matters

Rules of Procedure in Student Disciplinary  
Matters Adopted November 8, 1968.

Preamble

The following Rules of Procedure in Student Disciplinary Matters are hereby adopted in order to ensure insofar as possible and practicable that the requirements of procedural due process in student disciplinary proceedings will be fulfilled by the university, 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 so that procedures shall be definite and determinable within the University of Missouri.

These Rules of Procedure shall be followed in any disciplinary proceedings commenced after the beginning of the second semester 1968-69, subject to the constitutional authority and legal obligation of the Board of Curators and the authority delegated to the president of the university to exercise jurisdiction over all or any disciplinary matters of the university.

Definitions

As used in these rules, the following definitions shall apply.

Appeal: The exercise of the right of review by the student or dean of students of the full record of the Student Conduct Committee or the chancellor where discipline of expulsion, dismissal, or suspension is imposed.

Dean of Students: As used in these procedures, "Dean of Students" is charged with the primary responsibility for the administration of these disciplinary procedures and refers to either the person on each campus with that title (or an appropriate or similar one) or the individual specifically designated by him to act for him.

Disciplinary Dismissal: An involuntary separation of the student from the institution for misconduct apart from academic performance. Dismissal differs from suspension in that it does not imply or state a minimum separation time.

Disciplinary Expulsion: Disciplinary dismissal of a permanent nature.

Disciplinary Probation: A status resulting from misconduct apart from academic performance. The student remains enrolled but under stated conditions.

Disciplinary Suspension: An involuntary separation of the student from the institution for misconduct apart from academic performance for a specified period of time. Suspension differs from dismissal in that after the stated time period the student is eligible to be readmitted.

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.

Review: The exercise of the right to request review of the chancellor by the student or dean or students whether or not discipline is imposed

# Student Disciplinary Matters

and when the discipline imposed, if any, is other than expulsion, dismissal, or suspension.

**Student:** A person having once been admitted to 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 the university's academic programs are in session or not.

**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 on such body as herein defined.

## Procedures

### Section 1 Dean of Students

The dean of students on each campus or his designee is designated the primary officer for administration of discipline for unacceptable conduct or which involves infraction of university rules and regulations and will initiate disciplinary action in accordance with these regulations.

### Section 2 Preliminary Procedures

The dean of students 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 dean of students may discuss, consult, and advise with any student whose conduct is called into question, and students shall attend such consultations as requested by the dean of students, and shall be given a copy of these procedures. The dean, in making his investigation and disposition, may utilize student courts and boards to make recommendations to him which he shall consider in exercising the authority vested in him.

### Section 3 Informal Disposition

The dean of students, after investigation, and when acceptable to the student, shall have the authority to impose appropriate discipline. Where the disposition proposed by the dean of students in the preliminary proceedings is not accepted by the student in writing, the student shall have the rights of notice, hearing, and formal procedures as hereinafter set forth before the Student Conduct Committee. The dean of students shall fix a reasonable time within which the student shall accept or reject a proposed informal disposition. A failure of the student to either accept or reject such proposed disposition 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, his signed statement shall be forwarded to the committee. The dean of students, at his discretion, may

refer cases to the Student Conduct Committee without first offering informal disposition.

### Section 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 information coming to his attention that the presence of the student on campus would seriously disrupt the university or constitute a danger to the health, safety, or welfare of the university. The suspending officer shall promptly notify the dean of students to initiate the appropriate disciplinary procedure within five days.

### Section 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 Standard 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. The procedures set forth below shall be interpreted and administered to accomplish this objective and provide for prompt consideration and disposition of student conduct cases. Disciplinary proceedings are not to be constructed 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

## Student Disciplinary Matters

counsel shall be legal adviser to the Student Conduct Committee.

### C. Notice:

The dean of students 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 which 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 calendar 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 dean of students 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.

### D. 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 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.

(1) Opening Statements: (a) The dean of students shall make opening remarks outlining the general nature of the case and testify to any facts his investigation has revealed. (b) 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.

(2) University Evidence: (a) University witnesses are to be called and identified or written reports or evidence introduced as appropriate. (b) The committee may question witnesses at any time. (c) 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.

(3) Student's 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 dean of students may question the student or witnesses.

(4) Rebuttal Evidence: The committee may permit the university or 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 the event shall make separate findings and determinations for each student; (2) to permit a stipulation of facts by the dean of students 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 to be incorporated 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 dean of students 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 at any time permit or require 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 dean of students 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 on request; and (10) to summarily suspend 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.

