



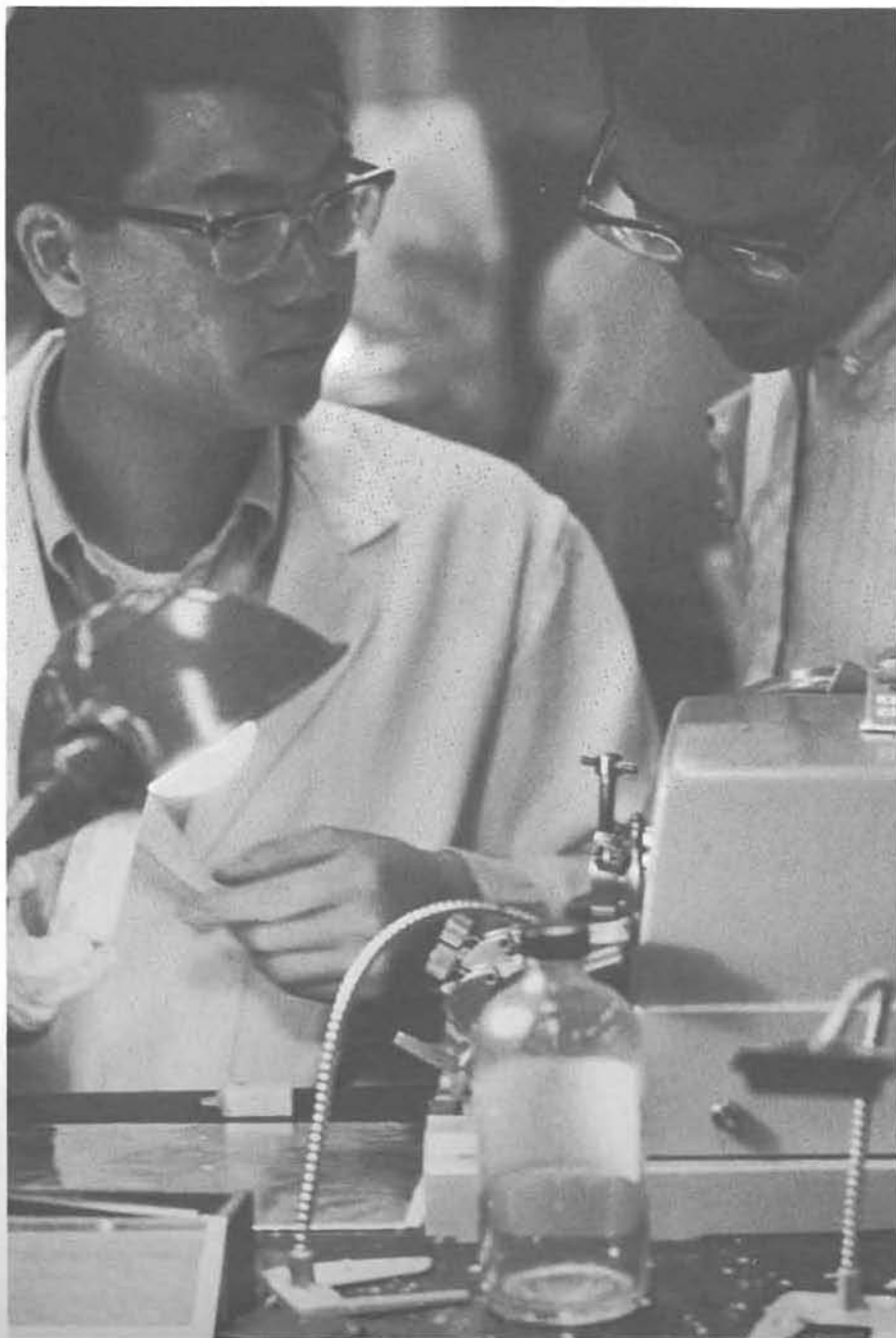
BULLETIN University of Missouri—St. Louis
St. Louis, Missouri

1969-1970 General Catalog

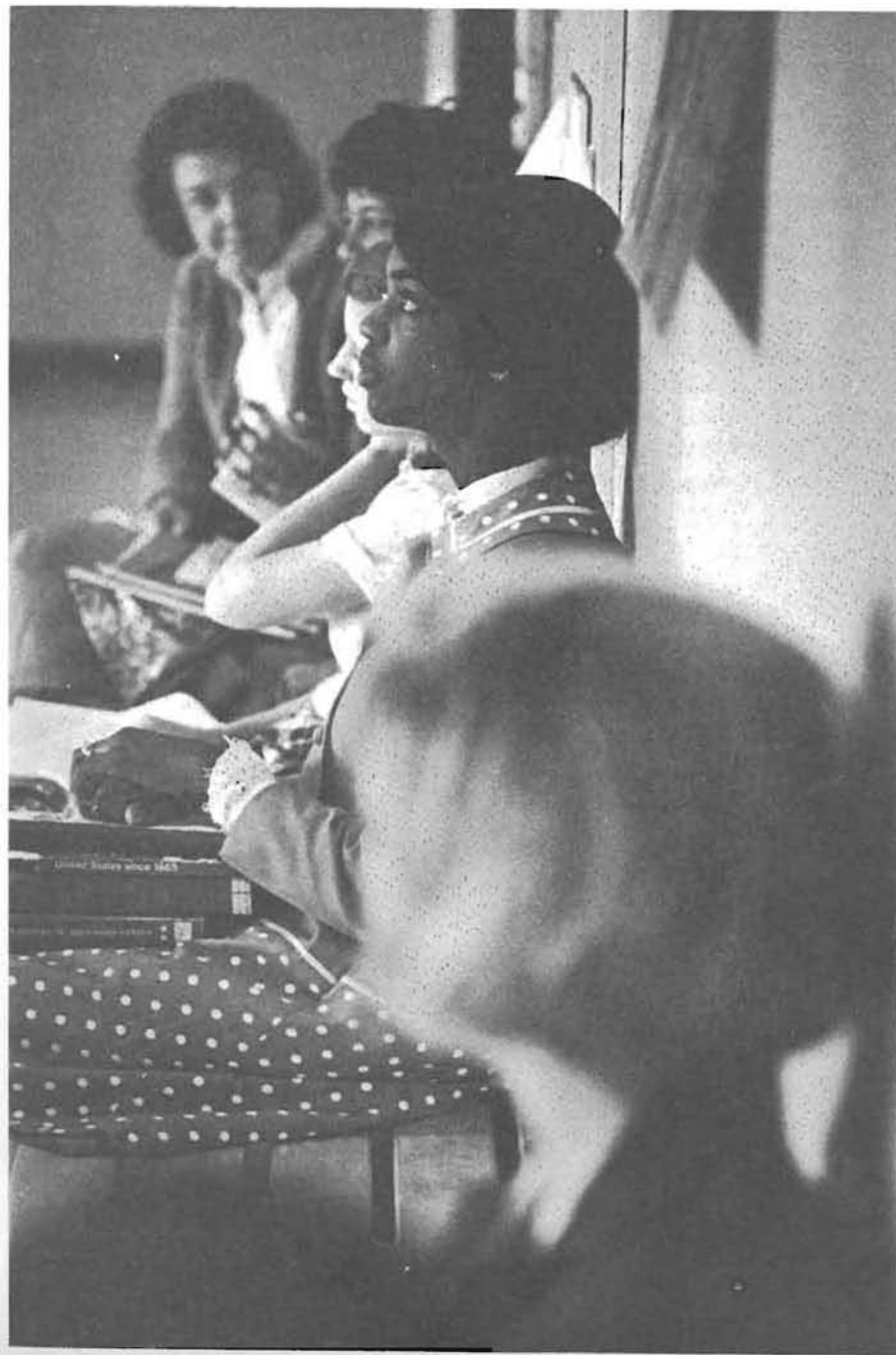


THE UNIVERSITY OF MISSOURI - ST. LOUIS 1969-70 GENERAL CATALOG
INCLUDING DESCRIPTION OF COURSES*

Revised to January 1, 1969



*Courses offered only on the campus at St. Louis. For information concerning the University of Missouri - Columbia, the University of Missouri - Rolla and the University of Missouri - Kansas City, write directly to the Director of Admissions at the campus concerned. All statements in this publication are announcements of present policies only and are subject to change at any time without prior notice. They are not to be regarded as offers to contract.



"I want to build up a people's institution, a great free university, eventually open and accessible to the poorest boy in the land, who may come and receive an education practical and suitable for any business or profession in life. I want to cheapen this whole matter of education, so that, under the broad and expansive influences of our republican institutions, and our advancing civilization, it may run free, as our great rivers, and bless the coming millions.

"Hitherto, our colleges and universities have been accessible only to the few, such are the expenses attending them. We therefore want a university with all the colleges attached, giving education of the highest order to all classes. We want ample grounds and buildings and libraries, and apparatus, and museums and endowments, and prize funds, and professors of great heads and hearts, men of faith and energy. Indeed, we want everything which will make this institution eventually equal to any on this continent. Why should we not have them? I think we can."

John B. Bowman
 President
 University of Kentucky
 (1865)

President John C. Weaver



Chancellor James L. Bugg, Jr.



Board of Curators	4	64	School of Education
Administration	4	73	Evening College
University of Missouri	8	74	Graduate School
University of Missouri-St. Louis	8	74	Description of Courses
Admission	10	76	Administration of Justice
Degrees	18	76	Anthropology
Fees and Expenses	20	76	Art History
Student Financial Aid	23	77	Biology
Student Affairs	26	81	Business Administration
Special Programs	27	85	Chemistry
General Regulations		88	Economics
and Requirements	32	91	Education
College of Arts and Sciences	34	96	Graduate Courses in Education
Administration of Justice	36	101	English
Department of Biology	37	105	French
Department of Chemistry	38	107	German
Department of Economics	39	109	History
Department of English	41	113	Mathematics
Department of Fine Arts	42	116	Military Science
Department of History	43	118	Music
Department of Mathematics	44	119	Music History and Literature
Department of Modern Foreign		121	Philosophy
Languages and Literatures	46	125	Physics
Department of Philosophy	48	128	Astronomy
Department of Physics	49	129	Political Science
Department of Political Science	52	133	Psychology
Department of Psychology	53	136	Russian
Department of Sociology		137	Sociology
and Anthropology	54	139	Spanish
School of Business Administration	57	142	Speech

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University of Missouri

A single University with four campuses, the University of Missouri is the leading force in public education in the state. With campuses at Columbia, Kansas City, Rolla and St. Louis, the University covers the state, educating thousands of students in a catalog of disciplines ranging from accounting to zoology. Each year its professional schools graduate an increasing number of engineers, physicians, educators, businessmen, lawyers, journalists and other highly trained specialists.

Founded in 1839 at Columbia, the University of Missouri is governed by a Board of Curators whose members are appointed by the governor and confirmed by the Missouri Senate. The president of the University directs and coordinates the programs of all four campuses with the assistance of a professional staff of University-wide administrators.

Each campus is supervised by a chancellor who directs campus affairs within policies laid down by the Board of Curators and the president.

THE UNIVERSITY OF MISSOURI - ST. LOUIS

In just six years as a member of the University of Missouri four-campus community, the University of Missouri - St. Louis is already playing an important role in urban education. Established to serve the rapidly growing need of Missouri's largest metropolitan area for high quality education at a moderate cost, UMSL is living up to that continuing challenge.

The 128-acre campus in St. Louis County is developing rapidly. Three fully-equipped buildings house classrooms, laboratories, offices and library facilities to serve the more than 8000 students enrolled in the fall of 1968. An administration building, office building, and physics annex further expand academic, administrative and recreational facilities.

At the front of the campus, the brick and concrete silhouette of a fourth classroom-laboratory building rises against the sky. Plans are underway for five additional structures including a University center (student union)—continuing education building, a multi-purpose building (including gymnasium, swimming pool and physical conditioning facilities), a combination social sciences, business-education complex, an arts and sciences classroom building and a parking garage.

The start of the 1968 academic year marked the full-time employment of some 260 faculty members with nearly 70% holding doctoral degrees. Another 15% of the full-time faculty is working toward completion of the terminal degree.

With some 800 alumni graduated from its baccalaureate programs, UMSL has expanded its offerings into graduate studies with the formal establishment of a Graduate School. In the fall of 1968 the School of Education began offering the master's degree in education. Five additional graduate programs in business administration, political science, economics, history and sociology are scheduled for approval by fall of 1969.

Charged to "bring the University to the student," UMSL meets still a further challenge—to bring the University and its great resources of education, research and service to the community, the nation, and to our dealings with other nations.

Out of UMSL's natural concern for the urban area has evolved the Center of Community and Metropolitan Studies which fulfills a three-fold function of teaching, research and community service, and provides a direct link between the scholarship of the faculty and the problems of the urban area. (See page 27.)

The Board of Curators of the University of Missouri has approved establishment of International Studies Centers on all four campuses, with a University-wide Office of International Studies to coordinate activities of each, located on the St. Louis campus.

Under the direction of the University-wide office, the four campus centers will expand and improve the teaching of international studies on all educational levels, undertake and make available research results, and aid the public in understanding world affairs. (See page 28.)

Above all is the University's concentration on the student and the quality of education he must receive. UMSL holds high its objective of academic excellence. All students are required to follow a curriculum that gives broad training in the liberal arts and sciences as well as depth in a major of the student's choice. The University encourages students to qualify for advanced placement and credit, to enroll whenever possible in seminars, individual readings courses and courses emphasizing undergraduate research. The curriculum is supplemented by a University-sponsored concert and lecture series and a wide range of extracurricular activities.

UMSL is pledged to maintain a primary concern with superior teaching and frequent informal contacts between faculty and students. It is through this concern with the student and concentration upon quality in education that the University of Missouri - St. Louis aims to provide more creative research and service to the metropolitan community.



Admission

Inquiries regarding entrance to all divisions of the University of Missouri - St. Louis should be addressed to the Director of Admissions, Office of Admissions and Records, 8001 Natural Bridge Road, St. Louis, Missouri 63121.

Directions to New Students New students must submit credentials before August 1 for the fall semester, January 1 for the winter semester and May 1 for the summer session. However, there is a possibility that all available spaces may be filled before the deadlines. Because available facilities are inadequate to provide for all qualified applicants for admission, processing periods and priorities have been established (see page 11). Admission can be determined only after all credentials are on file. The policies of the University of Missouri - St. Louis comply with the provisions under Title VI of the Civil Rights Act of 1964. No person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity of the University.

All new students are required to submit application forms which may be obtained from the Director of Admissions. Official transcripts should be sent directly from each institution previously attended. Out-of-state undergraduate students are required to submit a non-refundable application evaluation fee of \$10 with the application for admission. In addition, the following credentials are required.

Entering Freshmen The entering freshman must submit a high school transcript certified by the proper official of the school in which the credits were earned and a medical history report.

Transfer Students An undergraduate student who has attended college elsewhere must submit an official high school transcript and official college transcripts from each college attended, including statements of honorable dismissal. Reports of medical history and physical examination forms must be submitted by the applicant.

Graduate Students A graduate student must have a transcript sent from the institution conferring his bachelor's degree and from each graduate school attended. In addition, a medical history form must be submitted by the applicant.

Pre-registration Fee All students upon notification of acceptance to the fall or winter semester will be requested to submit a non-refundable advance payment of their registration fee. This amount is credited to the student's incidental fee when he enrolls in the University.

FRESHMAN STUDENTS

Admission High school graduates *with satisfactory records* may be admitted into regular standing in the University of Missouri - St. Louis.

Plan A: Graduates of fully accredited high schools may be admitted by certificate or transcript of record without examination. Applicants must have passed their high school courses with satisfactory marks. Admission by certificate is restricted to graduates of schools accredited by the University of Missouri, by other state universities of similar rank, by the North Central Association or by other recognized accrediting agencies.

Plan B: A student who is not a graduate of a four-year high school and who is at least eighteen years of age may qualify for admission to the freshman class by examination. The examination will presume training and experience compensating for the lack of formal training in an accredited high school. Adults, military personnel and veterans may qualify for admission by satisfactorily passing the high school level General Education Development tests prepared for the United States Armed Forces Institute.

MISSOURI FRESHMEN

Processing Periods and Priorities Because available facilities are inadequate to provide for all qualified applicants for admission, top priority is given to the best qualified students or those most likely to succeed and graduate. Consequently, applications are processed according to the periods listed below. In evaluating the credentials of students below the top third, ACT test scores, high school grades and college preparation, in terms of type of high school units completed,

are considered in determining the admission of the applicant. Qualified applicants from the St. Louis metropolitan area are given first priority. Second priority is given to Missouri residents; if space is available, students from out-of-state and from other countries may be admitted.

Top Third: Applicants who rank in the upper third of their high school graduating class at the end of the sixth semester will be admitted between October 15 and January 1.

Upper Half: Applicants who rank in the upper one-half of their high school graduating class at the end of seven semesters of work may be admitted from January 1 until such time as the freshman class is filled.

Upper Two-Thirds to Upper Half: Applicants who rank between the upper two-thirds and the upper one-half of their graduating class at the end of seven semesters of work will be admitted from March 1 until such time as the freshman class is filled.

Applicants who rank in the lower one-third of their graduating class cannot be accepted. The University recommends that students who rank in the lower one-third of their graduating class enroll in summer school. If the student earns six hours of "C," he may submit an application after the close of the summer session, and if space is available, his application will be reviewed.

OUT-OF-STATE FRESHMEN

Residents of the Kansas City and St. Louis metropolitan areas, or applicants approved by the Committee on Admissions, are admitted on the same basis as Missouri residents. Out-of-state students must rank in the upper half of their high school graduating classes in order to be eligible for admission by certificate. Out-of-state applicants may be considered for admission with the completion of seven semesters of work, provided space is available.

A non-refundable transcript evaluation fee of \$10 must accompany the application for admission. Checks or money orders should be made payable to the University of Missouri. Upon notification of acceptance, the applicant will be requested to submit a non-refundable advance payment of his registration fee. This amount will be credited to the student's incidental fee when he enrolls in the University.

Freshman Placement Tests Freshman placement tests are required of all students enrolling in the University with fewer than 24 hours of college credit. The results of these tests are of benefit to both the student and his adviser in planning the student's program and in considering his educational and professional objective.

It is recommended that every freshman entering for the first time present scores from the American Colleges Tests (ACT). The ACT is administered at approximately forty-four testing centers, ten of which are in the St. Louis area. There are testing centers in other states as well.

An applicant will not be denied admission if he does not present the ACT scores. In lieu of the ACT, the University may accept scores of the Missouri Colleges' Cooperative Testing Program or the College Board Achievement Tests of the College Entrance Examination Board.

The ACT or College Boards should be taken during the senior year at the earliest possible time. Students who plan to use the College Boards for placement test scores should present a score in English and in mathematics. All test scores should be on file in the Admissions Office before June 1.

The Modern Languages Achievement Test is required of all students who plan to pursue a bachelor of arts degree and who plan to continue the same foreign language pursued in high school.

Advanced placement and credit will be granted to students who meet the standards established by the Modern Foreign Languages and Literatures Department.

Preparation for College Applicants must present 15 acceptable high school units, excluding physical education and military science. The minimal recommended pattern is: English-4 units; mathematics-2 units, excluding general mathematics; science-1 unit of laboratory science; social studies-1 unit. For students planning to pursue a liberal arts degree, two units in one foreign language is recommended.

It is recommended that any remaining units in addition to the above schedule should be taken from such areas as art, music, economics, a second foreign language, two additional years of the same language, mathematics and science. The student should choose his remaining units in keeping with his career choice.

Advanced Standing for Freshmen The University of Missouri - St. Louis grants advanced standing in the form of credit hours to entering freshmen who, on the basis of performance on the Advanced Placement Tests of the College Entrance Examination Board and faculty administered tests, demonstrate proficiency in certain college-level courses such as English, mathematics, history, biology, chemistry, physics, accounting, political science and foreign languages.

Applications to take CEEB examinations and inquiries about the material covered should be addressed to College Board Advanced Placement Examinations, Box 592, Princeton, New Jersey 08540. Code Number is 6889.

Test scores should be sent to the Director of Admissions. These must be on file before the first day of classes.

TRANSFER STUDENTS

Admission Transfer students from other colleges and universities must submit an application for admission, a high school transcript and an official transcript from each college attended. All credentials submitted become the property of the University of Missouri - St. Louis.

Out-of-state undergraduate applicants must submit a \$10 non-refundable transcript evaluation fee with their application for admission. Transfer students are admitted according to the priority system that follows.

Students whose grade point average is 3.0 or higher, based upon the University of Missouri - St. Louis 4-point system, will be admitted at any time. Students whose grade point average is 2.5 or higher will be accepted at any time during the semester prior to that for which entrance is requested. Students whose grade point average is 2.0 or higher may be accepted at any time during the last half of the semester prior to that for which entrance is requested. No student requesting transfer from another college or university whose grade point average is below 2.0 will be admitted.

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 insofar as such work satisfies the requirements of the division of the University in which the student registers. Courses with grades of "D" are not accepted. Advanced standing for the work of the senior year will not be granted. Claims for advanced standing, in order to receive recognition, must be made by the student within one semester after entrance.

Graduates of accredited junior colleges will be admitted without examination to junior standing in the colleges of the University, provided, upon examination of official transcripts, they have satisfied the entrance requirements and have paralleled the work of the first two years of the particular college.

Except as indicated below, no junior college student shall receive credit for more than 16 hours in one semester exclusive of the required practical work in physical education. The maximum credit the student 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 a total of 64 hours, no additional credits may be allowed for work completed in a junior college. Exceptions to these limitations may be permitted under the following conditions:

1) A student with a superior scholastic record in junior college may be allowed more than 16 hours a semester if his dean has permitted excessive registration according to the following conditions: 17 hours if his grade point average is 2.75 or better; 18 hours if his grade point average is 3.0 or better; 19 hours if his grade point average is 3.5 or better. Grade point average is based upon the following grade point scale: Grade A—4 points; B—3 points; C—2 points; D—1 point; F (failure)—0 points. No student will be allowed more than 19 hours for a semester's work.

2) A student who enters junior college with advanced standing granted on the basis of examinations is not subject to the maximum of 64 hours if he has been granted such advanced standing on the basis of

acceptable placement examinations. Examinations acceptable for advanced placement include those administered by the University of Missouri and certain of the examinations administered by the College Entrance Examination Board and the Educational Testing Service of Princeton, New Jersey. Students who have earned any previous college credit or who have once entered upon college work are not eligible to take part in this program designed particularly for entering freshmen.

3) A junior college student may, before graduation from junior college, complete in any approved senior college the work of one summer session without reducing the amount of credit he may be allowed from junior college.

GRADUATE STUDENTS

Admission to the Graduate School is arranged through the Admissions Office, 108 Administration Building. Graduation with a satisfactory record is required from a college or university accredited by the Missouri College Union, the North Central Association of Colleges and Secondary Schools, or other similar regional accrediting associations. However, admission to the Graduate School does not in itself entitle the student to candidacy for an advanced degree.

The prospective graduate student is urged to write or consult the chairman of the department in which he expects to do graduate work and ask for information concerning prerequisites, adequacy of facilities for research and his willingness to undertake the candidate's advisement.

For additional and specific admissions requirements, see the Graduate Bulletin—UMSL. For more details on graduate courses available at the University of Missouri - St. Louis, see page 74.

STUDENTS FROM OTHER COUNTRIES

Abroad: Because available facilities are inadequate to provide for all qualified applicants for admission, processing periods and priorities have been established. (See page 11)

Prospective students living outside the United States and its possessions are advised to write the Director of Admissions at least one year prior to the date of desired admission. Information and forms concerning admission and approximate expenses will be sent to the students. Application papers and official records of previous school work should be furnished the Director of Admissions. Upon the approval of these papers, the student will be notified by an official letter. No prospective student should make plans to leave his country without first obtaining this permission to enter the University.

All students will be required to take *The Test of English as a Foreign Language (TOEFL)*. Applicants should write to: Test of English as a Foreign Language, Educational Testing Service, Princeton, New Jersey.

In the United States: Foreign students now studying in the United States may be admitted to the University only after the completion of at least 24 semester hours of "C" or better quality work in the school whose letter of admission was the basis for issuance of the student's visa. To complete his credential file, he must furnish original and official transcripts from each school attended, both in this country and abroad. No student should consider himself admitted to the University until an official letter has been received stating that he has been admitted.

THE EVENING PROGRAM

In general, the policies governing admission of students to the day program are applicable to the evening program. Students are admitted as follows:

Regular Student: A student who meets the admission requirements as established by the faculty.

Unclassified Student: A student qualified for admission who does not desire to work toward a degree.

Special Student: A person over twenty-one years of age who does not qualify for admission as a regular student, but who by reason of special preparation or attainment may be judged qualified to pursue certain courses. This student will be admitted as a special student though not as a candidate for a degree.

Non-Degree Student: Students who rank in the lowest third of their graduating class may be admitted on a probationary status provided they can, by satisfactory evidence on approved tests, demonstrate they have the potential to complete successfully a college course. Such students may be reclassified as regular students when they have demonstrated by one year of satisfactory work in the University their ability to obtain a degree.

An applicant who desires to increase his proficiency in certain areas may be admitted to a specific course, subject to prerequisites, as a non-degree student.

An applicant who is not in good standing in the college or university he previously attended is not eligible for admission.

OTHER STUDENTS

Visiting Student Admission Students who do not wish to earn a degree from the University of Missouri - St. Louis may be admitted by certification as a Visiting College Student. Admission requires certification by the student's college or university that he is in good standing and has permission to enroll in approved course work and transfer the credit back to that institution. Visiting College Student admission is limited to the summer session. Classroom space limitations do not permit the admission of Visiting College Students to the regular day program. Application forms for certification can be obtained from the Admissions Office.



Hearers With the consent of the dean of the school or college and the instructor concerned, a student may be admitted to any course as a hearer. A hearer is registered and required to attend at least two thirds of the sessions, but is not required to participate in any of the work of the course. He receives no credit toward a degree. A student enrolled as a hearer may be dropped from the course when, in the judgment of his instructor and his dean, his attendance record in the course justifies such action.

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

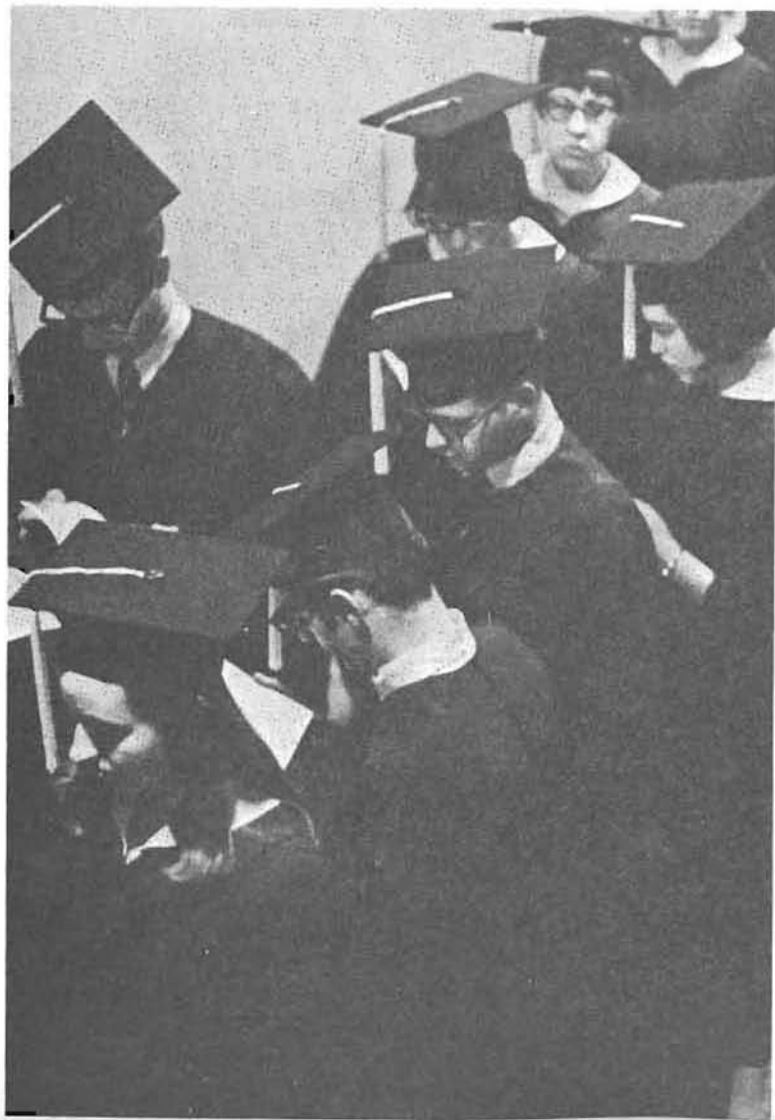
REGISTRATION

Former students (not currently enrolled) should file requests for permits to enroll with the Director of Admissions at least thirty days in advance of the registration period.

A student who enters after the regular registration period, may, because of closed courses, find difficulty in securing the subjects he desires; moreover, he may not be permitted to carry the full amount of work but must enroll for a proportionately reduced amount of work depending on the date of entrance. Ordinarily, no student will receive credit for work in any division of the University after the expiration of one-eighth of the scheduled time. The dates of the regular registration period are shown in the University Calendar (See inside back cover).

Students entering the fall semester may pre-register during July and early August. Pre-registration for the winter semester and the summer session is limited to students enrolled during the preceding term.

Degrees



The University offers a bachelor of science (B.S.) degree in administration of justice, chemistry, physics, business administration and education, and a bachelor of arts (A.B.) degree.

The bachelor of arts candidate may select a major in biology, chemistry, economics, English, French, German, history, mathematics, music, philosophy, physics, political science, psychology, sociology or Spanish.

UNIVERSITY GENERAL EDUCATION REQUIREMENTS FOR ALL BACCALAUREATE DEGREES

I. During his first year, every student should demonstrate from his high school or college transcript, by examination or by appropriate courses, his competency in basic communicative and mathematic skills.

II. Each student must complete at least forty-two hours chosen from the following three areas, with a minimum of at least three courses from each area: Humanities, Science & Mathematics and Social Science.

III. Each student must complete a course in either American History or American Government which will satisfy the requirement of the state of Missouri.

IV. Each student seeking a degree must be accepted into an area of specialization within the College of Arts and Sciences, the School of Business Administration, the School of Education or into any comparable area in the Evening College. To be accepted, a student must formally petition either a department within the College of Arts and Sciences, the School of Business Administration, the School of Education or a comparable area in the Evening College, and must meet the entrance requirement specified by the school or department of his choice. It is expected that the student should complete the petitioning process during his sophomore year. To facilitate meeting these requirements the student should consult with the department or school of his choice at the earliest possible date following his admission into the University.

V. Each student must successfully complete those general requirements of the school or college to which he has been admitted, meet the requirements for specialization prescribed within that school or college and the specific requirements of his area of specialization.

VI. Each student must have been in residence for at least twenty-four of his last thirty hours, except under unusual circumstances to be decided by the dean.

VII. All candidates for a baccalaureate degree must complete one hundred and twenty semester hours. At least forty-five of the one hundred and twenty hours must be above the introductory level. Each student must maintain a minimum 2.0 overall grade point average, and a minimum 2.0 grade point average in his area of specialization.



Fees and Expenses

All University fees must be paid in full at the time of registration as a condition of admission to classes. Students who pre-register must pay fees by the announced deadline or the advance registration will be cancelled and the student will be required to register again and pay fees during the regular registration period as indicated on the University calendar. Registration is not complete until all fees are paid.

For the purpose of all rules regarding enrollment fees, courses taken as a hearer and courses taken for reduced credit will be counted at their normal credit value in computing the amount of fees to be paid. Students enrolling in zero credit courses are required to pay fees according to the equivalent credit of the course.

A student who presents a check to the University in payment of student fees, which for any reason is not honored by the bank upon which it is drawn, will be reinstated only upon payment of the amount of the check and a reinstatement fee of \$5.

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

Incidental Fee All students enrolled in the University are required to pay an Incidental Fee as follows:

Regular Semester	
Hours Credit	Incidental Fee
9 or more	\$165.00
Summer Semester	
5 or more	\$ 82.50

For any other sessions not specified above and for partial enrollments the Incidental Fee shall be calculated at the rate of \$20.00 per credit hour.

Pre-Payment on Incidental Fee Students accepted for admission are required to make an advance deposit on the Incidental Fee. This payment is nonrefundable, but may be used as part payment of fees if the applicant enrolls in the University within a year following payment.

Non-Resident Tuition Fee A Non-Resident Tuition Fee in addition to the Incidental Fee and other required fees, must be paid by any student who at the time of registration has not been a resident of Missouri for a period of at least one year immediately preceding such registration.

It is the duty of each student to register under the proper residence and pay proper tuition fees, and it is also his duty to raise the question if there is a possibility that he is subject to such tuition fees.

The Tuition Fee, in addition to the Incidental Fee, for undergraduate students who are not residents of Missouri is:

Regular Semester	
Hours Credit	Non-Resident Fee
1-6	No Fee
7	\$ 75.00
8	150.00
9	200.00
10 or more	250.00
Summer Session	
Hours Credit	Non-Resident Fee
1-3	No Fee
4	\$ 67.50
5 or more	125.00

Student Union and Activities Fee Each student registered in the University is required to pay a Student Union and Activities Fee as follows:

Regular Semester

Hours Credit	Fee
10 or more	\$ 20.00

Summer Session

5 or more	\$ 10.00
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For any other sessions not specified above and for partial enrollments the Student Union and Activities Fee shall be calculated at the rate of \$2.00 per credit hour or fraction thereof.

Music Fees In addition to the Incidental Fee there is a fee for applied music as follows:

1. For Music Majors: A single fee of \$45 per semester to cover all required applied music.
2. For Non-Music Majors: A fee of \$45 per semester for each area in which the student enrolls for applied music, the defined areas being piano, voice, woodwinds, brass, percussion and strings.

Late Registration Fee Any student registering after the close of the regular registration period shall pay a late registration fee of \$25.00.

Petition Fee Any student dropping, adding or adding and dropping one or more courses at any one time, shall pay a fee of \$5.00.

Motor Vehicle Registration Fee There will be a registration fee for each motor vehicle used by a student on the campus.

Student Insurance An accident and sickness insurance plan is available at low cost to students and their dependents. This optional insurance plan is offered to help pay the expense of hospitalization and emergency medical care and treatment while the student is at the University, and to give further protection while the student is away from the University evenings, weekends and during the summer months. Information concerning premiums and coverage is available upon request from the Cashier's Office.

Transcript Fee A fee of \$1.00 is charged for each official transcript of credits. A fee of 50 cents is charged for all photostatic copies of credits.

Diplomas Held for Delinquent Indebtedness A student is required to clear all delinquent indebtedness to the University before a diploma may be released or transcript issued.

Diploma Fees A fee of \$5.00 is charged for each degree conferred by this campus. A \$2.00 fee is charged for each certificate awarded.

Refund of Fees

Regular Semester	
Withdrawals	Refund
Before the day classwork begins	Full refund less \$10 for cost of handling registration
Within two calendar weeks from and including the day classwork begins	70% refund

After two calendar weeks and including six calendar weeks	50% refund
After six calendar weeks	No refund

Summer Session

Before the day classwork begins	Full refund less \$10 for cost of handling registration
Within one calendar week from and including the day classwork begins	70% refund
After one calendar week and up to and including three calendar weeks	50% refund
After three calendar weeks	No refund

Student Financial Aid

Financial aid is offered to students enrolled in the University of Missouri - St. Louis in the form of part-time employment, student loans, scholarships and awards.

To assist worthy students who otherwise might not be able to attend the University, the Board of Curators at the University of Missouri has established a system of grants in aid. These grants are available to qualified Missouri residents for attendance on the University of Missouri campuses at Columbia, Kansas City, Rolla or St. Louis.

These scholarships and awards are administered under separate quotas. They are not transferable from one campus to another. The student should apply directly to the chairman of the Committee on Curators Scholarships at the campus where he plans to attend.

Curators Freshman Scholars Program Curators Freshman Scholars are selected in recognition of their outstanding academic achievement in high school and their potential for outstanding academic achievement in college.

These scholars are chosen on the basis of high school rank, test scores and the recommendation of the high school principal or counselor. Curators Freshman Scholars must rank in the top ten per cent of their graduating class and in the top ten per cent on the college aptitude test. Students who are Missouri residents and who receive the certificate of recognition for showing highest scholastic promise in Missouri graduating classes are offered the designation of Curators Freshman Scholar. For every 100 students or fraction thereof in the high school graduating class, one student is designated as a Scholar.

The full amount of the incidental fee will be waived for each Curator Freshman Scholar during his freshman year at the University.

University Scholars Program University Scholars are selected in recognition of outstanding academic achievement while in college. University students classified as sophomores, juniors or seniors are designated University Scholars provided they have achieved a specified high cumulative collegiate grade point average (limited to approximately the top five per cent of each class) over not fewer than 28 acceptable hours excluding summer session. Students transferring to the University from other institutions of higher education are eligible for the designation of University Scholar provided their cumulative collegiate grade point averages meet the established standards.

University Scholars are designated after the close of each regular academic year. The normal stipend is \$50.00 a semester for the following academic year if the student is a Missouri resident. Additional assistance depends upon the financial need of the scholar. University Scholars in need of additional assistance should complete and submit an application for financial aid. A student who is not a resident of Missouri but is otherwise qualified for the designation of University Scholar may be so designated *without* any waiver of incidental fees.

University Waiver-of-Fees Program To the degree possible within budgetary limits, and for the purpose of assisting deserving Missouri students to attend the University, the incidental fee will be waived in whole or in part, in accordance with the degree of need as determined by standard need analysis procedure, for those undergraduate students who meet specified academic standards. The financial need assessment will be made through the student aid office.

Entering freshmen must meet these criteria: 1. Missouri residence; 2. Graduation from an accredited Missouri high school; 3. Rank in top twenty per cent of high school graduating class; 4. Rank in top twenty per cent on college aptitude test; and 5. NEED financial assistance. The applicant is advised to discuss this matter with his counselor.

Upperclassmen (sophomores through seniors) must have achieved a specified cumulative grade point average over not fewer than 28 acceptable hours excluding summer session. Students transferring from other institutions of higher education will be considered on the same basis as continuing students. The upperclass student's eligibility for waiver of incidental fees will be determined annually after the close of the regular academic year. An application showing need for financial aid is required for the waiver-of-fees. Blanks are available in the student aid office.

For detailed information on financial aid please write for the publication, *Financial Aid For Students*. Address requests to: The University of Missouri - St. Louis, Student Financial Aids, 108 Administration Building, 8001 Natural Bridge Road, St. Louis, Missouri 63121.



Student Affairs

Designed to assist UMSL in attaining its educational objectives, a well-rounded program of activities encourages students to become participating and integral members of the academic community.

Students are given opportunities to share in the development of a new and exciting university. This program of participation and responsibility is directed toward providing intellectually stimulating experiences outside the classroom.

University Committees Student membership on almost all University committees is a somewhat unique effort at UMSL. All student members have full voice and voting powers. The significant policy decisions in the University are initiated in these committees.

Student Organizations A variety of student organizations offers an excellent opportunity for students to shape University life. Student organizations are many and varied; they include several service organizations, musical organizations, social fraternities and sororities, community action groups, political organizations, departmental clubs and religious organizations.

Alumni Association Membership in the Alumni Association is open to all graduates and former students of UMSL. The Alumni Association was formed to promote the interests of UMSL and to establish mutually beneficial relations between UMSL and its alumni. Social activities during Homecoming weekend provide an opportunity for alumni to meet again and return to the campus to see the newest developments. The Association also encourages alumni to participate in continuing education programs offered by the Extension Division.

Athletics and Recreation UMSL is in its fourth year of intercollegiate sports competition against four-year institutions. Varsity competition is offered in basketball, cross country, golf, tennis, soccer and baseball.

UMSL is not affiliated with a conference, but is an active member of the National Association of Intercollegiate Athletics and is an associate member of the National Collegiate Athletic Association.

Intramurals The intramural program offers a variety of physical activities for all who desire to participate. The program of activities includes flag football, soccer, cross country, basketball, tennis, softball and volleyball. League competition is featured in the team sports and championship elimination competition is used with individual sports competition.

Recreation Present facilities allow students, faculty and staff to work out during leisure time in activities such as tennis, golf, volleyball, basketball, and, during the summer, swimming.



Special Programs

CENTER OF COMMUNITY AND METROPOLITAN STUDIES

The Center of Community and Metropolitan Studies was created by the Board of Curators of the University of Missouri in the spring of 1965 to fulfill a threefold function of teaching, research and community service. It contributes to the basic teaching function of the University by facilitating the efforts on the campus of a group of scholars in such fields as political science, sociology, economics, education and business, who can teach urban related courses in their respective disciplines and cooperate in the development of interdisciplinary courses in urban studies. In addition to teaching responsibilities, these scholars are assigned on a one-half or three-quarter time basis to the Center for research and community service.

In pursuit of the research function, members of the Center are involved in both basic and applied research and have an opportunity to develop their own particular fields of interest as well as to work cooperatively on interdisciplinary research projects. Through its emphasis on interdisciplinary cooperation the Center seeks to promote a more complete and more coordinated approach to urban problems.

In the field of community service, members of the staff of the Center of Community and Metropolitan Studies cooperate with the Extension Division and with other members of the various academic departments in developing means by which the information generated by scholars on campus can be transmitted to policy makers in the urban community.

The focus of the Center is on urban problems generally and is not necessarily limited to the St. Louis metropolitan area.

The Center is vitally committed to programs which relate to the pressing problems of urban areas, and to the development of new, pioneering methods of information gathering and retrieval which will enable the University to cooperate with local governments, private industry and citizen groups in developing problem solving techniques.

Anyone interested in further information about the Center of Community and Metropolitan Studies should contact the Center at the University of Missouri - St. Louis, 8001 Natural Bridge Road, St. Louis, Missouri 63121.

CENTER FOR INTERNATIONAL STUDIES

In 1968 the Board of Curators of the University of Missouri approved the establishment of a Center for International Studies on each of the four campuses, with a University-wide Office of International Studies to coordinate the activities of each, located on the St. Louis campus.

The Center is directly involved in the three-fold task confronting the University as a whole—teaching, research and public service. In cooperation with the various departments of the University, the Center promotes departmental and inter-departmental courses, seminars and area and comparative studies programs. Its charge includes developing educational materials designed to support and encourage improved methods of transmitting knowledge in the classroom, through use of such media as educational television.

The Center helps to provide support for faculty and student research in international studies. Through research conducted under its auspices, the Center seeks to improve understanding of the processes of international and cross-national interaction, of the roles played by nations in the international system, of foreign cultures and politics and of attitude formation and communication concerning international issues.

The Center will conduct institutes, conferences and seminars for college, university, secondary and primary school teachers, and will develop data banks for use by interested institutions and individuals in the metropolitan area.

PRE-LAW PROGRAM

The official statement of the American Association of Law Schools emphasizes the preference of law schools for students who are well-rounded in their educational backgrounds—capable of critical and creative thinking with an ability to express themselves. No specific undergraduate major is required or recommended.

The University of Missouri - St. Louis assists its students in pre-legal preparation through a Pre-Law Committee consisting of representatives from the School of Business and the departments of economics, history, philosophy and political science. The members of this committee are prepared to advise and assist individual students in planning their personal curricula commensurate with their academic major.

Pre-law students generally major in an area of breadth rather than one of specialization. Elective courses may include accounting (six hours), corporate finance, English and American history (especially constitutional history), jurisprudence, logic, political parties and at least one course in English composition beyond the freshman level.

The Pre-Law Committee maintains information on the Law School Admission Test and a collection of law school catalogs in the Department of Political Science. These materials are available for study by individual students.

PRE-MEDICAL SCIENCES PROGRAM

The University of Missouri - St. Louis does not award an A. B. degree with a major in pre-medical sciences. Students desiring to enter medical schools, dental schools or schools of veterinary medicine should pursue A.B. degrees with majors in the discipline of their choice, but they should elect to take whatever additional courses may be necessary for admission.

Admission requirements of professional schools vary, and students are cautioned to consult the catalogs of the institutions to which they intend to apply. Chemistry, biology or psychology are recommended major disciplines for students interested in the healing arts. An A.B. degree, regardless of major, will usually meet the admission requirements of medical schools if the curriculum is chosen to include:

Chemistry 11, 12, 222, 261, 262 and 263 (total 23 hours)

Physics 1, 2 and 3 (total 8 hours)

Biology 11, 12, 224 and five additional hours of advanced course work

Since students will normally apply to professional schools during their junior year, and since admission to professional schools will not be confirmed until after successful completion of the science requirement for admission, students are encouraged to fulfill this requirement before the end of their junior year. In order to complete the requirements by this time, pre-medical students will normally take Chemistry 11 and 12 during their freshman year.