### F. Student Rights Upon Hearing:

A student appearing before a Student Conduct Committee pursuant to formal notice of charges and disciplinary hearing shall have the right: (1) to be present at the hearing; (2) to have an adviser or counselor of his choice appear with him and to consult with such adviser or counselor during the hearing; (3) upon timely request to have students from the Discipline Panel sit with the committee or Hearing Panel in his case; (4) to hear or examine evidence presented to the committee against him; (5) to question witnesses present and testifying against him at the hearing; (6) to present evidence by witness or affidavit of any defense the student desires; (7) to make any statement to the committee in mitigation or explanation of his conduct in question that he desires; (8) to be informed in writing of the findings of the Student Conduct Committee and any discipline it imposes; and (9) to appeal to the chancellor or Board of Curators as herein provided.

# Student Disciplinary Matters

## G. Determination by Committee:

The Student Conduct Committee shall then make its findings and determinations in executive session out of the presence of the dean of students and the student charged. Separate findings are to be made (1) as to the conduct of the student and (2) 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 therefore disciplined.

## H. Official Report of Findings and Determination:

The committee shall promptly consider the case on its merits and make its findings and determination and transmit them to the dean of students and the student charged forthwith.

## I. 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.

## J. General Rules of Decorum:

The following general rules of decorum shall be adhered to: (1) All requests to address the committee shall be addressed to the chairman. (2) 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. (3) Rules of common courtesy and decency shall be observed at all times. (4) 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.

## Section 6 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 dean of students and for the purpose of appeal be accessible at reasonable times and places to both the university and the student.

## Section 7 Right of Appeal

A. When a student is expelled, dismissed or suspended from the university by the Student Conduct Committee, the dean of students 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 dean of students or by the dean of students 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 student or dean of students.

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 dean of students and the student in writing of his decision on the appeal.

C. The dean of students 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 the secretary of the Board of Curators and giving notice to either the student or dean of students, 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 dean of students, the committee chairman, the chancellor and the president in writing of the decision of the board.

## Section 8 Right to Petition for Review

A. In all cases where the discipline imposed by the Student Conduct Committee is other than expulsion, dismissal or suspension, the dean of students or the student may petition the chancellor of the campus or his designated representative in writing for a review of the decision within five (5) consecutive calendar days after notification of the decision of the Student Conduct Committee and by serving a copy of the Petition for Review 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 days if he so desires.

B. The chancellor or his designated representative may grant or refuse the right of

## Student Disciplinary Matters

review. If the chancellor or his representative reviews the decision, the action of the chancellor shall be final unless it be to remand the matter for future proceedings or unless the action of the chancellor be to impose discipline of expulsion, dismissal or suspension.

C. If the chancellor imposes discipline of expulsion, dismissal or suspension, the dean of students and the student shall have a right to appeal to the Board of Curators as provided under Section 7. In all cases where the Petition for Review is refused, the action of the Student Conduct Committee shall be final.

### Section 9 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 the 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.

### Section 10 Student Honor Systems

Forums under 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 a well defined jurisdictional statement and satisfying the requirements of Article V, Section B 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, Section C-(2), 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 set forth in Section 7, 8, and 9 of these Rules of Procedure.

## Code of Student Conduct

### 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.

Misconduct for which students are subject to discipline falls into the following categories:

Dishonesty, such as cheating, plagiarism, or knowingly furnishing false information to the University.

Forgery, alteration, or misuse of University documents, records or identification.

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.

Physical abuse of any person on University-owned or-controlled property or at sponsored or supervised functions, or conduct which threatens or endangers the health or safety of any such person.

Theft of or damage to property of the University or of a member of the University community or campus visitor.

Unauthorized entry to or use of University facilities.

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.

Use, possession or distribution of narcotic or dangerous drugs, such as marijuana and lysergic acid diethylamide (LSD), except as expressly permitted by law.

Violation of rules governing residence in University-owned or-controlled property.

Disorderly conduct or lewd, indecent, or obscene conduct or expression on University-owned or-controlled property or at University-sponsored or-supervised functions.

Failure to comply with directions of University officials acting in the performance of their duties.

Conduct which adversely affects the student's suitability as a member of the academic community.

## Appeals Procedures

### Financial Aid Appeals

The University of Missouri-St. Louis has an established financial aid 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.\*

\*UMSL Senate Policy, revised April 22, 1980

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 The decision may then be further appealed to the Senate Welfare and Grievance Committee.
- 4 Beyond the Senate Welfare and Grievance Committee, a student may take his/her case to the Chancellor.

## Professional Responsibility, Protest and Political Activities

### Statement on 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.



# 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 Dean of Student Affairs 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. It should demonstrate that the organization has as its purpose to broaden the scope of general learning, extend knowledge of specialized areas, or to serve the professional, cultural, social or recreational interest 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 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 that organization's constitution.
- 5 If applicable, a statement concerning associate classes of membership for those outside the University community.