PRE-PHARMACY PROGRAM

Admission to a school of pharmacy usually requires one or two years of college work in certain specified areas. Most colleges of pharmacy recommend the so-called 2-3 plan which includes two years of college work followed by three years of professional courses in the college of pharmacy. Entrance requirements vary somewhat from college to college, and students taking pre-professional courses on this campus are advised to consult the catalog of the college of pharmacy to which they expect to apply.

The following is a typical two-year sequence in pre-pharmacy and meets the requirements for admission to the School of Pharmacy of the University of Missouri - Kansas City:

Freshman Year

Chemistry 11	5	Chemistry 12	5
Physics 1	3	Physics 2	3
Physics 3	2	Mathematics 11	3
Mathematics 10	3	English 12	3
English 10	3		14
	16		

Sophomore Year

Chemistry 261	3	Elementary Accounting	3
Chemistry 263	2	Chemistry	5
Biology 11	5	Biology 12	5
Economics 50	3	Elective	3
History 3 or Political			16
Science 11	3		
	16		

RESERVE OFFICERS TRAINING PROGRAM

The University of Missouri - St. Louis does not offer on-campus military training. Students interested in a reserve officer training program may enroll with the Department of Military Science (Army ROTC) or the Department of Air Force Aerospace Studies (Air Force ROTC) at Washington University in St. Louis.

Students may enroll on the UMSL campus during regular registration periods. All military training classes are held on the Washington University campus.

A student who successfully completes Army or Air Force ROTC will receive a reserve commission in the respective service, and will serve an active duty tour as an officer. Active duty may be deferred until graduate work is completed. Cadets may compete for regular commissions in the Army or Air Force.

The University of Missouri - St. Louis accepts 12 hours of advanced ROTC work as elective credit toward a degree. No credit is accepted for the basic ROTC courses normally completed during the freshman and sophomore years.

The Four-Year Plan This plan is conducted at Washington University by the Army ROTC only. It requires four semesters of basic ROTC (MS 101-102, 201-202—see page 117), four semesters of advanced ROTC (MS 301-302, 401-402—see page 117), and one six-week summer camp. Under certain conditions, cadets in the basic ROTC may receive an ROTC draft deferment. All cadets in the advanced course are placed in the ROTC deferment category of the draft.



The Two-Year Plan This plan is offered by both Army ROTC and Air Force ROTC. It requires the student to attend a six-week summer camp, which is prerequisite for admission to the advanced course, and to take four semesters of advanced ROTC. Additionally, Army cadets must attend a six-week summer camp after their junior year. Veterans or students who have completed the first two years of the four-year plan of Army, Navy, or Air Force ROTC are eligible to enter the two-year plan and are not required to attend the prerequisite six-week summer camp. Cadets in the two-year program are placed in the ROTC deferment category of the draft.

Both Plans All ROTC students are furnished ROTC textbooks, uniforms and equipment. In addition, all advanced course students receive pay which totals approximately \$1,200 during the two-year period.

There are mental, physical, age, citizenship and character criteria which must be met by those students who enter an advanced program of either Army or Air Force ROTC. The education received in ROTC is designed to develop leadership and management ability and an understanding of military history, military policies and problems. Participation on rifle teams and drill teams, visits to military bases, and flight training are among the many voluntary features.

For further information students should contact the Department of Military Science or the Department of Air Force Aerospace Studies at Washington University (telephone 863-0100, extension 4662 for Army ROTC or 4567 for Air Force ROTC.)

General Regulations and Requirements

Requirements in American History, Institutions and National and State Constitutions Each student who expects to complete an undergraduate degree in the University of Missouri must present as a requirement for graduation a course or courses in this area, taken at the University of Missouri or at other colleges or universities within the state of Missouri.

This requirement will be satisfied by credit in one of the following courses: History 3, 4, 351, 354, 355, 356, 357; Political Science 11, 12, 170, 320, 335, 376.

The transfer student should inquire at the Admissions Office to determine whether he has satisfied this requirement.

Program of Studies and Credit Hours No undergraduate student is permitted to carry, in any semester, courses aggregating less than 10 credit hours, exclusive of the required work in physical education which may hereafter be required, without the special permission of his dean. The normal registration is 15 credit hours. A student who has demonstrated by achieving a superior academic record an ability to carry more than 17 hours may, with the approval of his adviser and dean, enroll for additional hours. However, in no case shall his enrollment exceed 20 hours in a regular semester or 10 hours in a summer session.

The unit of credit given in the University, the semester or credit hour, is the equivalent of a subject pursued one period per week for one semester of approximately 16 weeks. Thus a course valued at two credit hours will meet two periods per week for a semester; a five-hour course will meet five periods per week for a semester. The lecture or recitation period is normally 50 minutes in length and the usual laboratory period an hour and 50 minutes.

Graduation The last year of work, (24 credit hours in one academic year), must be done in residence, except under unusual circumstances to be decided by the dean.

All candidates for a baccalaureate degree must complete 120 semester hours. At least 45 of the 120 hours must be above the introductory level. Each student must maintain a minimum 2.0 overall grade point average and a minimum 2.0 grade point average in his major discipline.

Each student is requested to file a degree application form in the office of the dean of the school or college from which he intends to graduate at least two semesters before the expected graduation date.

The faculty may decline to recommend a student for a degree because of lack of moral qualification, even though the student has completed all the formal requirements for the degree.

Prerequisites A minimum grade of "C" is required in courses used as a prerequisite for a next course, except with permission of the department in which the next course is to be taught.

Scholastic Deficiencies Those students who do not maintain satisfactory scholastic averages may be required to withdraw from the University.

Motor Vehicle Registration All students desiring to operate a motor vehicle on the campus must register it and pay a fee at the time of registration. Failure to comply with traffic regulations may subject the student to disciplinary action, payment of an additional fee and the denial of the privilege of operating a motor vehicle in or about the campus. Copies of the Traffic Regulations for the University of Missouri - St. Louis may be secured from the Business Office.

Attendance Students are expected to attend classes regularly. Permission to make up class work missed as a result of absences is granted at the discretion of the individual instructor.

Petitioning to Change Classes or Withdraw from a Course To change his original enrollment a student must secure the approval of his adviser and the office of the dean. No student may enter a course after the first two weeks of the semester or the first week of a summer session. A student may withdraw from a course without a grade until the end of the first four weeks of the semester or the first two weeks of the summer session.

Normally the office of the dean will not approve the withdrawal from the following:

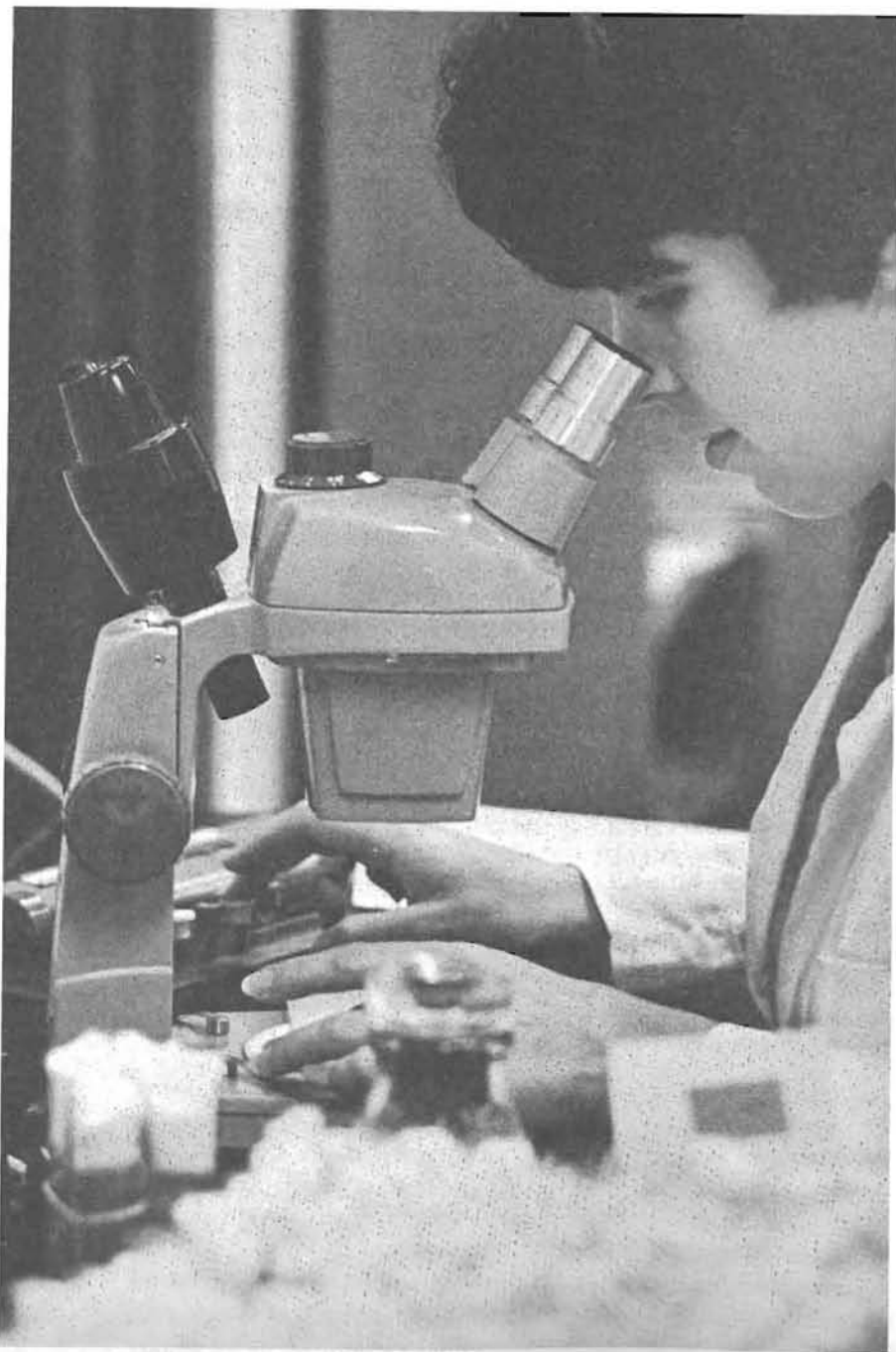
1. Courses which should be completed in a chronological or sequential development (especially foreign languages).
2. English composition.

After the end of the first four weeks of the semester and until the end of twelve weeks (or from the end of the first two weeks of the summer session and until the end of six weeks), a student may withdraw from a course with a grade of "excused" providing he is passing the course at the time of his withdrawal and he receives the signatures of his instructor, his adviser and a representative of the dean's office. Otherwise, he will receive a grade of "F." Any student who ceases to attend classes but who fails to drop officially shall receive a grade of "F."

Academic Dishonesty Academic dishonesty is considered one of the most serious offenses which can be committed by a student at the University, for it defies the academic integrity of the University and indicates that the student is unworthy of further association with the University. Those guilty of a dishonesty may be dismissed from the University. Plagiarism is considered a dishonest act.

New Student Orientation All new students are required to attend an orientation program scheduled before the opening of classes each semester.

College of Arts and Sciences



The thirteen departments of the College of Arts and Sciences have curricula designed to provide a general foundation in the liberal arts for all students. At the same time a major in any of these departments affords a degree of specialization sufficient to prepare students for professional or graduate careers.

The College offers the bachelor of arts degree (A.B.) and the bachelor of science degree (B.S.) with academic majors in the following areas: the administration of justice, biology, chemistry, economics, English, French, German, history, mathematics, music and music history, philosophy, physics, political science, psychology, Spanish and sociology.

The College recognizes its unique urban location. Many departments orient some teaching and research toward the urban milieu of which the College is a part. The College also offers numerous off-campus courses in the metropolitan area through the auspices of the Extension Division.

During the first semester, every freshman is advised concerning the selection of course work in the Office of the Dean of the College. During or after his second semester, when the student has decided on a major or an academic objective, he should notify the Office of the Dean so that he may be assigned to an adviser in the appropriate discipline. Students are normally expected to declare the major or academic objective no later than the beginning of their junior year.

General Education Requirements The general education requirements of the University are binding on all students in the College. (For a listing of these requirements see page 32.) In addition, all students in the College of Arts and Sciences must take one three-hour course in either Asian or African studies, must meet the requirements for either the A.B. or B.S. degree and must meet requirements set by the department in which they choose to major. In some circumstances, an interdisciplinary program involving two or more departments may be devised.

The College requirement in Asian or African Studies may be met by taking any one of the following courses: History 210, 211, 315, 316, 370, Political Science 255, 352, Music 5 or Philosophy 170. The state requirement (see page 32) of one course in American History or American Government may be met by taking History 3, 4, 351, 354, 355, 356, or 357 or by taking Political Science 11, 12, 170, 320, 335, or 376.

Requirements for the A.B. Degree Every A.B. degree candidate must accumulate 14 credit hours or the equivalent in proficiency in one foreign language and successfully complete a curriculum which includes either a departmental major or an approved integrated interdisciplinary field. A major must include at least 30 credit hours, but no more than 45 hours in the major department. The requirements of individual departments vary within these limits.

Requirements for the B.S. Degree The College offers the B.S. degree in chemistry, physics and the administration of justice. In general, the requirements are the same as for the A.B. degree except that more credit hours in the major discipline may be counted toward satisfying the 120 hours required for the degree. The College does not require a foreign language proficiency for this degree but individual departments may require a language for their majors.

Arts and Sciences as Preliminary to Business and Education Students planning to take a degree in the School of Business Administration or School of Education are enrolled in the College of Arts and Sciences until they obtain 60 college credit hours with a cumulative grade point average of 2.0. These students need not meet graduation requirements of the College, but they are responsible for meeting requirements set by the school into which they intend to petition. Students working for a B.S. in secondary education may choose to major in any one of the departments of the College of Arts and Sciences.

ADMINISTRATION OF JUSTICE PROGRAM

Faculty

Richard C. Grace M.S., acting director, assistant professor

General Education Requirements Each Administration of Justice major must satisfy the general education requirements of the University listed on page 32, the general education requirements of the College of Arts and Sciences as they apply to the B.S. degree (see above) and the requirements of the Program of Administration of Justice which may be found in a brochure supplied by the Program Office. Careful selection of specific courses will simultaneously fulfill all requirements referred to above.

The 14 hours of foreign language required for the A.B. degree is optional for the B.S. candidate. Students may take a foreign language or the 15 hour program of social sciences prescribed in the Program's brochure. The three hour non-Western requirement may be met by taking any Asian or African studies course.

Related Area of Study Requirements Each major must complete upon attaining upper division standing, Sociology 311 and 312.

Program Requirements In general, every candidate for the B.S. degree in Administration of Justice must complete 120 semester hours maintaining a 2.0 grade point average overall and a 2.0 in the major and must pass a comprehensive examination measuring competence in the field of law enforcement.

For specific requirements of the Program, consult the Program's brochure.

DEPARTMENT OF BIOLOGY

Faculty

Frank H. Moyer	Ph.D., chairman, professor
Robert S. Bader	Ph.D., professor
Lawrence D. Friedman	Ph.D., associate professor
Monroe Strickberger	Ph.D., associate professor
Ellen G. Archer	Ph.D., assistant professor
Muriel B. Babcock	Ph.D., assistant professor
R. George Babcock	Ph.D., assistant professor
Jacques J. Delente	Ph.D., visiting assistant professor
Harvey P. Friedman	Ph.D., assistant professor
Donald E. Grogan	Ph.D., assistant professor
Ronald D. MacLeod	Ph.D., assistant professor
John E. Ridgway	Ph.D., visiting assistant professor
Janice M. Anderson	A.B., instructor
Dennis R. Hathaway	A.B., instructor
Dimple Jud	A.B., instructor
Jerry L. Thurman	A.B., instructor

General Education Requirements Each biology major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in biology may be used to meet the University's science and mathematics area requirement. The College's foreign language requirement should be met in French, German or Russian. The non-Western requirement may be met by taking any non-Western course.

Related Area of Study Requirements Each biology major must complete 15 hours of chemistry including Chemistry 11, 12, 261 and 263. He must take one year's course work in introductory physics or the equivalent, and Mathematics 101 or the equivalent. Additional work in chemistry, physics and mathematics is recommended.

Departmental Requirements Each biology major must complete 36 hours of biology including Biology 11, 12, 213, 224, 235, 242, 276, any two of the five courses 215, 226, 237, 244 and 278. He must take Biology Seminar 289 in both semesters of the senior year and two elective courses in biology.

The general requirements for the B.S. degree in secondary education are given on page 70. Candidates for this degree with a major in biology must complete 37 hours of biology credit, with work in the same courses as candidates for the A.B. degree in biology, with the exception of Biology 289. Candidates for the B.S. degree in secondary education must take Biology 180 rather than Biology 289.

Departmental Recommendation Because an important area of biology consists of the study of living organisms in their natural environment, each biology major is encouraged to attend a summer session, ordinarily between the junior and senior year, at a field biology station. Many biological stations offer financial support in the form of summer fellowships.

DEPARTMENT OF CHEMISTRY

Faculty

Charles W. Armbruster	Ph.D., chairman, associate professor
Robert W. Murray	Ph.D., professor
Alan F. Berndt	Ph.D., associate professor
Eugene R. Corey	Ph.D., associate professor
David W. Larsen	Ph.D., associate professor
Thomas L. Westman	Ph.D., associate professor
Lawrence Barton	Ph.D., assistant professor
Eric Block	Ph.D., assistant professor
Joyce Y. Corey	Ph.D., assistant professor
Dennis J. Diestler	Ph.D., assistant professor
Joseph Feder	Ph.D., assistant professor
David L. Garin	Ph.D., assistant professor
Warren Groves	Ph.D., assistant professor
Marcel L. Halberstadt	Ph.D., assistant professor
William Hirzy	Ph.D., assistant professor
Jane A. Miller	Ph.D., assistant professor
Robert I. Stearns	Ph.D., assistant professor
Alex Wolberg	Ph.D., assistant professor
Leland Milligan	M.S., instructor
Said I. Raziq	M.S., instructor
Vivian Cody	Ph.D., research associate
Jack D. Cummins	Ph.D., research associate
Jack L. Coombs	B.A., laboratory stores manager

General Education Requirements Each chemistry major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in chemistry may be used to meet the University's science and mathematics area requirement. The College's foreign language requirement should be met in German or Russian. German is preferred. In rare instances French may be substituted, but only with prior departmental approval, and only for A.B. candidates. Chemistry majors will normally include language 104. The non-Western requirement may be met by taking any non-Western course.

Related Area Requirement The candidate for the A.B. degree with a major in chemistry must complete 15 hours of mathematics including Mathematics 80, 175 and 201, and 10 hours of physics, including Physics 1, 10, 111 and at least one course from Physics 15, 112 or a course higher than 112.

The candidate for the B.S. degree with a major in chemistry is required to complete the same related area requirement as the A.B. candidate. (See also the comments under departmental requirements.)

Departmental Requirements The candidate for the A.B. degree with a major in chemistry must complete 33 hours of chemistry including Chemistry 11, 12, 222, 231, 232, 233, 261, 262, 263 and 289 (all chemistry majors must enroll as hearers in Chemistry 289 during both semesters of their junior year, and must take Chemistry 289 for credit during both semesters of their senior year). A maximum of 45 credit hours of chemistry may be applied towards the A.B. degree in chemistry.

The candidate for the B.S. degree with a major in chemistry must complete the 33 hours of chemistry required for the A.B. and an additional 10 hours in chemistry including Chemistry 234, 264, 324 and 341. The B.S. candidate must also select eight hours from the fields of astronomy, biology, chemistry, mathematics or physics at least three of which must be in chemistry at the 200 level or higher. A maximum of 51 credit hours of chemistry may be applied towards the B.S. degree in chemistry.

Each chemistry major must pass a comprehensive examination during his senior year.

DEPARTMENT OF ECONOMICS

Faculty

Ingo Walter	Ph.D., chairman, associate professor
Robert Loring Allen	Ph.D., professor
Leonall C. Andersen	Ph.D., professor
Sioma Kagan	Ph.D., professor*
Joseph P. McKenna	Ph.D., professor

*Primary appointment, School of Business Administration.

William D. Eickhoff	Ph.D., associate professor
Herbert D. Werner	Ph.D., associate professor
Elizabeth M. Clayton	Ph.D., assistant professor
E. David Emery	M.A., assistant professor
John H. Hand	Ph.D., assistant professor
Robert M. Kirk	Ph.D., assistant professor
Kern O. Kymn	Ph.D., assistant professor
William E. Mitchell	Ph.D., assistant professor
Donald A. Murry	Ph.D., assistant professor
John F. Hanieski	M.S., instructor

General Education Requirements Each economics major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in economics may be used to meet the University's social science area requirement. The College's foreign language requirement may be met in any language. The non-Western area requirement may be met by taking any non-Western course.

Related Area Requirements Each economics major is required to complete Business 31 and Business 36 (preferably before the end of the sophomore year). Mathematics 80 or Mathematics 101 is recommended.

Departmental Requirements Candidates for the A.B. degree in economics are required to complete at least 33 hours in the major field, including all of the following courses: Economics 50, 51, 220, 250, 251, 190 and 191. During the senior year, the economics major must satisfactorily complete Economics 191. In the course of this seminar, he will prepare a senior paper which he will present to seminar students as well as interested members of the staff. He must demonstrate competence both in the area of his chosen topic and in the more general area of economics within which it lies. At the end of his senior year, the economics major must pass a written comprehensive examination designed to test his competence in general economic theory, policy and institutions.

Candidates for the B.S. degree in secondary education with a major in economics should refer to page 71 of this catalog.

Departmental Recommendations In addition to the required courses listed above, the student may take electives in economics up to a total of 45 hours. Depending on the student's interest, additional electives should be chosen from such related fields as business administration, history, mathematics, philosophy, political science, psychology, and sociology-anthropology. All electives should be chosen in close consultation with the student's adviser.

Faculty	
Charles T. Dougherty	Ph.D., chairman, professor
B. Bernard Cohen	Ph.D., professor
William C. Hamlin	Ph.D., professor
Eugene Murray	Ph.D., associate professor
Peter Wolfe	Ph.D., associate professor
David L. Allen	M.A., assistant professor
G. Bert Carlson	Ph.D., assistant professor
James Hazen	Ph.D., assistant professor
Valerie Lagorio	Ph.D., assistant professor
John T. Onuska	Ph.D., assistant professor
Jane Williamson	Ph.D., assistant professor
Jerome Grollman	M.H.L., visiting assistant professor
Mary Burger	M.A., instructor
Susan Bobrow Casmier	M.A., instructor
Nancy Glenn Duncan	M.A., instructor
Daniel Firestone	M.A., instructor
Louise Angela Harris	M.A., instructor
Mary Vera Jackson	M.A., instructor
Margaret Jeffries	M.A., instructor of speech
Ralph Mastriani	M.A., instructor
Jane Parks	M.A., instructor
James Staudt	M.A., instructor
James E. Tierney	M.A., instructor
Clyde Tracy	M.A., instructor
Dwight A. Williams	M.A., instructor of speech
Daniel Williamson	M.A., instructor
Richard Bell	M.F.A., assistant instructor
Lynn Hazen	M.A., assistant instructor
Marilyn McConachie	M.A., assistant instructor
Carolyn Scott	M.A., assistant instructor

General Education Requirements Each English major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in English, except English 10, 115, 160, and 262 may be used to meet the University's humanities area requirement. The College's foreign language requirement may be met in any language. The non-Western area requirement may be met by any non-Western course.

Related Area of Study Requirements No courses in related areas are required for a major in English.

Departmental Requirements Each English major must complete 36 hours of English exclusive of English 10. These courses must include English 131, 132, one course in American literature, and one course in any four of the following six areas: Middle English literature; 16th-century, 17th-century, 18th-century or 19th-century English literature; 20th-century literature.

Requirements for the B.S. in secondary education are the same as those for the A.B. Anyone who wishes to qualify for secondary certification must take English 262 and one additional course in American literature.

Departmental Recommendations English 160 and 220 are strongly recommended for anyone who wishes to qualify for secondary certification. The student should take English 131 and 132 during the freshman or sophomore year.

DEPARTMENT OF FINE ARTS

Faculty

Kenneth E. Miller	Ph.D., chairman, professor of music
Marie Larkin	Ed.D., professor of art
Ronald Arnatt	B.Mus., associate professor of music
Warren T. Bellis	D.M.A., assistant professor of music
Franklin Perkins	Ph.D., assistant professor of music
Arnold Perris	Ph.D., assistant professor of music
Gertrude Ribla	assistant professor of music
Elizabeth Fischer	instructor of music
Sara Jenkins	M.A., instructor of art
Henry Loew	instructor of music
Theodore Lucas	M.A., instructor of music
John MacEnulty	instructor of music
Evelyn Mitchell	instructor of music
Richard O'Donnell	instructor of music
Ronald Pandolfi	instructor of music
Nancy Pate	M.A., instructor of art
Bernard Schneider	B.M., instructor of music
Janet Scott	B.A., instructor of music
Leslie Scott	B.S., instructor of music
Gary Smith	M.M., instructor of music
Mary Kay Stamper	M.A., instructor of music
Jean Tucker	M.A., instructor of art
Linda Warren	M.M., instructor of music

The Department of Fine Arts offers a major in music or music history and literature. A major in art is not offered; however, the program includes courses which are applicable to the general education requirements.

General Education Requirements Each major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. In fulfilling these requirements, each major must take 12 hours of science-mathematics (preferably in physics), 18 hours of social sciences and 21 hours of humanities. The College's foreign language requirement should be met in French or German. The non-Western requirement may be met by any Asian or African studies course.

Departmental Requirements Every major will be required to participate in an approved ensemble and to study in his major applied area each semester of his course of study. He will be required to appear in performances at the discretion of the department and to pass an examination in keyboard proficiency during the period of undergraduate study.

A departmental major consists of the course requirements as listed below. Specific courses will be chosen in consultation with the student's adviser.

MUSIC

Music Theory 3, 4, 111, 112
 Music History and Literature 101, 102
 Advanced Music Theory (2 hours)
 Music History and Literature, 300 level (3 hours)
 Conducting 151
 Major applied area and ensemble (16 hours)
 Senior year requirements

MUSIC HISTORY AND LITERATURE

Music Theory 3, 4, 111, 112
 Music History and Literature 101, 102
 Advanced Music Theory (4 hours)
 Music History and Literature, 300 level (9 hours)
 Piano (10 hours)
 Senior year requirements

Standards of achievement in applied music, piano proficiency and entrance requirements are on file and the major should familiarize himself with these requirements.

DEPARTMENT OF HISTORY

Faculty

James Neal Primm	Ph.D., chairman, professor
James L. Bugg, Jr.	Ph.D., professor
Glen R. Driscoll	Ph.D., professor
Gilman Ostrander	Ph.D., professor

Faculty (Continued)

Roy Gene Burns, Jr.	Ph.D., associate professor
Lyle Dorsett	Ph.D., associate professor
Harold Eickhoff	Ph.D., associate professor
James D. Norris	Ph.D., associate professor
Blanche M. Touhill	Ph.D., associate professor
Armand D. Erickson	M.A., assistant professor
Norma Erickson	Ph.D., assistant professor
Henry E. Friedlander	Ph.D., assistant professor
Susan M. Hartmann	Ph.D., assistant professor
William Maltby	Ph.D., assistant professor
Richard W. Resh	Ph.D., assistant professor
Arthur H. Shaffer	Ph.D., assistant professor
Dolores Williams	Ph.D., assistant professor
John J. Healy	M.A., instructor
Robert Nelson	M.A., instructor
Linda Resh	M.A., instructor
Hal Sears	B.A., instructor
Susan Stone	M.A., instructor

General Education Requirements Each history major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in history may be used to meet the University's social science area requirement. The College's foreign language requirement may be met in any language the student prefers. The non-Western area requirement may also be met by any non-Western course.

Departmental Requirements History majors may emphasize American, Asian or European history in their major program as follows. Each major must complete at least 36 hours of history. Students may elect to take a maximum of 45 hours of history. Specific courses will be chosen in consultation with the student's adviser.

American History History 1, 2, 3, 4, 192, 193; 12 hours of American History at the 300 level and six hours of history other than American at the 300 level.

Asian History History 1, 2, 3, 4, 192, 193; 12 hours of Asian history and six hours of history other than Asian at the 300 level.

European History History 1, 2, 3, 4, 192, 193; 12 hours of European history at the 300 level and six hours of history other than European at the 300 level.

DEPARTMENT OF MATHEMATICS

Faculty

Edward Z. Andalafte	Ph.D., chairman, associate professor
Deborah Tepper Haimo	Ph.D., professor
Raymond Balbes	Ph.D., assistant professor

Faculty (Continued)

Allen Holmes	Ph.D., assistant professor
Ronald Irwin	Ph.D., assistant professor
Wayne L. McDaniel	Ph.D., associate chairman, assistant professor
Stephen E. Newman	Ph.D., assistant professor
Gerald Peterson	Ph.D., assistant professor
Ulrich Schoenwaelder	Ph.D., assistant professor
Alan L. Schwartz	Ph.D., assistant professor
Frederick W. Wilke	Ph.D., assistant professor
Ruth Boothby	M.A., instructor
Robert C. C. Chen	M.A., instructor
Jonathan Cohen	M.A., instructor
W. James Dillon	M.A., instructor
Dorothy Gotway	M.A., instructor
Frank Luebbert	M.S., instructor
Michael Scroggins	M.A., instructor
Carol Sipe	M.A., instructor
Harold Tessereau	M.A., assistant to the chairman, instructor
Howard Whitcraft	M.A., instructor
Esther Yuen	M.A., instructor
Timber Zwonkin	M.A., instructor

General Education Requirements Each mathematics major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in mathematics may be used to meet the University's science and mathematics area requirement. The College's foreign language requirement should be met in German, French or Russian. The non-Western area requirement may be met by any non-Western course.

Related Area of Study Requirements Each mathematics major must complete either a sequence of at least nine semester hours in each of two departments related to mathematics, including a course beyond the introductory level in one sequence, or a single sequence of at least 18 hours in one such department. Related sequences may be chosen from Physics 111 and 112 and above; Chemistry 11 and 12 and above; Astronomy 11 and 12 and above; Philosophy, including 160, 250 and 360; Economics, including 365 and 366; or other areas approved by the Department of Mathematics.

Departmental Requirements Each mathematics major must complete six three-hour courses numbered above 201, including courses from each of the following areas, with at least two courses from some one area:

1. Algebra-Number Theory: Mathematics 335, 340, 341
2. Analysis: Mathematics 310, 311, 316
3. Geometry: Mathematics 362, 366, 367
4. Applied Mathematics—Probability-Statistics: Mathematics 304, 320, 323

No grade below "C" in any mathematics course may be counted toward a major in mathematics, and the student must achieve an overall grade point average of 2.0 in all courses attempted in his major department. A minimum of 12 hours of 300-level mathematics courses must be completed on the St. Louis campus.

Departmental Recommendations Majors preparing for graduate study are strongly advised to complete Mathematics 310, 311, 340 and 341.

DEPARTMENT OF MODERN FOREIGN LANGUAGES AND LITERATURES

Faculty

Enrique Noble	Ph.D., chairman, professor of Spanish
Alejandro Ramirez	Ph.D., visiting professor of Spanish
Marcus Allen	Ph.D., associate professor of French
Alfred F. Goessl	Ph.D., associate professor of German
Marion Holt	Ph.D., associate professor of Spanish
Vladimir Butkoff	M.A., assistant professor of Russian
Robert I. Cloos	Ed.Dr., assistant professor of German
John A. Creviere	Ph.D., assistant professor of French
Kay Ellen Cushman	Ph.D., assistant professor of French
Mary Guckel	Ph.D., assistant professor of German
Paul Hoffman	M.A., assistant professor of German
Janet Alpera	M.A., instructor of Spanish
Alexandra Butkoff	B.A., instructor of Russian
Michele Creviere	M.A., instructor of French
Madelaine Dethier	M.A., instructor of French
Julianne Deuber	M.A., instructor of Spanish
Anthony W. Integlia	M.A., instructor of Spanish
Sue Josephs	M.A., instructor of German
Albert Kalmar	M.A., instructor of German
Kenneth W. Koenig	M.A., instructor of French
Marie Koons	M.A., instructor of French
Michael J. Mahler	M.A., instructor of Spanish and director of language laboratory
Willem H. Marda	M.A., instructor of German
Nerina Martinez	Ed.Dr., instructor of Spanish
John Pisoni	M.A., instructor of German

Faculty (Continued)

Dolores Richardson	M.A., instructor of French
Guy Rossetti	M.A., instructor of Spanish
Harriet Waller	M.A., instructor of French
Anne Weitzel	M.A., instructor of French
Nancy Whiteside	M.A., instructor of Spanish

The Department of Modern Foreign Languages and Literatures offers work leading to the degree of bachelor of arts and a major in foreign language and literature for the secondary school teacher in education. The requirements are:

General Education Requirements Each language major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in foreign language literature may be used to meet the University's humanities area requirement. The College's foreign language requirement may be met in any language. The non-Western area requirement may be met in any non-Western course.

Departmental Requirements Students petitioning for a major in modern foreign languages and literatures must have completed eight hours of course work or its equivalent in the language selected with a grade of "C" or better.

Each language major must complete 36 hours of the language and literature courses including: 101, 102, 108, 200, 201, 202, 220, 399 and four other literature courses (12 hours) on the 300 level. (German majors may substitute 204 for 202.)

However, it is recommended that the major student take additional work in literature courses on the 300 level, up to a maximum of 45 hours. (Although the language major is encouraged to prepare himself as thoroughly as possible, the total of 36 hours may be reduced in proportion to the degree of his success achieved on a placement test taken upon his entrance to the University.) All language majors are urged to take the Graduate Record Examination. A grade point average of 2.0 must be attained in the student's major.

All students seeking the A.B. degree in a foreign language, who desire a teaching certificate, must meet the departmental requirement (36 hours) for a major in the language. In addition, they must take the course in Curriculum and Methods 264 and fulfill the Professional Secondary Education Requirements of the School of Education. All these requirements are the same for those students seeking the B.S. degree in Education with a major in a foreign language.

Students who are natives of French, German, Russian or Spanish speaking countries, or who speak those languages fluently, should consult the department before electing courses in these languages and literatures.

Students planning to do graduate work should confer with their advisers in the department about requirements in German, French, Russian or Spanish.

Department Recommendations It is strongly recommended that a language major take a minimum of 12 hours of another language beyond elementary courses 1 and 2. It is also recommended that the language major take as many courses as possible in the related areas of history, English literature, philosophy, art and music. Consultation with the major adviser is suggested.

The language major is encouraged to investigate the various programs which will enable him to travel abroad during the summer preceding the senior year. This program must be approved by the department.

DEPARTMENT OF PHILOSOPHY

Faculty

James F. Doyle	Ph.D., chairman, associate professor
Edward B. Costello	Ph.D., associate professor
Kurt R. Fischer	Ph.D., associate professor
Peter L. Fuss	Ph.D., associate professor
J. Ronald Munson	Ph.D., assistant professor
Henry L. Shapiro	Ph.D., assistant professor
John M. Walker	Ph.D., assistant professor
Kay L. Bikson	M.A., instructor
John E. Clifford	M.A., instructor
William J. DeAngelis	M.A., instructor
Mario F. Morelli	M.A., instructor
Peter L. Oppenheimer	M.A., instructor
James H. Walters	M.A., instructor
Kenneth Young	M.A., instructor

General Education Requirements Each philosophy major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in philosophy may be used to meet the University's humanities area requirement. The College's foreign language requirement may be met in any language.

Related Area Requirements No courses in related areas are required for a major in philosophy.

Departmental Requirements Each philosophy major must complete 30 hours of philosophy including Philosophy 160 and three courses from the Philosophy 201-205 sequence in the history of philosophy. At least three of the philosophy courses must be at the 300 level.

With consent of the department, each qualified major in philosophy may earn departmental honors by 1) completing at least six hours and no more than nine hours of Philosophy 391 (Senior Thesis) during the senior year; 2) submitting an acceptable thesis before the end of the senior year; and 3) passing an oral examination based on the subject of the thesis. In such cases, the 30 hours required for a major in philosophy will include the credit earned in Philosophy 391.

A maximum of 45 hours in philosophy may be accepted toward the degree.

Departmental Recommendations Each philosophy major who plans to apply for graduate study should consult his departmental adviser about specific course requirements.

DEPARTMENT OF PHYSICS

Faculty

William W. Eidson	Ph.D., chairman, professor
Corneliu Eftimiu	Ph.D., professor
James C. Gravitt	Ph.D., associate professor
Peter H. Handel	Ph.D., associate professor
John S. Rigden	Ph.D., associate professor
Dennis A. Chakkalakal	Ph.D., visiting assistant professor
Bob L. Henson	Ph.D., assistant professor
Robert Hight	Ph.D., assistant professor
Charles N. Inskeep	Ph.D., assistant professor
Philip B. James	Ph.D., assistant professor
Jacob J. Leventhal	Ph.D., assistant professor
Gerald R. North	Ph.D., assistant professor
Nancy M. O'Fallon	Ph.D., assistant professor
Suzanne Gronemeyer	A.M., instructor
Jonathan Mishory	M.S., instructor
Robert E. Hubbard	director of physics laboratories

The Department of Physics offers both the A.B. and the B.S. degrees.

I. The A.B. program is tailored to the student who wishes to preserve the option for specialization in graduate school without sacrificing the advantages of a liberal undergraduate education. The requirements for an A.B. degree with a major in physics are:

General Education Requirements All physics majors must complete the requisite courses to fulfill the University and College of Arts and Sciences general education requirements for the A.B. degree (See page 32 and 35.) German, Russian or French must be elected to satisfy the language requirement; other languages may not be applied toward the A.B. degree in physics. The non-Western requirement may be met by any course in Asian or African Studies. The departmental requirements stated below may be used to satisfy the science and mathematics requirements.

Related Area of Study Requirements Twenty-one hours of mathematics including Mathematics 80, 175, 201, 222 and 301. Students with experience in digital computer programming may be excused from Mathematics 222. Ten hours of chemistry including Chemistry 11 and 12.

Departmental Requirements Thirty-three hours of physics including Physics 1, 10, 15, 111, 112, 211, 212, 221, 223, 231, 241, 281 (total of three credit hours), 301. Physics 290 (total of three credit hours) or 282 may be substituted for Physics 281.

II. The B.S. degree provides the student with a choice of three programs, each of which is designed to fit the special needs of the individual student.

A. **Physics Option**—The physics option may be elected by those students who desire a greater concentration of physics and mathematics. It is recommended for the student desiring to enter graduate study in physics. The requirements for a B.S. degree with the physics option are:

General Education Requirements All of the University and College of Arts and Sciences general education requirements for the A.B. degree, with the exception of the foreign language requirement, must be met by candidates for the bachelor of science in physics degree. A minimum of eight hours of German, Russian or French must be elected to satisfy the departmental language requirement. Other languages may not be applied toward the B.S. degree in physics. The science and mathematics requirements are satisfied by the requirements listed below.

Related Area of Study Requirements Ten hours of chemistry including Chemistry 11 and 12.

Departmental Requirements Forty-four to forty-seven (44-47) hours of physics including Physics 1, 10, 15, 111, 112, 211, 212, 221, 223, 231, 281 (total of three credit hours), 289 (all physics majors must enroll as hearers in Physics 289 during both semesters of their junior year, and for credit during both semesters of their senior year), 301 (Mathematics 304 may be substituted for Physics 301), 321, 323, 331, 335, 341. Physics 290 (total of three credit hours) may be substituted for Physics 281.

B. **Astrophysics Option**—This option may be elected by students who wish an exposure to astronomy in order to enter graduate study in astrophysics or to enter the aerospace industry. In addition to a rigorous physics background this program offers astronomy courses in cooperation with the McDonnell Planetarium. The requirements for the B.S. degree with the astrophysics option are the same as for the physics option, except as noted below:

Related Area of Study Requirements Twenty-one to twenty-four (21-24) hours of mathematics including Mathematics 80, 175, 201, 222, 301. Students with experience in digital computer programming may be excused from Mathematics 222. Additional hours in Mathematics at the 200 level or beyond are highly recommended. Mathematics 304 may be substituted for Physics 301. Five hours of chemistry, including Chemistry 11.

Departmental Requirements Forty-five to forty-eight (45-48) hours of physics including Physics 1, 10, 15, 111, 112, 211, 212, 221, 223, 231, 289 (all astrophysics majors must enroll as hearers in Physics 289 during both semesters of their junior and senior years), 301 (Mathematics 304 may be substituted for Physics 301), 321, 323, 331, 333, 334, 335, 341. Six hours of Astronomy including Astronomy 11 and 12.

C. **Applied Physics Option**—The option is designed for those students who desire a career in the research and development field. This option prepared the student for employment in technical industry or for graduate study in applied or engineering sciences by a concentration on subjects such as electronics. The requirements for the B.S. degree, applied physics option, are:

General Education Requirements All of the general education requirements for the A.B. degree, with the exception of the foreign language requirement, must be met by candidates for the bachelor of science in applied physics degree. There is no foreign language requirement. The science and mathematics requirements are satisfied by requirements listed below.

Related Area of Study Requirements Twenty-one to twenty-four (21-24) hours of mathematics including Mathematics 80, 175, 201, 222, 301. Students with experience in digital computer programming may be excused from Mathematics 222. Additional hours of mathematics are recommended. Mathematics 304 may be substituted for Physics 301. Ten hours of chemistry, including Chemistry 11 and 12. Additional hours of chemistry are recommended.

Departmental Requirements Forty-four to forty-seven (44-47) hours of physics including Physics 1, 10, 15, 101, 102, 111, 112, 211, 212, 215, 221, 223, 225, 231, 241, 289 (all physics majors must enroll as hearers in Physics 289 during both semesters of their junior year and for credit during both semesters of their senior year), 302 (Mathematics 304 may be substituted for Physics 301), and 323.

Research and Teaching: As a part of its undergraduate program, the Physics Department offers students at the junior and senior levels the opportunity to participate in the teaching and research of the department. Members of the department are actively involved in such research areas, as nuclear physics, solid state physics, molecular physics and elementary particle physics. Such participation is included in an effort to prepare the student for the independent effort required in industry or in graduate school.

DEPARTMENT OF POLITICAL SCIENCE

Faculty

Robert S. Sullivant	Ph.D., chairman, professor
William Goodman	Ph.D., visiting professor
Werner F. Grunbaum	Ph.D., professor
B. G. Schumacher	Ph.D., professor
Edwin H. Fedder	Ph.D., associate professor
Earl J. Reeves	Ph.D., associate professor
Edward C. Dreyer	Ph.D., assistant professor
Lyman T. Sargent	Ph.D., assistant professor
James Solem	M.A.P.A., assistant professor
Hampton T. Davey	M.A., instructor
Stephen E.C. Hintz	M.A., instructor
Joyce R. Lilie	M.A., instructor
Stuart A. Lilie	M.A., instructor
Mark Stern	M.A., instructor
Thomas A. Zant	M.A., instructor

The Department of Political Science offers work leading to two undergraduate degrees: the A.B. degree in the College of Arts and Sciences and the B.S. degree in the School of Education.

The requirements for the A.B. degree with a major in political science are as follows:

General Education Requirements Each political science major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in political science may be used to satisfy the University's social science area requirement. The College's foreign language requirement may be satisfied in any foreign language and the non-Western requirement in any approved non-Western course.

Related Area Requirements Each political science major must complete a minimum of 18 hours in economics, history, psychology or sociology-anthropology. Twelve hours must be completed in one discipline and six hours in a second. These hours may be used in partial satisfaction of the general education requirements in the social sciences. Each student is encouraged to elect at least one course in statistics or accounting. As early as possible each student should determine if he expects to continue in graduate work in political science or law, or is preparing for government service, foreign service or elementary or secondary school teaching, and should consult with his adviser regarding other recommended electives.

Departmental Requirements Every candidate for the A.B. degree with a major in political science must take 36 to 45 hours of political science including Political Science 11, 12 and 262. Each major must take at least one course in five of the following seven fields:

- Group I: Public Law
- Group II: Political Process
- Group III: Public Administration
- Group IV: Comparative Politics
- Group V: Theory and Methodology (course 262 satisfies this requirement)
- Group VI: Urban and Regional Politics
- Group VII: International Relations

Every candidate for the B.S. degree in the School of Education with a major in political science must meet degree requirements prescribed by the School of Education on page 70. The minimum course work in political science is 30 hours rather than the 36 hours required for the A.B. degree.