Upon submission of the registration form, the organization shall be notified of recognition within five school days. If the Dean of Student Affairs feels that he cannot extend recognition to an organization, within five school days he shall refer the matter to the Subcommittee on Group Recognition of the Student Affairs Committee for its recommendation to the Chancellor for his decision.

B. To maintain recognition, an organization must register with the Office of Student Affairs 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 for 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 Dean of Student Affairs for exemption from this requirement as it applies to sex. Academic and professional organizations which have discriminatory membership policy based on sex shall not be recognized after the beginning of the Fall Semester '73.

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 will be brought initially to the Dean of Student Affairs, who may:

- 1 Dismiss the charges, in which case an appeal may be made to the Subcommittee on Group Recognition for its decision.
- 2 Settle the charges in a way acceptable to both parties, or,
- 3 Refer the charges to the Subcommittee on Group Recognition for its decision.

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 Subcommittee on Group Recognition to the Chancellor.

### Sexual Harassment Protest Procedures

Students wishing to pursue complaints about sexual harassment can follow one of several options:

- 1 Discuss the matter with the departmental chairperson; if not satisfied, discuss the matter with the academic dean.
- 2 Submit a written complaint to the departmental chairperson. If the response received is not satisfactory, write the academic dean.
- 3 Submit a formal grievance to the University Senate Committee on Welfare and Grievance.
- 4 Contact the campus Affirmative Action Officer to discuss submitting the matter to the Affirmative Action Policy Committee.
- 5 Discuss the matter with the Dean of Student Affairs.



# Equal Opportunity and Affirmative Action Plan

## University of Missouri Plan for Equal Opportunity and Affirmative Action (pending HEW approval)

The University of Missouri is committed to equal employment and education opportunity without regard to conditions of race, color, sex, religion, national origin, age, physical ability or veterans status which are irrelevant to the physical or mental demands of the position or proposed course of study.

The University also is committed to affirmative action to enhance equal opportunities for all.

Each administrative unit of the University employing personnel, admitting students or entering into contracts is charged with implementation of the University's commitments, and with maintaining 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, availability of facilities and programs.

As a public institution, the University has an especially strong moral obligation to provide equality of opportunity.

As a publicly supported institution, the University has special legal obligations under state and federal laws and executive orders.

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.

## Implementation

### 1 Recruitment and employment of personnel

a. Recruitment of teachers and academic personnel in research and extension is primarily the responsibility of deans, directors, chairpersons and other department heads.

b. Recruitment of administrative, service and support staff, except for top-ranking administrative personnel, is primarily the responsibility of the personnel officer of each campus, and the director of Personnel Services for the central administration. However, selection is the responsibility of the administrative head of the employing unit.

c. Sources of personnel will be advised of the University's commitment to equal opportunity and affirmative action. The University will develop and expand relationships with governmental agencies, community groups and other organizations which may be of assistance in furthering recruitment and employment of more minority group and handicapped persons and women into departments and units which have imbalances.

d. Imbalances exist when the available, qualified talent among specified minorities, women and handicapped or older groups is proportionately underrepresented in the particular personnel category in the University. The appropriate employment market is generally national or regional for professors, academic personnel in research and extension and major administrators. It is generally state or local

community for most administrative positions and for service and support staff.

e. Approximate salary, educational requirements, desired experience and specialty requirements will be established for a particular academic or ranking administrative position by the department or other administrative unit prior to recruiting and evaluating candidates or prospects.

f. Advertisements and notices of employment opportunities will indicate a filing date for consideration.

g. Notice of employment and training opportunities will be made to existing personnel.

h. Employment application forms and goods and services contracts will meet federal and state requirements relating to equal opportunity.

i. The administrative heads of University units authorized to recruit and employ personnel will maintain 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 will be administered without regard to conditions of race, color, sex, religion, national origin, age or physical ability.

b. The salary range for academic positions will be determined in advance of advertising, notice or recruiting 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 will be 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 will be 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 will be in accordance with established University procedures and qualification criteria already established for all persons and free of discrimination.

b. Promotions, demotion, layoffs, recalls from layoffs, transfers and filling of temporary openings for service and support personnel will be determined without regard to conditions of race, color, sex, religion, national origin, age, physical ability or veterans status which are irrelevant to the duties to be performed.

c. Participation in training and educational programs sponsored by the University, including apprenticeships, will be open to all employees within eligible job classifications. The director of personnel for the University will work with the campuses to formulate specific programs to benefit the maximum possible number of employees.

# Equal Opportunity and Affirmative Action Plan

d. The University will offer training to improve skills of employees that may enhance promotional potential. Training will include programs to correct background deficiencies.