Every political science major must complete a comprehensive examination during his senior year.

DEPARTMENT OF PSYCHOLOGY

Faculty

Alan G. Krasnoff	Ph.D., chairman, professor
Edmund S. Howe	Ph.D., professor
Arthur L. Irion	Ph.D., professor
Lewis J. Sherman	Ph.D., professor
James F. Lomont	Ph.D., associate professor
Frederick J. Thumin	Ph.D., associate professor*
John J. Boswell	Ph.D., assistant professor
Theresa S. Howe	Ph.D., assistant professor
Donald D. Lisenby	Ph.D., assistant professor
Samuel J. Marwit	Ph.D., assistant professor
Doris P. Mosby	Ph.D., assistant professor
Milton E. Strauss	Ph.D., assistant professor
James J. Walker	Ph.D., assistant professor
D. J. Zerbolio	Ph.D., assistant professor

*Primary appointment, School of Business Administration

General Education Requirements Each psychology major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in psychology may be used to meet the University's social science area requirement. The College's foreign language requirement should be met in French, German or Russian. The non-Western requirement may be met by any non-Western course.

Related Area of Study Requirements Each psychology major must take Mathematics 10 or the equivalent prior to or along with Psychology 201.

Departmental Requirements Each psychology major must complete 32 hours of psychology including Psychology 1 and 2 (preferably in the freshman year), 201 (preferably in the sophomore year), 319 and 320 (preferably in the junior year), 361 (preferably in the senior year) and 192 and 193 (for seniors only). He must take seven elective hours in psychology courses.

Each psychology major must pass a comprehensive examination during his senior year.

Departmental Recommendations Psychology majors are urged to follow the Chemistry 11-12 sequence and the Biology 11-12 sequence. Other general education requirements are acceptable. (Note: Biology 11 and 12 are prerequisites for Psychology 314.) Psychology majors are encouraged to elect courses in anthropology, biology, chemistry, literature, mathematics, philosophy and sociology rather than taking an excessive number of hours in psychology.

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

Faculty

Solomon Sutker	Ph.D., chairman, professor of sociology
Jerome Himelhoch	Ph.D., professor of sociology
Norman B. Johnston	Ph.D., associate professor of sociology
Sara Smith Sutker	Ph.D., associate professor of sociology
Harry H. Bash	Ph.D., assistant professor of sociology
Richard C. Gilman	Ph.D., assistant professor of sociology
Edward C. Lehman, Jr.	Ph.D., assistant professor of sociology
John J. Lennon	Ph.D., assistant professor of sociology
Paul L. Chassy	A.B., instructor of sociology
Richard A. Ferrigno	M.A., instructor of sociology
Mickey Gibson	M.A., instructor of anthropology
Charles C. Lantz	M.A., instructor of anthropology

General Education Requirements Each sociology or anthropology major must satisfy the general education requirements of the University listed on page 32 and the general education requirements of the College of Arts and Sciences listed on page 35. Courses in sociology or anthropology may be used to meet the University's social science area

requirement. The College's foreign language requirement may be met in any language. The non-Western area requirement may be met by any non-Western course.

Related Area Requirements Sociology or anthropology majors are strongly advised to take at least six hours in one or more of the following areas: economics, political science, philosophy and psychology. Economics 50 and 371 are strongly recommended for those sociology or anthropology majors intending to enter social work.

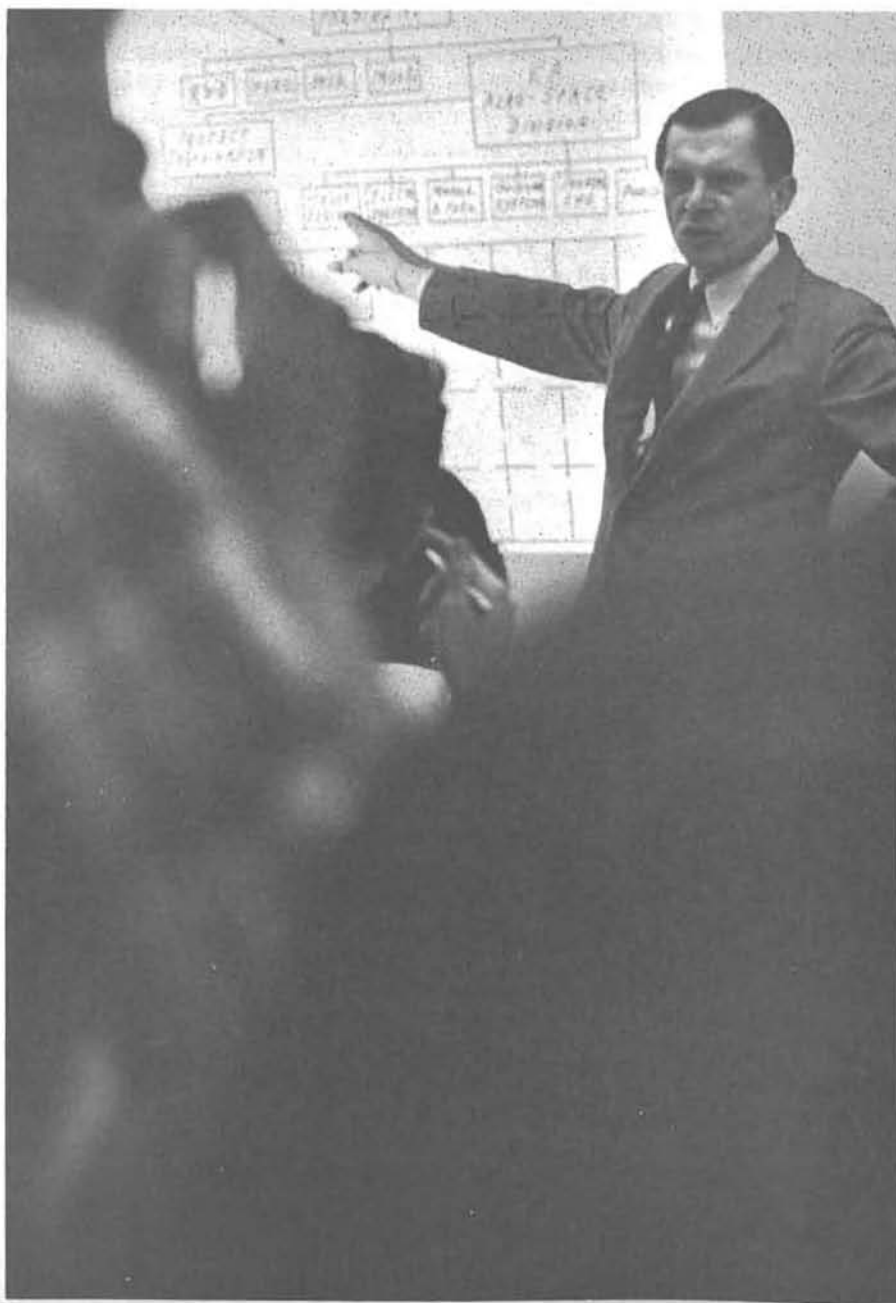
Departmental Requirements Majors may choose a program emphasizing either sociology or anthropology. Either avenue will provide a basis for graduate study in the field chosen.

A major consists of a minimum of 30 semester hours, including Sociology 1, 2, 101, 102, 192, 193 and 12 hours of elective in sociology or anthropology.

Departmental majors will be required to pass a written comprehensive examination during the second semester of the senior year. The examination will test the student's grasp of theory, methods and contemporary research findings.



School of Business Administration



Faculty

Emery C. Turner	D.B.A., dean, professor of accounting
Sioma Kagan	Ph.D., Diplom-Ingenieur, Professor of international business
Howard B. Baltz	Ph.D., associate professor of statistics and quantitative management science
Helmut R. Kollai	Ph.D., associate professor of management
Frank Page	Ph.D., C.P.A., associate professor of accounting
William K. Saigh	Ph.D., associate professor of marketing
Louis J. Shuster	D.B.A., associate professor of management
Frederick J. Thumin	Ph.D., associate professor of management
James P. Tushaus	Ph.D., associate professor of marketing
George C. Witteried	M.B.A., J.D., associate professor of industrial relations
Lee Young	M.B.A., L.L.M., C.P.A., visiting associate professor of accounting and taxation
Albert P. Ameiss	Ph.D., assistant professor of accounting
Ronald E. Carlson	M.B.A., C.P.A., assistant professor of accounting
Jack M. Cooper	M.S., assistant professor of quantitative management science
Vincent B. D'Antoni	D.B.A., assistant professor of finance
Donald H. Driemeier	D.B.A., assistant professor of finance
Richard W. Furst	D.B.A., assistant professor of finance
Edwin A. Hopper	M.B.A., C.P.A., assistant professor of accounting
Robert E. Markland	D.B.A., assistant professor of quantitative management science
Robert A. Schuchardt	D.B.A., assistant professor of accounting
James J. Wong	Ph.D., assistant professor of marketing
Richard W. Beatty	M.B.A., instructor of management
John E. Cox	M.A., C.P.A., instructor of accounting
David R. Ganz	M.S. in C., instructor of accounting
William P. Heinbecker	M.S., instructor of quantitative management science

Nicholas A. Kargas	M.S., C.P.A., instructor of accounting
Robert A. Narmont	M.S. in C., instructor of accounting
David F. Schmidt	M.S., instructor of quantitative management science

The School of Business Administration offers work leading to the degree: bachelor of science in business administration (B.S.). This degree represents a balanced educational program combining a liberal arts education with the important core courses of a professional education in business administration. There is ample opportunity within this curriculum to concentrate in one of the traditional areas: accounting, economics, finance, management or marketing. The degree is designed to educate a graduate to render both an initial and long-range contribution to society and to develop fully his own potential in an economic environment. In addition, the curriculum in business administration offers an excellent foundation for work toward a law degree or graduate work in business and economics.

Admission The School of Business Administration at the University of Missouri - St. Louis (UMSL) is a two year, junior-senior level program. To be admitted to the School of Business Administration, a student must present: 1) sixty (60) credit hours of course work with 2) a two point (2.0) minimum grade point average for all work taken at UMSL. (Transfer credit will be evaluated to assure similar requirements for all prospective students to the School of Business.)

It is recommended that the sixty (60) hours of work needed for admission include: fulfillment of the University general education requirements (required of all students pursuing a degree from UMSL); Business Administration 140 and 145—Fundamentals of Accounting; Economics 50 and 51—Principles of Economics; and Business Administration 31—Elementary Statistics. A student is also encouraged to include a required science lecture and non-western course within his first sixty hours. The accounting, economics, statistics, science and non-Western requirements are those of the School of Business Administration, and hence, are referred to specifically.

General Education Requirements All business administration students must complete the requisite courses to fulfill the University general education requirements. For a listing of these requirements, see page 32.

School of Business Administration Requirements Each student will be required to meet the following requirements of the School of Business Administration:

I. Non-Business Course Requirements: The following may be taken as a part of the forty-two (42) hour requirement in general education:

A. Economics 50 and 51	6 hours
B. A course in a non-western subject j	3
C. One lecture course in a biological or physical science	3
D. A minimum proficiency of Mathematics 10	3
Other Arts and Science General Education Courses (see II, below)	<u>27</u> 42 hrs.

II. Requirement in Mathematics or Foreign Language: Each student is required to present either:

- Fourteen hours (14) of one foreign language, or
- A minimum of Mathematics 101 or 80 and one additional quantitative course chosen from Mathematics 175; Business Administration 104, 231, or 375; or Economics 365. Mathematics 80 is prerequisite to higher mathematics; Mathematics 101 is a terminal mathematics course for those desiring no additional mathematics.

The 14 hours in language may *not* be included among the 42 hours of the general education requirement; they may be counted among the hours designated for free electives (see IV, below).

III. Required Business Courses:

Business Admin. 140—Fundamentals of Financial Accounting	3 hours
Business Admin. 145 Fundamentals of Managerial Accounting	3
Business Admin. 31—Elementary Statistics	3
Business Admin. 106—Principles of Marketing	3
Business Admin. 202—Industrial Management	3
Business Admin. 204—Financial Management	3
Business Admin. 310—Personnel Administration	3
Business Admin. 256—Business Law	3
Business Admin. 391—Seminar in Business Policy and Administration	3
Business Electives	<u>18</u> 45 hrs.

IV. Free Electives

At the student's option, all thirty-three (33) free elective hours may be earned in the College of Arts and Sciences, or up to nine (9) of these free elective hours may be earned in the School of Business Administration.

33 hrs.
120 hours

General Education Requirements as Applicable to the Business Student The following is an explanation of how the specific requirements of the School of Business Administration can be used in partial fulfillment of the general education requirements.

A student must demonstrate a minimum proficiency in mathematics, defined by the School of Business Administration faculty as the equivalent to Mathematics 10—College Algebra. This course is prerequisite to the School of Business Administration requirement that all students take Business Administration 31—Elementary Statistics.

Each student must complete at least 42 hours chosen from the following three areas, with a minimum of at least three courses from each area: Humanities, Science and Mathematics, Social Science.

A. **Humanities** includes all courses in philosophy; any appreciation-type course, such as Masterpieces of Art or Introduction to Music Literature, and/or any literature course, including literature courses in classical and modern languages. Humanities does *not* include applied music.

B. **Science and Mathematics.** Sciences may be physical sciences or biological sciences. The science and mathematics requirement is partially fulfilled by two School of Business Administration requirements: College Algebra and a science lecture. (This assumes that a student does not transfer in a proficiency of college algebra or greater.) A student, then, who exercises the mathematics option (described below) while pursuing a B.S. degree in Business Administration would complete this general education requirement by taking additional courses in mathematics as required by that option: the equivalent of Mathematics II—Elementary Transcendental Functions, and either Mathematics 101—Survey Calculus, or Mathematics 80—Analytic Geometry and Calculus I.

A student exercising the language option (also described below) must take an additional course in mathematics or science to fulfill the general education requirement calling for at least three courses from these combined areas. NOTE: The general education requirements spell out a *number* of courses to be taken in an area, not the *specific* courses. If a student has a very strong background in a particular discipline, demonstrated to the satisfaction of the department, i.e., mathematics, he may begin at a level above the basic courses. For example, his first course in mathematics could be mathematics 80—Analytic Geometry and Calculus I. Such a student would still be required to satisfy the general education requirement calling for three courses from the science and mathematics area. His courses would, of course, show a greater sophistication in that particular area of competence.

Language-Mathematics Option. A student pursuing a B.S. degree in Business Administration may exercise:

(1) A language option which requires 14 hours of a foreign language. This is satisfied by taking a sequence of courses numbered 1—four hours credit, 2—four hours credit, 101—three hours credit and 102—three hours credit. Such students must still meet the School of Business Administration college algebra and science lecture requirement and take an additional mathematics or science course to fulfill the general education requirements. The 14 hours of foreign language will be counted toward hours for graduation under the “Free Electives” heading.

(2) A mathematics option would be fulfilled by a student taking, as a minimum, the equivalent of Mathematics 101—Survey Calculus, plus one additional quantitative course such as Economics 365—Economic Statistics and Econometrics; Business Administration 231—Intermediate Statistics; Business Administration 104—Fundamentals in Digital Computer Programming; or Business Administration 375—Operations Research. If a student desires to take additional mathematics, he should take mathematics 80—Analytic Geometry and Calculus I rather than the Survey Calculus course. His next mathematics course, then, would logically be Mathematics 175—Analytic Geometry and Calculus II.

C. **Social Sciences** include economics, history, political science, psychology, and sociology and anthropology. A student seeking a B.S. degree in Business Administration automatically fulfills this requirement. The social science requirement is met, in part, by satisfying the state requirement. History 3 or 4—American Civilization, or Political Science II—Government in Modern Society, are courses which fulfill this requirement. The state requirement is mandatory for all students. The social science requirement is completed by meeting the School of Business Administration requirement that a B.S. candidate take Economics 50 and 51—Principles of Economics.

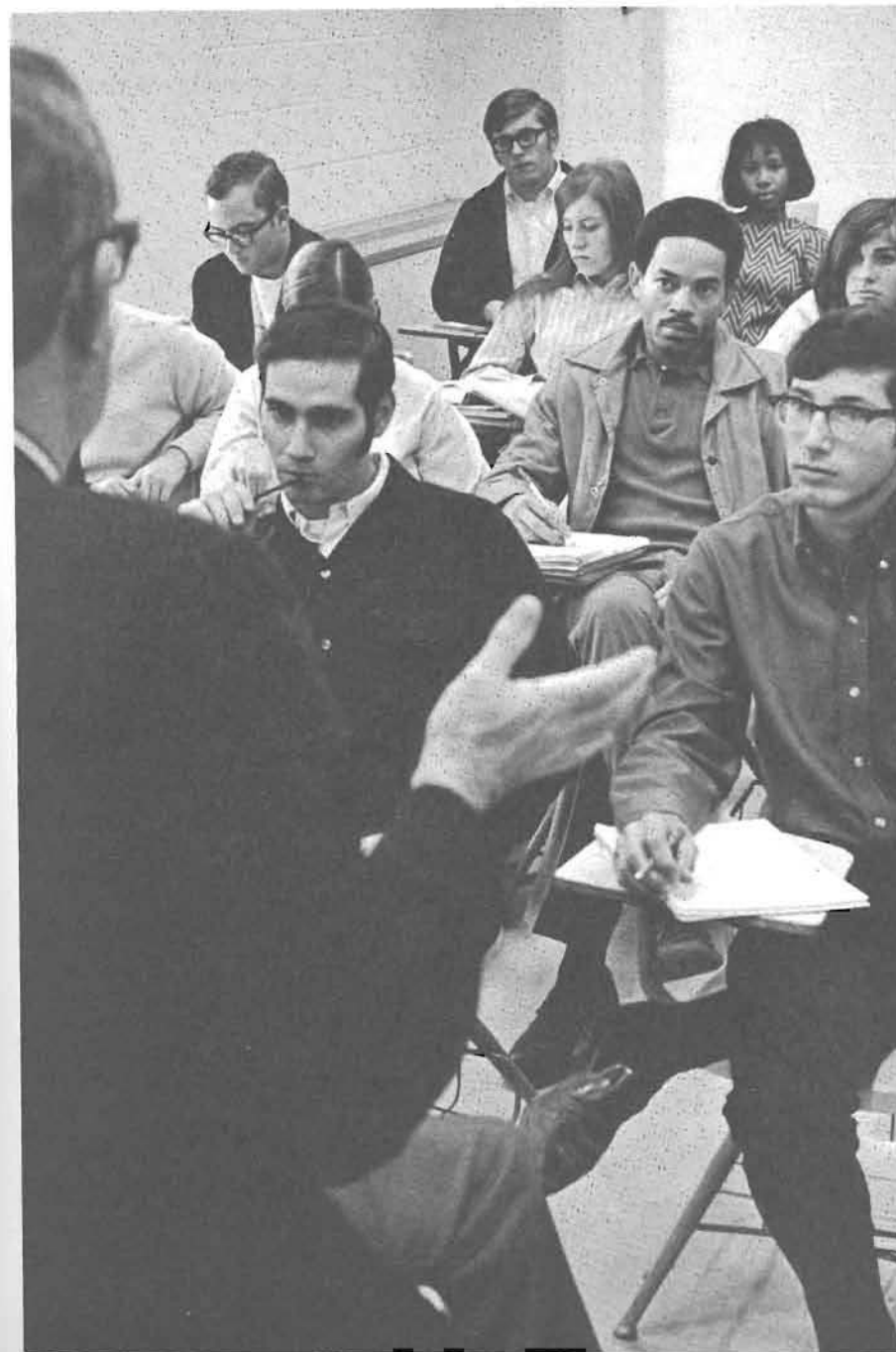
Non-Western Courses. The faculty of the School of Business Administration requires that a student take one course in a non-Western subject which can be fulfilled by taking such courses as History 210 or 211—Asian Civilization (Social Science); This is not a complete list of non-western courses.

Implementation of the School of Business Administration Requirements Into Students' Programs It is important that students plan to include Fundamentals of Accounting, Principles of Economics, and Elementary Statistics in their sophomore schedules since these courses are prerequisite to virtually all upper division course work in business.

While not required, it is recommended that Fundamentals of Digital Computer Programming be taken by School of Business Administration students. This course may be taken in the sophomore year.

All schedules should be formulated in cooperation with an academic adviser. Prospective students to the School of Business Administration should see the School of Business Administration academic adviser beginning in their sophomore year.

School of Education



	Faculty
	Counselor Education, Evaluation and Research
John Shultz	Ph.D., chairman, associate professor
George E. Mowrer	Ed.D., dean, professor
Arthur E. Smith	Ph.D., associate dean, professor
King M. Wientge	Ed.D., professor
Edward Closson	Ph.D., assistant professor
Richard Dustin	Ph.D., assistant professor
Rickey George	Ph.D., assistant professor
William Griffith	Ph.D., assistant professor
Alice E. Klein	Ph.D., assistant professor
Jon Clark Marshall	Ph.D., assistant professor
	Curriculum and Instruction
Harold E. Turner	Ed.D., chairman, associate professor
Hans C. Olsen	Ed.D., assistant dean for teacher education, professor
Richard Burnett	Ed.D., professor, director of Reading Clinic
Wallace Z. Ramsey	Ed.D., professor, consultant to Reading Clinic
Huber Walsh	Ed.D., professor
Margaret C. Fagin	Ed.D., associate professor
Robert Gard	Ed.D., associate professor
John S. Rigden	Ph.D., associate professor
Charles Smith	M.S., associate professor
Blanche Touhill	Ph.D., associate professor
Mohammed Ali Bat-hae	Ph.D., assistant professor
Frederick C. Brechler	Ph.D., assistant professor
Robert Ira Cloos	Ed.D., assistant professor
Allen H. Holmes	Ph.D., assistant professor
Enno Lietz	Ph.D., assistant professor
Jane A. Miller	Ph.D., assistant professor
John Morris	Ph.D., assistant professor
Robert E. Rea	Ph.D., assistant professor
Drew Tinsley	Ph.D., assistant professor
Clive Veri	Ph.D., assistant professor
Jane Williamson	Ph.D., assistant professor
Aline Crawford	M.A., instructor
Charlotte Twomey	M.S., instructor, Supervisor Student Teaching
Elizabeth Patti Watson	M.S., instructor, Supervisor Student Teaching
Edith Young	M.Ed., instructor
Robert Russell	M.A., adviser in Education, Certification Requirements
	Foundations of Education
Ivan Russell	Ph.D., chairman, professor

Thomas E. Jordan	Ed.D., professor
Harold W. Richey	Ph.D., professor
Arthur H. Hafner	Ed.D., associate professor
George Marconit	Ph.D., associate professor
Henry Weinstock	Ed.D., associate professor
Donald Greer	Ph.D., assistant professor
Carmelita O'Connor	Ph.D., assistant professor
John Pickle	Ed.D., assistant professor
Paul D. Travers	Ed.D., assistant professor
Arthur Littleton	M.Ed., instructor
H. E. Mueller	Ed.D., professor
Virgil N. Sapp	B.S., assistant professor
Joy E. Whitener	Ed.D., professor

The School of Education curriculum includes work leading toward a bachelor of science in education with specialization in any of the following: early childhood, elementary, secondary, special education, and business education. In cooperation with other schools and colleges of the University, the School of Education participates in providing a Dual Program for students pursuing other degrees, but planning a teaching career.

Admission to Teacher Education Programs After completing two years of college course work at an accredited institution, students who intend to teach apply to the School of Education for admission to a teacher education program. Students who have completed two full years or more of college work in some institution other than the University of Missouri - St. Louis, must be fully admitted to the University before being admitted to the School of Education. Students who intend to receive degrees from other colleges or schools in the University and a teaching certificate from the School of Education must be admitted to the Dual Program through the School of Education. Further information and admission forms may be obtained from the Office of the Assistant Dean, School of Education.

The standards listed below apply to those students entering the School of Education for the first time with junior year or higher standing and those working for a secondary school teaching certificate although officially enrolled in other colleges or schools in the University (Dual Program).

Admission Requirements Eligibility for admission to the School of Education is based upon the following criteria:

1. **Satisfactory Completion of Two Years of College Work**—a minimum of 54 semester hours of work must be completed with a grade point average of 2.00 or above. The quality of work must indicate a strong potential for success in a teacher education program. The grade point average used in considering admission to the School is calculated as a gross total representing all institutions attended and all courses attempted.

2. **Minimum Deficiencies in General Education**—a student may have no more than nine hours of deficiencies in general education.

3. **Satisfactory Emotional and Physical Qualifications**—a student must give evidence of emotional and physical qualities necessary for success in teaching.

4. **Special Requirements**—specific prerequisites and/or other special requirements of the curriculum area for which the student is applying must be met.

Early Application Since admission procedures take considerable time, all applicants are urged to present their formal applications for admission to the School of Education as early as possible, and in all cases, at least six weeks before the beginning of any semester.

Advisement The programs for teacher education vary considerably. It is necessary to plan the four year program carefully with the adviser in order to avoid inappropriate course selections resulting in the extension of the program beyond the minimum of 120 semester hours for the degree. Late entry into a teacher education program, changing from one curriculum to another, or changing the degree objective usually results in additional required course work beyond the minimum of 120 semester hours.

Course descriptions should be examined carefully for prerequisites since in many cases it will be virtually impossible to proceed to other courses without having completed them.

Students who expect to teach in high schools should have earned strong academic majors in their chosen subject matter areas. They should, therefore, consult with their adviser before enrolling each semester.

Teacher Certification In cooperation with the Missouri State Department of Education, the School of Education, University of Missouri - St. Louis is responsible for issuing teaching certificates to students who have completed the requirements for the degree bachelor of science in education. The School of Education is also responsible for recommending for certification those students who have completed Dual Program requirements. All requests and inquiries regarding certification should be directed to the Office of Teacher Certification in the School of Education.

Admission to Student Teaching The student must make formal application for admission to student teaching during the semester prior to the one in which he plans to do his student teaching. Applications must be filed during the period designated by the Student Teaching Office.

Requirements for Student Teaching Placement

1. Full admission to the School of Education must be accomplished before application for student teaching can be accepted.
2. Satisfactory recommendation by the student's adviser in the teacher education program.

3. Completion at University of Missouri - St. Louis of not less 12 semester hours of course work authorized by the student's adviser in the teacher education program.

4. Adequate work in the teaching major and minor(s) as defined by the student's teaching area.

5. Satisfactory completion of 90 semester hours of accepted university work.

6. A minimum grade point average of 2.00.

Application forms are available at the Student Teaching Office during the published application periods.

Programs Leading to a Bachelor of Science in Education Degree

EARLY CHILDHOOD EDUCATION The Early Childhood Education program is especially designed for those who wish to teach in kindergarten and grades one through three. Students who elect this program are urged to use electives to complete requirements of the general Elementary Education program. This will prepare them for a wider range of teaching opportunities.

General Education Requirements

English

English 10 and 1016 hours
6

Mathematics

Mathematics 50 and one additional course (Mathematics 51 recommended)6 hours
6

Science

Biological Science3 hours
Physical Science 3 hours
Science Lab2 hours
8

Humanities

Music 134 plus two courses chosen from the fields of art, music, philosophy and literature9 hours
9

Social Science

Psychology 1, 2 and 2709 hours
Political Science 11 or 1703 hours
History 3 and 46 hours
Sociology 3143 hours
21

Departmental Requirements

Ed. 101 The School in Contemporary Society . . . 3 hours
Ed. 140 Elementary School Organization, Management & Techniques of Teaching . . . 3 hours

Ed. 150 Children's Literature & Language Arts . . . 3 hours
 Ed. 302 Psychology of Teaching & Learning 3 hours
 Ed. 315 Principles of Early Childhood Education . 3 hours
 Ed. 316 Creative Experiences for Young Children .3 hours
 Ed. 317 Exploring the Physical World With Young
 Children 3 hours
 Ed. 318 Exploring the Social World With Young
 Children 3 hours
 Ed. 325 Teaching Reading in the Elementary
 School 3 hours
 (Special Section for Early Childhood Majors)
 Ed. 251 Elementary School Student Teaching and
 Seminar 6 hours
33

Area of Concentration

12 semester hours in Humanities, Social Sciences or
 Natural Sciences and Mathematics. Must be courses
 above the introductory level which are not used to
 meet the requirements in general education or profes-
 sional education. Courses not to be taken in more
 than three departments 12 hours
12

Electives 25 hours
25

ELEMENTARY EDUCATION The Elementary Education
 curriculum prepares students to teach in grades one through
 eight.

General Education Requirements

English
 English 10 and 101 6 hours
6

Mathematics
 Mathematics 50 and one additional course (Mathe-
 matics 51 recommended) 6 hours
6

Science
 Biological Science 3 hours
 Physical Science 3 hours
 Science Lab. 2 hours
8

Humanities
 Music 134 plus two courses chosen from the fields of
 art, music, philosophy and literature 9 hours
9

Social Science
 Psychology 1, 2 and 270 9 hours
 Political Science 11 or 170 3 hours

History 3 and 4 6 hours
 Education 157 (Geography) 3 hours
21

Related Area Requirements

Ed. 137 Music 2 hours
 Ed. 139 Art 3 hours
 Ed. 110 Elements of Health Education 3 hours
 Ed. 155 Physical Education Activities in the Elemen-
 tary School 3 hours
11

Departmental Requirements

Ed. 101 The School in Contemporary Society . . . 3 hours
 Ed. 140 Elementary School Organization, Manage-
 ment and Techniques of Teaching 3 hours
 Ed. 150 Children's Literature and Language Arts . 3 hours
 Ed. 151 Teaching of Science in the Elementary
 School 3 hours
 Ed. 152 Teaching of Social Studies in the Elementary
 School 3 hours
 Ed. 153 Teaching of Mathematics in the Elementary
 School 3 hours
 Ed. 302 Psychology of Teaching & Learning . . . 3 hours
 Ed. 325 Teaching Reading in the Elementary School 3 hours
 Ed. 251 Elementary School Student Teaching and
 Seminar 6 hours
30

Area of Concentration

12 semester hours in Humanities, Social Sciences or
 Natural Science and Mathematics in courses above the
 introductory level which are not used to meet the
 requirements in general education, professional edu-
 cation, or related areas. Courses not to be taken in
 more than three departments 12 hours
12

Electives 7 hours
17

120

SPECIAL EDUCATION The Special Education curriculum
 is designed for students who wish to become teachers of the
 mentally retarded. Since special education teachers must also be
 qualified as regular elementary or secondary teachers, the
 provision for that is made in the special education program.

General Education Requirements in Elementary Education

See page 68
50

Related Area Requirements in Elementary Education

See page 69 11

Departmental Requirements in Elementary Education

See page 69 24
(Education 251 not required)

Departmental Requirements in Special Education

Ed. 313 or Psych. 313 Psychology of the Exceptional Child 3 hours
Ed. 240 Education of the Mentally Retarded . . . 3 hours
Ed. 369 Analysis and Correction of Reading Disabilities . . . 3 hours
Ed. 312 Speech and Language Problems of the Mentally Retarded . . . 3 hours
Ed. 310 Interpretation of Educational Tests and Measurements . . . 3 hours
Ed. 252 Laboratory: Elementary Student Teaching in Special Education . . . 6 hours
or
Ed. 272 Laboratory: Secondary Student Teaching in Special Education . . . 6 hours

Electives . . . 14 hours
14
120

SECONDARY EDUCATION The Secondary Education program is designed for those who wish to teach in grades seven through twelve.

University General Education Requirements

See page 32 42

Departmental Requirements

Ed. 101 The School in Contemporary Society . . . 3 hours
Ed. 163 Techniques of Secondary School Teaching . 3 hours
Psych. 271 Adolescent Psychology . . . 3 hours
Ed. 302 Psychology of Teaching and Learning . . . 3 hours
Ed. 262-9 Special Methods Course in Academic Major . . . 3 hours
Ed. 271 Secondary School Student Teaching . . . 6 hours

21

Academic Major

Students in this program must major in a discipline. A major may be earned in biology, chemistry, economics, English, French, German, history, mathematics, physics, political science, sociology-anthropology, or Spanish. A minimum of 30 semester hours is required for most majors, however, some require more.

Electives . . . 17-27 hours 17-27
30-40
120

BUSINESS EDUCATION The Business Education program prepares those who wish to teach business subjects in secondary schools.

University General Education Requirements

See page 32 42

Departmental Requirements

Ed. 101 The School in Contemporary Society . . . 3 hours
Ed. 163 Techniques of Secondary School Teaching . . . 3 hours
Psych. 271 Adolescent Psychology . . . 3 hours
Ed. 302 Psychology of Teaching and Learning . . . 3 hours
Ed. 262 The Curriculum and Methods of Teaching Business Subjects . . . 3 hours
Ed. 271 Secondary School Student Teaching . . . 6 hours

21

Academic Major

Ed. 231 Advanced Typewriting . . . 3 hours
Ed. 232 Use of the Typewriter in Teaching Business Education . . . 3 hours
Ed. 235 Advanced Stenography . . . 3 hours
Ed. 236 Stenography in the Schools . . . 3 hours
Ed. 237 Secretarial Practice . . . 3 hours
Ed. 336 Field Experience and Seminar in Secretarial Practice . . . 3 hours
Bs. 36 Accounting I . . . 3 hours
Bs. 37 Accounting II . . . 3 hours
Bs. 217 Intermediate Accounting . . . 3 hours

Select two from the following:

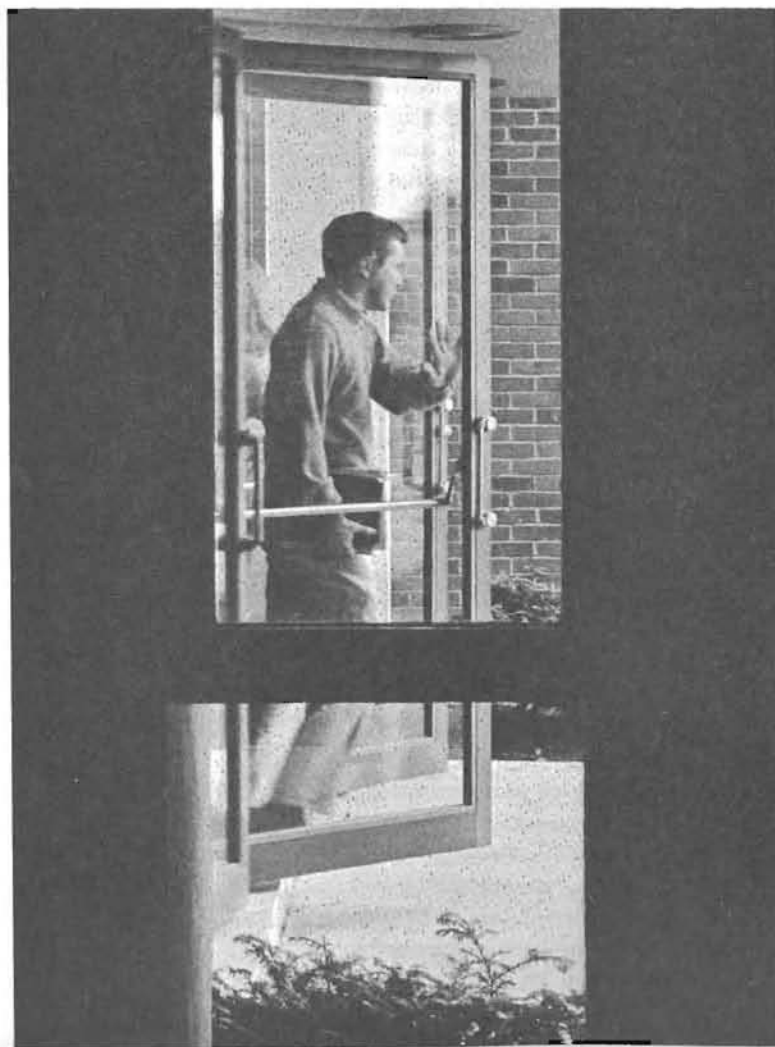
Ed. 50 Principles of Economics I . . . 3 hours
Ec. 51 Principles of Economics II . . . 3 hours
Bs. 31 Elementary Statistics . . . 3 hours
Bs. 204 Corporate Finance . . . 3 hours
Bs. 256 Business Law . . . 3 hours
Bs. 106 Principles of Marketing . . . 3 hours

33

Electives . . . 24 hours
24

Graduate Program Graduate programs leading to a master of education degree have been accredited by the North Central Association in the areas of elementary education, elementary administration, elementary counseling and guidance, secondary education, secondary administration, and secondary counseling and guidance. In addition, courses are available and programs are being developed in other areas including special education, reading and urban education. Programs are available for elementary and secondary teaching which combine certification requirements and the M.Ed. degree.

For information about the programs see the University of Missouri - St. Louis Graduate Bulletin or contact the Associate Dean, School of Education or the Office of the Graduate Dean.



Evening College

The Evening College of the University of Missouri - St. Louis was established to provide, at moderate cost, a quality program of higher education for those students who are unable to attend day classes.

All degree programs offered in the Evening College conform to the same requirements and standards as pertain to the day program.

Academic Programs The Evening College offers several well-defined areas of service to the students of the St. Louis metropolitan area:

1. A regular degree granting program consisting of the bachelor of arts, bachelor of science in administration of justice, bachelor of science in business administration, bachelor of science in education and a bachelor of science in physics (with three areas of specialization). Students should consult the Evening College Dean's Office or the appropriate department for information concerning available majors.

2. Graduate level courses leading to a master's degree in education (M.Ed.). In addition, graduate programs leading to a master's degree in business administration (M.B.A.), economics, history, political science and sociology (M.A.) have been approved by the Board of Curators and are tentatively scheduled for the fall of 1969. For admission requirements and further information, see pages 15 and 74.

3. Courses offered each semester which will meet teacher certification requirements within the state of Missouri. A special adviser for certification is on duty during the evening hours.

4. Pre-professional courses.

5. Courses that carry college credit which may be taken by students not working toward a degree; a service for persons wishing to maintain or improve their professional competence or broaden their educational background.

Evening classes are scheduled between 5:20 and 9:25 p.m. in a way to enable students to carry a full academic load.

Counseling and Advising Services As part of the Evening College's attempt to assist its students and prospective students in their course planning and vocational choice, counseling and advising services are

available during day and evening hours. A staff of professional counselors and advisers will help the individual prepare a program appropriate to his or her needs. There is no fee for this service. Appointments may be arranged by calling the Evening College office.

Students transferring from other colleges or universities should request a transcript evaluation as soon as possible after enrolling. All students who have accumulated 40 semester hours and who wish to be assigned to a major area adviser and graduate from the Evening College must file a "Declaration of Degree Candidacy."

Admission Applications for admission may be obtained by contacting the Office of the Director of Admissions in the Administration Building. For information relating to the policies governing admission to the Evening College, see page 16.

Graduate School

A graduate program in education is available which provides the complete program for the master's degree in education (M.Ed.) in the areas of elementary or secondary education, elementary school administration, secondary school administration, elementary guidance and counseling or secondary guidance and counseling.

The Board of Curators of the University of Missouri has approved the awarding of a master of arts (M.A.) degree in economics, history, political science and sociology and the master of business administration (M.B.A.) degree. It is anticipated that these degrees will be offered beginning in the fall of 1969.

For details of the programs and for specific admissions requirements, see the Graduate Bulletin or contact the Admissions Office or the appropriate dean.

Description of Courses

All courses offered at the University of Missouri are listed by departments or fields of learning in alphabetical order. Approximately four weeks prior to the opening of each semester a *Schedule of Courses* is published listing the specific courses to be offered for that semester with the time of meeting, the building and room number of each course.

This Catalog includes only those courses given on the campus of the University of Missouri - St. Louis. Separate catalogs are issued by the University of Missouri - Columbia, University of Missouri - Rolla and the University of Missouri - Kansas City.

The University reserves the right to cancel without notice any course listed in the *General Catalog* or in the *Schedule of Courses* for any semester or to withdraw any courses which does not have an adequate enrollment at the close of the registration period.

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

1 to 99	courses primarily for freshmen and sophomores
100 to 199	courses primarily for upperclassmen, no graduate credit
200 to 299	courses for undergraduates, appropriate professional students and graduate students, except those whose graduate major is in the department in which the course is given
300 to 399	courses for undergraduates, appropriate professional students, and for graduate students without restriction as to the student's graduate major
400 to 499	primarily for graduate students and appropriate professional students in special programs. Upper-class students are admitted to courses in this series only with the approval of the dean of the division in which the course is offered.

Individual restrictions of certain courses are listed under prerequisites. Thus "consent of department" or "consent of instructor" means that departmental consent (approval or permission) or consent of the instructor is required for that course.

Credit The unit of credit at the University is the semester hour, which represents a subject pursued one period weekly for one semester of approximately 16 weeks or for a total of approximately 16 periods for one term. In general, a course valued at three semester hours meets for three periods weekly for one semester.

Following the title of the course, the number of hours of credit is given in parentheses; thus Business Law (3). If the credit is variable, to be fixed in consultation with the teacher, that fact is shown by (credit arranged) or by the minimum and maximum credit, as Research (2-8).

Prerequisites A minimum grade of "C" shall be required to meet the prerequisite requirement for any course except with permission of the department in which the second course is to be taught. An academic standing prerequisite is stated by class, as senior standing (senior class standing). Requirements for class standing are variable; a student should ascertain the requirements for his particular division. The minimum grade requirement in a preceding required course is specified by a capital letter and the course designation, as C in Chemistry 1 (a grade of "C" or better in Chemistry course 1). GPA refers to grade point average.

ADMINISTRATION OF JUSTICE

For course descriptions, see the Administration of Justice brochure or contact the director, Administration of Justice Program.

ANTHROPOLOGY

Prerequisites may be waived by consent of department.

- 10 **Human Origins (3)**
A survey of the origins and development of man in his biological, social and cultural dimensions. Biological and cultural evolution. Introduction to physical anthropology and archaeology as scientific disciplines.
- 11 **Man, Culture and Society (3)**
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.
- 153 **Peoples and Cultures of the World (3)**
Prerequisite: Anthropology 10 and 11. Examination of a variety of societies and their cultures, with emphasis upon those which are preliterate.

ART HISTORY, THEORY

Prerequisites may be waived by consent of department.

- 1 **Masterpieces of Art (3)**
Illustrated discussion with examples from varied historic and contemporary art fields on the nature of art, functions and methods of creative expression.
- 101 **History of Western Art (3)**
Prerequisite: Sophomore standing or consent of department. Illustrated lectures and discussion of the architecture, sculpture, painting of Greece, Rome and Medieval Europe.
- 102 **History of Western Art (3)**
Prerequisite: Sophomore standing or consent of department. Illustrated lectures and discussion of the general development of art and architecture from the fourteenth century to the present.
- 123 **Classical Art and Archaeology of Greece and Rome (3)**
Prerequisite: Sophomore standing or consent of department. A general survey of the development of material culture in Greece and Rome from the earliest times through the Hellenistic Period and through the early Roman Empire.
- 139 **Art Activities For Elementary Schools (3)**
A study of art principles; provides laboratory experiences with various media and materials. Stresses curriculum planning and development of the elementary school program in art.
- 310 **Medieval Art (3)**
Prerequisite: Art 101. The art and architecture of the Middle Ages from the early Christian era through the late Gothic Period.

- 320 **Renaissance Art (3)**
Prerequisite: Art 1 or 102. The artistic culture of Western Europe during the fifteenth and sixteenth centuries from the development of the new style in Italy to its spread throughout Europe.
- 325 **Baroque Art (3)**
Prerequisite: Art 1 or 102. Art in Europe from the sixteenth century to the end of the eighteenth century, with emphasis on the painters Rembrandt, Velasquez, Poussin, the sculptor Bernini and the architectural undertaking of the Palace of Versailles.
- 330 **American Art (3)**
Prerequisite: Art 1 or consent of department. A survey of the art of the United States, both as an extension of the European tradition and for its original contributions.
- 340 **Modern Art (3)**
Prerequisite: Art 1 or consent of department. The sources of the modern movement in the nineteenth century beginning with Neo-Classicism and Romanticism, the subsequent development of Impressionism and Post-Impressionism, and finally the twentieth century with Cubism, Expressionism and Abstract Art.

ASTRONOMY

(See Physics, Page 128)

BIOLOGY

Prerequisites may be waived by consent of department.