## 5 Student admission and retention

a. The University will give 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 will seek to recruit, enroll, retain and graduate minority group members and women in those fields in which they are under-represented.

b. The University of Missouri has 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 minority group members and women, relative to population, will adopt methods to encourage enrollment, retention and graduation of minority group members and women.

c. Affirmative action will be taken to offer graduate teaching and research assistantships to qualified minority group members and women.

d. Business, government, industry and labor will be solicited to assist minority group members and women through financial aid and work experiences as they are pursuing academic objectives.

e. Personnel representatives of prospective employers using University services and facilities to interview and recruit students must be equal opportunity employers, and will give all qualified students equal opportunity for interviews, without regard to conditions of race, color, sex, religion, national origin, age or physical ability.

f. Affirmative efforts will be made to recruit and employ handicapped and older persons.

## 6 Contracting and purchasing

a. In contracting and purchasing, and in selecting agents who will contract and purchase, the University will require a commitment of the contractor and further strive to ensure adherence to equal employment laws and regulations.

b. Invitations for bids on University business will carry language set forth in Appendix A(1). (See UMSL Student Handbook)

c. Specifications prepared by the University, or by architectural and engineering firms retained by the University, will carry language set forth in Appendix A(2). (See UMSL Student Handbook)

d. Purchase orders of the University will carry language set forth in Appendix A(3). (See UMSL Student Handbook)

## 7 Appeal and grievance procedures

a. Grievance procedures are available to receive and process complaints and grievances of alleged discrimination based on conditions of race, color, sex, religion, national origin, age, physical ability or veterans status.

b. A student grievant will have access to the established channels of appeal through department, school or college, campus, central administration and governing board.

c. The Affirmative Action Office provides counseling to grievants concerning the grievance procedures.

## 8 Records and reports

a. The administrative head of each University unit will be prepared to demonstrate that equal opportunity is practiced and 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, purchasing and contracting.

b. Admission and employment applications and contract bids will be retained for at least two years by the responsible unit, and each responsible administrative unit of the University will be prepared to show that procedures followed and selections made were in compliance with policies on equal opportunity and affirmative action.

c. Those responsible for recruiting, admitting and retaining students—undergraduate, graduate and professional—will maintain files and records documenting their efforts to provide equal opportunity for and act affirmatively to attract and retain minority group members, women and older and handicapped persons. A report will be made at least annually to the appropriate EEO/AA (equal employment opportunity/affirmative action) committee.

d. Campus administrative officers will 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 housing and recreational facilities. A report will be made at least annually to the appropriate EEO/AA committee.

e. Those responsible for recruiting and employing personnel, including graduate teaching and research assistants, will have records to show their adherence to equal opportunity and affirmative action practices. A report will be made at least annually to the appropriate EEO/AA committee.

f. Those responsible for purchasing and contracting will maintain records showing adherence to University policies on equal opportunity and affirmative action. A report will be made at least annually to the appropriate EEO/AA committee.

g. Academic or administrative units receiving complaints or grievances based on allegations of discrimination will report those cases to the appropriate EEO/AA committee immediately, whether or not the committee is a step in the grievance review procedure of the campus or other University unit.

## 9 Review and monitoring

a. A University Committee on Equal Employment Opportunity and Affirmative Action (EEO/AA) will be appointed annually by the

# Equal Opportunity and Affirmative Action Plan

President of the University.

b. A campus EEO/AA committee will be appointed annually by each chancellor.

c. The vice president for University Extension will appoint annually an EEO/AA committee for University Extension.

d. EEO/AA committee membership will include a reasonable cross section of personnel, including a representation of women, minorities and the handicapped.

e. The EEO/AA committee shall advise the AA officer regarding affirmative action problems and policy.

f. The central administration, University Extension and each campus may have one or more staff affirmative action officers to assist the responsible administrative officer in carrying out equal opportunity and affirmative action policies. A staff affirmative action officer may be designated by the responsible administrative officer to counsel a complainant concerning the grievance procedures.

g. Administrative officers (president, vice presidents, 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.

## 10 Dissemination

a. Equal opportunity and affirmative action policies and programs will be disseminated throughout the University and discussed at appropriate school, college, departmental, management and supervisory meetings. Among subjects to be covered are attraction, admission and retention of students; recruitment, employment, training, promotion and transfer of employees.

b. University employees, faculty, staff and students will be kept informed of equal opportunity programs and affirmative action goals through University and campus publications and communications, the *Business Policy and Procedure Manual*, divisional and departmental meetings, staff orientation programs, posters, etc.

c. A cross section of community organizations, news media, area colleges, secondary schools and recruiting sources will be furnished copies of equal opportunity and affirmative action programs of the University and informed of revisions of the University's nondiscrimination policies.

d. Copies of the complete statement of programs will be made available on request to employees, applicable government agencies and contractors or subcontractors.

e. University invitations to bid, purchase orders and specifications to architects and engineers will indicate the University's equal opportunity policy.

f. University correspondence, employment notices and advertising, academic information and other public notices will indicate the University's equal opportunity policy.

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