- 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. Students who plan to pursue a career in medicine or one of the medically oriented professions should enroll in Biology 11/12 rather than Biology 1.
- 3 **General Biology Laboratory (2)**
Prerequisite: Biology 1 (may be taken concurrently). Laboratory course to accompany Biology 1. Biology 3 can be used to fulfill the general education requirement in a laboratory science. Biology 3 does not meet the prerequisite requirements of other courses in biology. Three and one-half hours laboratory per week.
- 11 **Introductory Biology I (5)**
Prerequisite: Chemistry 11 (may be taken concurrently). Biology 11/12 provides a two-semester sequence giving intensive introduction to the general properties of living systems, both plant and animal. Three hours lecture and three and one-half hours laboratory per week.
- 12 **Introductory Biology II (5)**
Prerequisite: Biology 11. Continuation of Biology 11. Three hours lecture and three and one-half hours laboratory per week.

- 180 **Methods of Teaching Biology in Secondary Schools (3)**
Prerequisite: Education 163 and a near-major in the subject matter. A study of the scope and sequence of the science course 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.
- 202 **Comparative Anatomy (2)**
Prerequisite: Biology 12. A study of the microscopic and macroscopic structures of the different phyla of the animal kingdom. Special reference is given to the evolution of form and function. Two hours lecture per week.
- 204 **Comparative Anatomy Laboratory (3)**
(Must be taken concurrently with Biology 202.) Anatomical study of the animal kingdom. Seven hours laboratory per week.
- 213 **General Physiology (3)**
Prerequisite: Chemistry 261 (may be taken concurrently) and Biology 12. The basic functional aspects of organ systems in relation to the physico-chemical properties of protoplasm. Three hours lecture per week.
- 215 **General Physiology Laboratory (2)**
(Must be taken concurrently with Biology 213.) Instrumental and experimental studies in physiology. Three and one-half hours laboratory per week.
- 224 **Genetics (3)**
Prerequisite: Biology 12. 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.
- 226 **Genetics Laboratory (2)**
Prerequisite: Biology 224 (may be taken concurrently). Laboratory to accompany Biology 224. Three and one-half hours laboratory per week.
- 235 **Development (3)**
Prerequisite: Biology 224. Basic principles of development in plants and animals from the point of view of growth, morphogenesis and differentiation.
- 237 **Development Laboratory (2)**
Laboratory to accompany Biology 235. Three and one-half hours of laboratory per week.
- 242 **Population Biology (3)**
Prerequisite: Biology 224. The structure, operation and evolution of populations including studies of varied environments, the interrelations between living organisms and their environment; organization, growth and the regulation of populations, inter-action between and within populations; natural selection, variability, mechanisms and results of evolution. Three hours lecture per week.

- 244 **Population Biology Laboratory (2)**
Prerequisite: Biology 242 (may be taken concurrently). Laboratory to accompany Biology 242. Three and one-half hours laboratory per week and/or field studies to be arranged.
- 246 **Evolution (3)**
Prerequisite: Biology 224. The course and mechanisms of organic evolution. Three hours lecture per week.
- 250 **Plant Structure (3)**
Prerequisite: Biology 12. Morphological and anatomical studies of the members of the plant kingdom. Three hours lecture per week.
- 252 **Plant Structure Laboratory (2)**
Must be taken with Biology 250. Laboratory to accompany Biology 250. Three and one-half hours laboratory per week.
- 260 **Microtechnique (2)**
Prerequisite: Biology 213. Technical aspects of preparation of biological material for proper microscopic study. Two hours lecture per week.
- 262 **Microtechnique Laboratory (3)**
Must be taken concurrently with Biology 260. The preparation of specimens for microscopical study. Includes wholemount techniques, sectioning, routine staining methods and histochemical procedures. Seven hours laboratory per week.
- 276 **Biological Chemistry (3)**
Prerequisite: Chemistry 261, 263 and Biology 12 and 224. The chemistry and function of the living cell and its constituents and the interactions and conversions of intracellular substances. Three hours lecture per week.
- 278 **Biological Chemistry Laboratory (2)**
Prerequisite: Biology 276 (may be taken concurrently). Laboratory to accompany Biology 276. One hour lecture and three and one-half hours laboratory per week.
- 289 **Seminar (1)**
Required of all biology majors during both semesters of their senior year. Presentation of selected papers by students.
- 290 **Research (Credit arranged)**
- 310 **Cellular Biology (3)**
Prerequisite: Biology 213, 215 and 224. Cellular metabolism and structure. Three hours lecture per week.
- 312 **Cellular Biology Laboratory (2)**
Prerequisite: Biology 310 (may be taken concurrently). Instrumentation and experimental techniques in cellular biology. Three and one-half hours laboratory per week.
- 313 **Comparative Animal Physiology (3)**
Prerequisite: Biology 213 and 215. The evolutionary relationships of animals considered in terms of physiological and biochemical characteristics. Three hours lecture per week.

- 315 **Comparative Animal Physiology Laboratory (2)**
Prerequisite: Biology 313 (may be taken concurrently). Analysis of physiological processes and their adaptive significance in specific environments. Three and one-half hours laboratory per week.
- 316 **Microbiology (3)**
Prerequisite: Biology 213 and 224. A study of microorganisms, their metabolism and their interaction with other forms of life. Three hours lecture per week.
- 317 **Immunobiology (3)**
Prerequisite: Biology 276, Chemistry 261 and 263. 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.
- 318 **Microbiology Laboratory (2)**
Prerequisite: Biology 316 (may be taken concurrently). Experimental studies and procedures of microbiological techniques. Three and one-half hours laboratory per week.
- 319 **Immunobiology Laboratory (2)**
Prerequisite: Biology 317 (may be taken concurrently). Basic experimental laboratory procedures in immunology. Introduction to experimental evidence underlying concepts of immunology. Three and one-half hours laboratory per week.
- 321 **Advanced Genetics (3)**
Prerequisite: Biology 224. Selected topics in genetic theory. Three hours lecture per week.
- 322 **Cytogenetics (3)**
Prerequisite: Biology 224. Structure and composition of cytoplasm and nuclei. Structure and replication of chromosomes. Analysis of cell cycles and their experimental modification with drugs and radiations. Chromosome behavior and its relationship to heredity, speciation and the evolution of sexual dimorphism. Cytology of reproduction. Three hours lecture per week.
- 323 **Advanced Genetics Laboratory (2)**
Prerequisite: Biology 321 (may be taken concurrently). Instrumentation and experimental studies in genetic analysis. Three and one-half hours laboratory per week.
- 324 **Cytogenetics Laboratory (2)**
Must be taken concurrently with Biology 322. Laboratory to accompany Biology 322. Three and one-half hours laboratory per week.
- 330 **Advanced Development (2)**
Prerequisite: Biology 213, 235, 276. A discussion of experimental approaches as applied to the analysis of development. Two hours lecture per week.

- 332 **Advanced Development Laboratory (2)** Prerequisite: Biology 330 (may be taken concurrently). Instruction and practice in the application of experimental techniques to the study of development. Seven hours of laboratory per week.

BUSINESS ADMINISTRATION

Prerequisites may be waived by consent of department.

- 31 **Elementary Statistics (3)**
Prerequisite: Sophomore standing and Mathematics 10. Introduction to descriptive statistics, including collection, organization and presentation of data; averages; dispersion. Introduction to statistical inference, probability, index numbers, time series, correlation.
- 104 **Fundamentals of Digital Computer Programming (3)**
Prerequisite: Sophomore standing and Mathematics 10 or equivalent. Principles of programming digital computers in machine, symbolic and algebraic languages.
- 106 **Principles of Marketing (3)**
Prerequisite: Fundamentals of Financial Accounting 140, *Economics 51 and *Elementary Statistics 31. Study of marketing institutions and marketing functions. A development of the implications and interrelationships of product policy, pricing, distribution channels, demand analysis and selling strategy.
- 140 **Fundamentals of Financial Accounting (3) (Formerly Business Administration 36 and 37—Elementary Accounting I and II)**
Prerequisite: Sophomore standing. Fundamental accounting principles and procedures; their application and interpretation emphasizing corporate financial reports. Topics include: the accounting cycle and the preparation of financial statements, including proprietary, partnership and corporate equities; also included is an introduction to the computer as an accounting tool.
- 145 **Fundamentals of Managerial Accounting (3) (Formerly Business Administration 302—Managerial Accounting)**
Prerequisite: Fundamentals of Financial Accounting 140. Development, interpretation and uses of accounting reports and supplementary information for management decision-making. Topics include: operational and capital budgeting, analysis of financial statements, and the application of relevant cost behavior, control, and traceability concepts in the preparation of internal accounting reports.
- 202 **Industrial Management (3)**
Prerequisite: *Fundamentals of Managerial Accounting 145, *Economics 51 and *Elementary Statistics 31. Principles of industrial organization and management and their application to production, personnel and materials.
- 204 **Financial Management (3) (Formerly Business Administration 204—Corporate Finance)**
Prerequisite: Fundamentals of Managerial Accounting 145, Economics 51 and *Elementary Statistics 31. The study of a firm's need 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.

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

- 231 **Intermediate Statistics (3)**
Prerequisite: Elementary Statistics 31, Fundamentals of Digital Computer Programming 104, Mathematics 80 or 101 and junior standing. Study of advanced statistical methods of modern decision theory, including such topics as distribution-free statistical tests, statistical simulation and multi-variate analysis.
- 252 **Business Conditions Analysis (3)(Same as Economics 252)**
Prerequisite: Economics 51. Macroeconomic analysis as applied to business decisions. Intensive discussion of factors affecting consumption, investment, the level of income and employment and short-term fluctuations in economic activity. Emphasis on problems and techniques of forecasting.
- 253 **Managerial Economics (3) (Same as Economics 253)**
Prerequisite: Economics 51. 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: Fundamentals of Financial 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 **Advertising (3)**
Prerequisite: Principles of Marketing 106. Topics included are the advertising agency and media, use and expedience analysis, consumer motivation and appeal evaluation, measuring advertising effectiveness and the social and legal aspects of advertising.
- 275 **Marketing Research (3)**
Prerequisite: Principles of Marketing 106. Techniques of gathering and analyzing data for marketing decisions. Identification of fundamental problems including geographic, demographic and psychographic market segmentation. Methods of sampling, quantification and statistical analysis are developed as a means of contributing to decisions in pricing, advertising, packaging, product development, consumer motivation and other complex marketing problems.
- 308 **Production Management (3)**
Prerequisite: Fundamentals of Digital Computer Programming 104 and Industrial Management 202. Integration of principles of management and economics to develop analytical approaches to production management. Role of production management philosophy explored.
- 310 **Personnel Management (3)**
Prerequisite: Economics 51 and *Elementary Statistics 31. Consideration of problems in staffing, developing and motivating personnel in a work setting. Topics include organization for personnel management, group behavior, individual differences, resistance to change and other problems encountered in developing and maintaining an effective work force.

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

- 312 **Industrial and Labor Relations (3)**
Prerequisite: Personnel Management 310. Emphasis on labor unions and their relationship with management. Labor laws, trade union structure and government, collective bargaining, arbitration and grievance procedures are studied.
- 315 **Marketing Management (3)**
Prerequisite: Principles of Marketing 106. An extension in depth of the investigation of marketing solutions to complex problems of merchandising, channel selection, brand policy, price policy, sales promotion, advertising and personal selling.
- 318 **Industrial Psychology (3) (Same as Psychology 318)**
Prerequisite: Psychology 201 or Personnel Management 310. Activities of the applied psychologist. Selection and placement, testing and interviewing, personnel research. Morale, motivation and job satisfaction. Leadership skills and styles, creative management, industrial mental health. Psychology in advertising and marketing.
- 334 **Investments (3)**
Prerequisite: Financial Management 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 Theory (3) (Formerly Intermediate Accounting 217)**
Prerequisite: Fundamentals of Financial Accounting 140 and Fundamentals of Managerial Accounting 145 with a minimum grade of C in each (or consent of department) and *Elementary Statistics 31. The development of a structure of financial accounting theory and an analysis of asset valuation methods emphasizing their effect on income determination.
- 341 **Advanced Accounting (3)**
(Includes a continuation of the intermediate text and topics from the advanced text.) Prerequisite: Intermediate Accounting Theory 340, minimum grade of C (or consent of department). Application of accounting theory to equity valuation and the related effects on income determination. Other topics include accounting for price level changes, partnerships and fiduciaries.
- 342 **Consolidations and Specialized Accounting Problems (3)**
(Contains some topics previously covered in Advanced Accounting 322 and some topics not previously covered.) Prerequisite: Advanced Accounting 341, minimum grade of C (or consent of department). Accounting theory and practice relating to: consolidated financial statements, business combinations, foreign subsidiaries, corporate liquidation and reorganization and non-profit organizations.
- 345 **Cost Accounting (3) (Formerly Cost Accounting 321)**
Prerequisite: Fundamentals of Managerial Accounting 145, minimum grade of C (or consent of department). Basic principles of cost determination and control of manufacturing and distribution activities; emphasizes the accumulation and tracing of cost to products, processes and responsibility centers for purposes of financial accounting and management control. Topics include: job-order and process costing and the development and use of standard costs within a system of absorption costing.

- 347 **Income Taxes (3) (Formerly Accounting: Income Taxes 323)**
Prerequisite: Fundamentals of Financial Accounting 140 and Fundamentals of Managerial Accounting 145, minimum grade of C in each (or consent of department). Fundamentals of Federal income tax accounting with emphasis on individuals and corporations. Topics covered include: determination of income, exclusions, exemptions, personal and business deductions and tax credits.
- 348 **Auditing (3) (Formerly Auditing 331)**
Prerequisite: Advanced Accounting 341, 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 to include the standards of professional performance.
- 350 **Financial Policies (3)**
Prerequisite: Financial Management 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.
- 370 **Organization Theory and Structure (3)**
Prerequisite: Personnel Management 310. Organizational structure and executive behavior and their interrelationships are examined. Focus is on the emerging research relevant to the behavior of people in organization structures and the role of administrators in recognizing, modifying and interacting within such structures.
- 375 **Operations Research (3)**
Prerequisite: Mathematics 80 or 101, Elementary Statistics 31, Fundamentals of Digital Computer Programming 104 and junior standing. Development of optimum methods and models for management control and decision-making. Based on newer methods of quantitative and statistical analysis and mathematical programming.
- 380 **International Business (3)**
Prerequisite: Economics 51. U.S. in the world economy; emerging nations; foreign exchange market; foreign investment; commercial documents; world trade; management of enterprises abroad.
- 391 **Business Policy and Administration (3)**
Prerequisite: Senior standing, Principles of Marketing 106, Financial Management 204 and Personnel Management 310. 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 operational system. Particular attention is given the formulation of a policy framework, planning and implementing executive action. Both team and individual analyses and reports are utilized with class evaluation and recommendations.

Prerequisites may be waived by consent of department.

- 1 **General Chemistry (3)**
Presents a broad introductory survey of chemical principles. Chemistry 1 may be applied toward the fulfillment of the general education requirement in science. However, it does not satisfy the prerequisites of any other course (except Chemistry 3) in chemistry. Three hours lecture per week.
- 3 **General Chemistry Laboratory (2)**
Prerequisite: Chemistry 1 (may be taken concurrently). Experiments designed to illustrate the principles treated in Chemistry 1. Three and one-half hours laboratory per week.
- 11 **Introductory Chemistry (5)**
Prerequisite: Mathematics 10 (may be taken concurrently) or equivalent. Presents an introduction to the fundamental laws and theories of chemistry. Laboratory experiments are designed to demonstrate chemical principles and to develop skills in laboratory procedures. Three hours lecture and one hour discussion per week; three and one-half hours laboratory biweekly.
- 12 **Qualitative Analysis (5)**
Prerequisite: Chemistry 11 or advanced placement. A study of the chemistry of electrolytic solutions and the principles of chemical equilibrium. Laboratory work deals with the descriptive chemistry and identification of common ionic species. Three hours lecture and three and one-half hours laboratory per week.
- 180 **Methods of Teaching Chemistry in Secondary Schools (3)**
Prerequisite: Education 163 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.
- 222 **Quantitative Analysis (5)**
Prerequisite: Chemistry 12. Principles and practice of gravimetric, volumetric and instrumental quantitative analytical methods. Two hours lecture and seven hours laboratory per week.
- 231 **Physical Chemistry I (3)**
Prerequisite: Mathematics 201 (may be taken concurrently), Physics 10 and 111. Principles of physical chemistry including thermodynamics, theory of gases, phase equilibria, kinetics, crystal structure, spectroscopy and quantum mechanics. Three hours lecture per week.
- 232 **Physical Chemistry II (3)**
Prerequisite: Chemistry 231. Continuation of Chemistry 231. Three hours lecture per week.
- 233 **Laboratory in Physical Chemistry I (2)**
Prerequisite: Chemistry 231 (may be taken concurrently). Experiments designed to illustrate principles introduced in Chemistry 231. One hour lecture and seven hours laboratory per week.

- 234 **Laboratory in Physical Chemistry II (2)**
Prerequisite: Chemistry 232 (may be taken concurrently), Chemistry 233. Experiments designed to illustrate principles introduced in Chemistry 232. One hour lecture and seven hours laboratory per week.
- 261 **Structural Organic Chemistry (3)**
Prerequisite: Chemistry 12. An introduction to the structure, properties, synthesis and reactions of aliphatic and aromatic carbon compounds. Three hours lecture per week.
- 262 **Organic Reactions (3)**
Prerequisite: Chemistry 261 (may be taken concurrently). A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours lecture per week.
- 263 **Techniques of Organic Chemistry (2)**
Prerequisite: Chemistry 261 (may be taken concurrently). An introduction to laboratory techniques and procedures of synthetic organic chemistry. One hour lecture and seven hours laboratory per week.
- 264 **Synthetic and Analytical Methods of Organic Chemistry (2)**
Prerequisite: Chemistry 262 (may be taken concurrently), Chemistry 263. Advanced techniques; synthesis; separation and identification of organic compounds by classical and instrumental techniques. One hour lecture and seven hours laboratory per week.
- 272 **Biochemistry (3)**
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.
- 274 **Biochemical Techniques (2)**
Prerequisite: Chemistry 272 (may be taken concurrently). Laboratory study of biochemical processes in cellular and subcellular systems with emphasis on the isolation and purification of protein (enzymes) and the characterization of catalytic properties. One hour lecture and three and one-half hours laboratory per week.
- 289 **Seminar (1)**
Presentation of papers by students, faculty and invited speakers. All chemistry majors must enroll as hearers during both semesters of their junior year; all majors must also enroll for credit during both semesters of their senior year.
- 290 **Chemical Research (Credit arranged)**
Prerequisite: Consent of instructor. Independent laboratory and library study of fundamental problems in chemistry in conjunction with faculty member.
- 324 **Instrumental Analysis (3)**
Prerequisite: Chemistry 22, 234. Modern instrumental methods, including nuclear magnetic resonance, polarimetry, spectrophotometry, X-ray diffraction and others. Two hours lecture and three and one-half hours laboratory per week.

- 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.
- 333 **Thermodynamics (3)**
Prerequisite: Chemistry 232. Selected advanced topics including solid-state, nonequilibrium and statistical thermodynamics. Three hours lecture per week.
- 336 **Introduction to Quantum Chemistry (3)**
Prerequisite: Chemistry 231 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 method, interaction of radiation with matter, atomic and molecular structure and theory of collisions. Three hours lecture per week.
- 341 **Advanced Inorganic Chemistry (3)**
Prerequisite: Chemistry 232 (may be taken concurrently). 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.
- 352 **Nuclear Chemistry (3)**
Prerequisite: Chemistry 232. Properties of radioactive nuclei, nature of radioactivity, nuclear reactions and applications of nucleonics to chemistry. Three hours lecture per week.
- 361 **Advanced Organic Chemistry (3)**
Prerequisite: Chemistry 262. Contemporary developments in the study of the structure of carbon compounds and the mechanism of their reactions. Topics include natural products, heterocyclic compounds, stereochemistry and photochemistry. Three hours lecture per week.
- 363 **Advanced Organic Synthesis (2)**
Prerequisite: Chemistry 264. Advanced synthetic methods of organic chemistry. One hour lecture and seven hours laboratory per week.
- 366 **Physical Organic Chemistry (3)**
Prerequisite: Chemistry 262 and Chemistry 232 (may be taken concurrently). Advanced topics in the theory of organic chemistry, including conformational analysis, reaction kinetics and mechanisms and transition state theory. Three hours lecture per week.
- 371 **Advanced Biochemistry (3)**
Prerequisite: Chemistry 272. Selected advanced topics in the chemistry of life processes. Three hours lecture per week.
- 381 **Special Topics (3)**
Prerequisite: Consent of instructor. A reading and seminar course in selected advanced topics. Three hours lecture per week.

Prerequisites may be waived by consent of department.

- 50 **Principles of Economics I (3)**
Prerequisite: Mathematics 10 or Mathematics 15 or 1½ high school units in algebra. Introduction to the subject of economics, with emphasis on the operation of the national economy, money and banking and international economic relations.
- 51 **Principles of Economics II (3)**
Prerequisite: Economics 50. Continuation of Economics 50, with emphasis on the theory of the firm, price determination and resource allocation.
- 99 **The City (3) (Same as History 99, Political Science 99, Psychology 99 and Sociology 99)**
Prerequisite: 12 hours of college credit. 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.
- 190 **Readings in Economics (3)**
Prerequisite: Economics 51. Readings on topics mutually acceptable to the students and the instructor.
- 191 **Senior Seminar in Economics (3)**
Prerequisite: Economics 51, 190 and senior standing. Seminar for economics majors in which the senior paper will be written. Directed research, writing and presentation of findings.
- 220 **Money and Banking (3)**
Prerequisite: Economics 50. 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.
- 230 **Comparative Economic Systems (3)**
Prerequisite: Economics 51. Economics structure and operating principles of the U.S., Soviet and other selected modern economies as responses to fundamental economic problems.
- 240 **Economic Development (3)**
Prerequisite: Economics 50. Survey of economic growth as applied to underdeveloped countries. Analysis of development policies with emphasis on specific case studies.
- 250 **Intermediate Economic Theory: Macroeconomics (3)**
Prerequisite: Economics 51. 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.
- 251 **Intermediate Economic Theory: Microeconomics (3)**
Prerequisite: Economics 51. Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

- 252 **Analysis of Business Conditions (3) (Same as Business Administration 252)**
Prerequisite: Economics 51. Macroeconomic analysis as applied to business decisions. Intensive discussion of factors affecting consumption, investment, the level of income and employment, and short-term fluctuations in economic activity. Emphasis on problems and techniques of forecasting.
- 253 **Managerial Economics (3) (Same as Business Administration 253)**
Prerequisite: Economics 51. 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.
- 260 **Labor Economics (3)**
Prerequisite: Economics 51. 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.
- 269 **The Marxist Heritage (3) (Same as Philosophy 269 and Political Science 269)**
An interdisciplinary study of Marx and leading Marxists, designed to evaluate their influence on recent political, economic and social thought and institutions.
- 270 **Urban and Regional Economics (3)**
Prerequisite: Economics 51. The economics of location, population growth and transportation systems, with special emphasis on the urban region.
- 280 **History of Economic Thought (3)**
Prerequisite: Economics 51. The evolution of economic thought from the ancients through post-Keynesian theory.
- 316 **Public Finance: Federal (3)**
Prerequisite: Economics 51. The nature and scope of public finance. Analysis of expenditure, revenue and financial administration of the federal government, with emphasis on current problems.
- 317 **Public Finance: State and Local (3)**
Prerequisite: Economics 50. A study of expenditures, 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.
- 321 **Money (3)**
Prerequisite: Economics 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.
- 330 **International Economic Analysis: Trade (3)**
Prerequisite: Economics 51. The theory of international trade, the theory of commercial policy, economic integration and economic development. Emphasis is on the theoretical framework of analysis.

- 331 International Economic Analysis: Finance (3)**
Prerequisite: Economics 50. The balance of payments, the theory of foreign exchange, monetary standards and international liquidity. Emphasis is on the payments adjustment mechanism, international monetary institutions and alternative monetary systems.
- 339 The Soviet Economy (3)**
Prerequisite: Economics 51. 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.
- 340 The Development of Industrial Economies (3)**
An examination of economic growth hypotheses in the context of the experience of high-income countries. Analysis of the factors affecting economic growth; labor, capital and technology.
- 341 The Development of Less-Developed Economies (3)**
Prerequisite: Economics 51. Application of the theory of economic growth to developing countries. Emphasis on problems of capital formation, education and economic relations with other countries.
- 350 Special Readings (Credit arranged)**
Prerequisite: Consent of instructor. Unscheduled, independent directed readings on topics mutually acceptable to student and instructor.
- 355 Business and Government (3) (Same as Political Science 345)**
Prerequisite: Economics 51. Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines and competition considered.
- 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.
- 364 Manpower Policies (3)**
Prerequisite: Economics 51. 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.
- 365 Economic Statistics and Econometrics (3)**
Prerequisite: Economics 51 and Statistics 31. Application of statistical techniques to economic research problems.
- 366 Econometrics (3)**
Prerequisite: Economics 365. Continuation of Economics 365.
- 371 Issues in Urban Economics (3)**
Prerequisite: Economics 51. Problems of public policy in the city as it relates to education, housing, transportation, recreation and their financing. Recent government policies concerning the city and its surrounding areas will be emphasized.

Prerequisites may be waived by consent of department.

- 101 The School in Contemporary Society (3)**
This is the introductory course in teacher preparation. Content of the course includes an examination of the structure and function of the school in today's society, explores social and anthropological factors related to current educational problems. Cognitive and affective objectives of education are the content for examining educational practices and for exploring each student's personal attributes as they relate to the teaching act. Open to freshmen and sophomores and required of students admitted to the School of Education.
- 110 Elements of Health Education (3)**
Prerequisite: Education 101 and admission to the School of Education. Basic school health for all teachers. Considers health as it relates to the school and the child and its interrelationship between the two.
- 137 Elementary School Music (3) (Same as Music 137)**
Prerequisite: Music 134 or consent of department. Basic musical preparation for all education majors. Development of the elementary school music program with emphasis on selection of music and methods of teaching music to children.
- 139 Art Activities for Elementary School (3) (Same as Art 139)**
A study of art principles; provides laboratory experiences with various media and materials. Stresses curriculum planning and developments of the elementary school program in art.
- 140 Elementary School Organization, Management and Techniques of Teaching (3)**
Prerequisite: Education 101 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 school relating to administrative-teacher-pupil interactions and teaching-learning environment and general techniques of teaching.
- 150 Children's Literature and Language Arts (3)**
Prerequisite: Education 101 and admission to the School of Education. A course designed to provide a knowledge of the various types of children's literature; criteria for selecting and evaluating reading material. An introduction to the teaching of the language arts in the elementary schools.
- 151 Teaching of Science in the Elementary School (3)**
Prerequisite: Education 140 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.
- 152 Teaching of Social Studies in the Elementary School (3)**
Prerequisite: Education 140 and completion of social science 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.

- 153 **Teaching Mathematics in the Elementary School (3)**
Prerequisite: Education 140 and completion of mathematics requirements in general education. Organization and implementation of a modern elementary school mathematics program.
- 155 **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, practices.
- 157 **Geography—Regions and Nations of the World (3)**
Introductory survey of world geography designed for general education. Presents essential characteristics and major problems of Europe, Soviet Union, Orient, Pacific World, Middle East, Africa, Latin American, Anglo-America.
- 163 **Techniques of Secondary School Teaching (3)**
Prerequisite: Education 101 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.
- 231 **Advanced Typewriting (3)**
Prerequisite: Intermediate Typewriting or equivalent. Instruction in the methods and techniques used to develop job-level competency. Laboratory required.
- 232 **Use of the Typewriter in Teaching Business Education (3)**
Prerequisite: Education 231. Instruction in the preparation of various business and technical papers; duplicating equipment, etc. Laboratory required.
- 235 **Advanced Stenography (3)**
Prerequisite: Intermediate shorthand and transcription or equivalent. Instruction in the methods and techniques used to teach Gregg shorthand, with emphasis on how to build speed and accuracy to meet job-level competency. Laboratory required.
- 236 **Stenography in the Schools (3)**
Prerequisite: Education 232 and Education 235. Instruction in the methods and techniques used to teach transcription. Laboratory required.
- 237 **Secretarial Practice (3)**
Prerequisite: Education 235 and Education 231 or consent of instructor. Instruction in methods and techniques used to teach office procedures and practices.
- 240 **Education of the Mentally Retarded (3)**
Prerequisite: Psychology 270, Education 101 and admission to the School of Education. Methods and techniques for use in the education of children with mental retardation. Required of all who are preparing for certification in special education for mentally retarded.

- 251 **Elementary School Student Teaching (6)**
Prerequisite: Admission to student teaching. Clinical teaching experience in elementary school classrooms under university and school supervision. Seminar accompanies classroom teaching experience.
- 252 **Elementary Student Teaching in Special Education (6)**
Prerequisite: Education 240, Education 313 and admission to student teaching. Clinical experience in teaching special education classes in the elementary school under university and school supervision. Seminar accompanies classroom teaching experience.
- 261 **The Curriculum and Methods of Teaching Business Subjects (3)**
Prerequisite: Education 163 and near-major in the subject matter. Study of the scope and sequence of business 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 business education. To be taken concurrently with student teaching.
- 262 **The Curriculum and Methods of Teaching English (3) (Same as English 262)**
Prerequisite: Education 163 and a near-major in the subject matter. A study of the scope and sequence of the English course 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.
- 263 **The Curriculum and Methods of Teaching Art (3)**
Prerequisite: Education 163 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.
- 264 **The Curriculum and Methods of Teaching Foreign Language (3) (Same as French 264, German 264, Spanish 264)**
Prerequisite: Education 163 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.
- 265 **The Curriculum and Methods of Teaching History and Social Studies (3) (Same as History 265)**
Prerequisite: Education 163 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 (not counted as credit for a major in history). To be taken concurrently with student teaching.

- 266 **The Curriculum and Methods of Teaching Mathematics (3)**
Prerequisite: Education 163 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.
- 267 **The Curriculum and Methods of Teaching Music (3)**
Prerequisite: Education 163 and a near-major in the subject matter. A study of the scope and sequence of the music 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 music. To be taken concurrently with student teaching.
- 268 **The Curriculum and Methods of Teaching Physical Sciences (3)**
Prerequisite: Education 163 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.
- 269 **The Curriculum and Methods of Teaching the Life Sciences (3)**
Prerequisite: Education 163 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.
- 271 **Secondary School Student Teaching (6)**
Prerequisite: 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.
- 272 **Secondary Student Teaching in Special Education (6)**
Prerequisite: Education 240 and Education 313 and admission to student teaching. Clinical experience in teaching special education classes in the secondary school under University and school supervision. Seminar accompanies classroom teaching experience.
- 302 **The Psychology of Teaching and Learning (3)**
Prerequisite: Education 101, 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.
- 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.

- 312 **Speech and Language Problems of the Mentally Retarded (3)**
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.
- 313 **The Psychology of Exceptional Children (3) (Same as Psychology 313)**
Prerequisite: Psychology 270. A study of the unique psychological problems of children who deviate from the normal. Required of all majors in Special Education.
- 315 **Principles of Early Childhood Education (3)**
Prerequisite: Education 302. A study of values and basic principles underlying good schools for young children. Intensive examination of planning daily programs, organizing the learning environment, developing the curriculum and units of work. An investigation of good learning situations for pre-school and primary children.
- 316 **Creative Experiences for Young Children (3)**
Prerequisite: Education 315 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.
- 317 **Exploring the Physical World with Young Children (3)**
Prerequisite: Education 315 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.
- 318 **Exploring the Social World With Young Children (3)**
Prerequisite: Education 315 and completion of social science requirements in general education. A study of and experiences 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.
- 320 **Comparative Education (3)**
A comparative study of representative systems of education in South America, Europe and Asia in contrast with the American System.
- 322 **History of American Education (3)**
Prerequisite: A course in American history or consent of instructor. A comprehensive study of development of American education. Stresses American and other educational ideas, educational theory, American school system and social and intellectual forces affecting American education.
- 325 **Teaching Reading in the Elementary School (3)**
Prerequisite: Educational Psychology and junior standing. Methods and materials of improving word perception, vocabulary, comprehension and interests in independent reading.

- 327 **Teaching Reading in the Inner City (3)**
Prerequisite: Education 140 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.
- 330 **Educational Statistics (3)**
Statistical methods for teachers, supervisors, superintendents and beginning graduate students. Frequency distributions, measures of central tendency, variability, sampling and correlation.
- 336 **Field Experience and Seminar in Secretarial Practice (3)**
Prerequisite: Education 101, 236, 237 and admission to the School of Education. Practical experience in office procedures. To be taken before student teaching.
- 340 **Selection and Utilization of Educational Media (3)**
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.
- 350 **Elementary School Curriculum (3)**
Prerequisite: Education 140. Study of modern education with regard to objectives, content, methods in elementary school curriculum.
- 352 **Secondary School Curriculum (3)**
Prerequisite: Education 163. Sources, scope and organization of the curriculum, modern trends and methods of investigation.
- 360 **Principles and Procedures for Student Personnel Work (3)**
Student personnel work in educational institutions. objectives of student personnel work, certain pertinent techniques.
- 362 **Occupational and Educational Information (3)**
Nature, use of occupational and educational information. Characteristics, requirements of occupations and training opportunities.
- 365 **Problems of Teaching Reading in Secondary Schools (3)**
Methods and materials for improving reading in secondary school classes, including content fields.

GRADUATE COURSES IN EDUCATION

(A) Educational Psychology

- A302 **Group Intelligence Testing (3)**
A study of the principles of psychometrics and a critical examination of various group tests of ability.
- A303 **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.

- A400 **Problems (credit arranged)**
- A405 **The Psychology of Education (3)**
An advanced course covering the entire field of educational psychology.
- A407 **Psychology of the Elementary School Child (3)**
The application of educational psychology to problems of teaching in the elementary school.
- A408 **The Psychology of Adolescence (3)**
A critical psychological analysis of studies and investigation of the various aspects of adolescence.
- A410 **Seminar (credit arranged)**
- A433 **Education of the Mentally Retarded (3)**
A study of the psychological aspects of mental retardation with regard to etiology, intellectual capabilities, characteristics, personality structure. Application to learning theories with emphasis upon curricular approaches and materials. Administrative organization and structure for provision of services.
- (B) **History and Philosophy of Education**
- B397 **The Origin of Modern Education (3)**
A study of educational practices and theory from ancient times to present.
- B471 **Philosophy of Education (3)**
A study of the fundamentals of education in the light of modern science and philosophy.
- (C) **Educational Administration**
- C370 **Educational Statistics (3)**
Statistical methods for teachers, supervisors, superintendents and beginning graduate students.
- C400 **Problems (credit arranged)**
- C414 **Foundations of School Administration (3)**
Emphasis on processes common to all phases of educational administration. Conceptual framework for administration of education, decision making and organizational theory.
- C418 **Legal Aspects of Educational Administration (3)**
Principles of law as derived from court decisions; statutory and constitutional provisions affecting education. Legal status (powers and responsibilities) of school board members, superintendents, principals, teachers and pupils.
- C419 **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.

- C420 Administration of Professional Personnel (3)**
Problems of procurement, employment, induction, in-service development, salary, negotiation and welfare policies influencing professional personnel of schools.
- (D) Secondary Education**
- D365 Problems of Teaching Reading in the Secondary Schools (3)**
Prerequisites: Educational Psychology and nine hours of English. Methods and materials for improving reading in secondary school classes, including content fields.
- D370 Field Study in Secondary Education (credit arranged)**
This course deals with identification of specific problems in the area of secondary education and 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.
- D371 Problems in Visual Education (3)**
For classroom teachers. Evaluation of visual education procedures and classroom instruction, including the preparation of visual education materials.
- D400 Problems (1)**
- D401 Extracurricular Activities (3)**
- D402 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.
- D406 Secondary School Administration (3)**
Problems of administration from point of view of high school principal.
- D407 Tests and Measurements for Secondary Schools (3)**
Educational tests, measurements for purposes of classification of students and improvement of instruction in various subject matter fields in secondary schools.
- D415 Secondary School Supervision (3)**
Methods of improving instruction in junior, senior high schools.
- D430 The Junior High School (3)**
Survey of the progress of junior high school including study of more important problems of organization, administration.
- D440 The Improvement of Secondary School Teaching (3)**
For secondary school teachers, principals, superintendents with considerable training in education and experience in teaching. Recent developments in secondary school teaching.
- D445 The Secondary School Curriculum (3)**
For secondary school principals, teachers, superintendents. Present methods in curricular change, methods of curricular investigation.

- D446 Curriculum Construction for Secondary Schools (3)**
Prerequisite: D445 or permission of the instructor. Designed for those engaged in curriculum revision work and construction of new secondary school courses.
- D470 Inservice 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.
- (E) Elementary Education**
- E325 Teaching Reading in the Elementary Schools (3)**
Prerequisite: Educational Psychology. Techniques for coping with classroom reading problems. Attention is given to a variety of approaches to instruction and to individualization.
- E327 Teaching Reading in the Inner City (3)**
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 pattern, their cultural heritage, and the sociology of their environment.
- E350 Elementary School Curriculum (3)**
Survey of modern educational thought with regard to objectives, content, methods in elementary school curriculum.
- E366 Problems of Teaching the Language Arts (3)**
Procedures used in teaching integrated language arts in elementary schools.
- E367 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.
- E368 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.
- E369 The Analysis and Correction of Reading Disabilities (3)**
Prerequisite: E325, D365 or equivalent. Causes of reading disabilities; procedures that may be used to diagnose, correct.
- E370 Field Study in Elementary Education (credit arranged)**
This course deals with identification of specific problems in the area of elementary education and 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.
- E400 Problems (credit arranged)**
Selected problems to meet the needs of individual students.

- E402 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.
- E404 Elementary School Supervision (3)**
Organized to study such problems in field of supervision as will meet needs of superintendents, principals, special supervisors.
- E405 Tests and Measurements for Elementary Schools (3)**
Educational tests, measurements for elementary school from points of view of teacher supervisors, administrators.
- E406 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.
- E408 Elementary School Administration (3)**
Specialized course in elementary school administration for school administrators, supervisors, teachers.
- E415 Clinical Problems in Child Study I (3)**
Prerequisite: A303, E369, and either E325 or D365. Provides clinical experience in diagnosing educational, related psychological learning problems of school children.
- E416 Clinical Problems in Child Study II (3)**
Prerequisite: E415. Provides clinical experience in applying remedial procedures to children with educational, related learning problems.
- E425 Problems and Research in Teaching Elementary School Reading (3)**
Prerequisite: A405 and E325. A systematic study of research as it focuses on the problems of teaching reading in the elementary school. Attention will be given to innovations in the field.
- E450 Problems and Research in Elementary School Language Arts (3)**
Prerequisite: E405, E366, and six hours of 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 will be given to innovations in the field.
- E451 Problems and Research in Teaching Elementary School Science (3)**
Prerequisite: Eight hours of science, Education 351 and A405. 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.
- E452 Problems and Research in Teaching Elementary School Social Studies (3)**
Prerequisite: E368. 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.

- E453 Problems and Research in Teaching Elementary School Mathematics (3)**
Prerequisite: E367. 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.
- E470 Inservice Course in Elementary Education (3)**
This course is designed to operate with an individual school district and is related to problems of elementary education viewed from the standpoint of that specific district. This course is specially tailored to a particular situation.
- (G) Guidance and Counseling**
- G395 Principles and Procedures of Student Personnel Work (3)**
Student personnel work in educational institutions-objectives of student personnel work, certain pertinent techniques.
- G397 Occupational and Educational Information (3)**
Nature, use of occupational and educational information. Characteristics, requirements of occupations and training opportunities. Process of vocational choice.
- G400 Problems (credit arranged)**
- G404 Individual Inventory (3)**
Interpretation of educational, psychological test data and data in personnel records; emphasizes use of data in counseling.
- G406 Mental Hygiene (3)**
Psychology of mental health. Emphasizes normal personality, improved self-management.
- G407 Counseling Methods (3)**
Counseling as a professional field; process of counseling; counseling for educational, occupational, social, personal adjustment.
- G409 Vocational Choice. Theory and Applications (3)**
Emphasis on current theories of vocational development and their application in practice. Includes evaluation of interest, aptitude and ability tests significantly related to vocational development.
- G410 Seminar (credit arranged)**
- G412 Group Procedures in Counseling (3)**
Emphasis in this course is on a survey of theory and research in group structure and processes. Students who take this course will also be expected to a) participate in an intensive group experience and b) conduct a group themselves under the instructor's supervision.
- G415 Guidance Practicum (3)**
Prerequisite: Consent of instructor. Supervised practice in counseling.
- G422 Internship in Guidance & Counseling (3-6)**
Prerequisite: Consent of instructor. Supervised practice in counseling, usually in a school setting.

G430 Research Design for Teachers & Counselors (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.

ENGLISH

Prerequisites may be waived by consent of department.

- 10 Composition (3)**
Theory and practice of writing expository prose. This course fulfills the general education requirement in basic communicative skills.
- 12 Literary Types (3)**
The student is introduced to the various literary types, including poetry, drama, fiction and the essay.
- 50 Narration (3)**
Prerequisite: English 10 or equivalent. Theory and practice of writing the short story.
- 65GH Honors Exposition (3)**
Prerequisite: Honors qualification on placement examinations. Expository theory and practice for freshmen. Students who pass English 65GH with a B or better receive three hours additional credit for a total of six hours in composition and literature.
- 115 Commercial Writing (3)**
Prerequisite: English 10 or equivalent. Emphasis upon news writing, newspaper feature writing, magazine article writing and book reviewing.
- 120 Classical Literature in Translation (3)**
A study of classical literature from Homer through Quintilian, including such major figures as Sophocles, Plato, Aristotle, Cicero and Vergil.
- 125 Literature of the Old Testament (3)**
A comprehensive understanding of the *Old Testament*, its literary background and significance for western civilization.
- 131 English Literature I (3)**
Reading and analysis of representative selections from about ten English writers of the Middle Ages, the Renaissance and the eighteenth century. Special emphasis on close critical reading of a limited number of texts. Required for English majors.
- 132 English Literature II (3)**
Reading and analysis of representative selections from about ten English writers of the nineteenth and twentieth centuries. Special emphasis on close critical reading of a limited number of texts. Required for English majors.
- 160 Advanced Expository Writing (3)**
Prerequisite: English 10 or equivalent. Emphasis upon developing the critical and analytical capabilities of the writer. Course offers an introduction to research methods.

- 171 American Literature I (3)**
Representative selections from American authors from the middle of the seventeenth century to the middle of the nineteenth century.
- 172 American Literature II (3)**
Representative selections from American authors from the middle of the nineteenth century to present.
- 175 American Literature (3)**
Representative selections from principal American writers from seventeenth century to present.
- 220 Growth and Structure of the English Language (3)**
The historical development of the language from its beginning to the present, concluding with an examination of the English language in America. Some supplementary reading in translation of Old and Middle English literary works.
- 262 The Curriculum and Methods of Teaching English (3) (Same as Education 262)**
Prerequisite: Education 163 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.
- 315 Literary Criticism (3)**
Historical survey of the principles of literary criticism from Plato to the present.
- 324 Chaucer and the Middle English Writers (3)**
Course is concerned primarily with Chaucer's poetry and concentrates on the *Canterbury Tales* in particular. All readings in the original.
- 325 Medieval English Literature (3)**
A survey of English literature from *Beowulf* through Malory, exclusive of Chaucer.
- 331 Elizabethan Poetry and Prose (3)**
A survey of non-dramatic literature of the sixteenth century, including Ascham, Elyot, Wyatt, Surrey, Spense, Daniel and Drayton.
- 337 Shakespeare: Tragedies and Romances (3)**
The development of Shakespeare's concept of tragedy and tragi-comedy from *Titus Andronicus* to *The Tempest*. The plays will be related to the social and literary milieu of the period.
- 338 Shakespeare: Comedies and Histories (3)**
Shakespeare's early work for the theater with some attention to the sonnets and longer poems. A historical background for a study of all the plays, including discussions of Elizabethan society, the world of the stage and Shakespeare's biography.

- 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 theaters in 1642, with particular attention to the plays of Marlowe, Jonson, Webster and Ford. Though Shakespeare will not be studied in this course, connections between his works and those of his contemporaries will be discussed.
- 344 **Seventeenth Century Literature (3)**
The non-dramatic literature of the period, including the metaphysical and cavalier poets and the major prose writers of the age, exclusive of Milton. The transition from the Renaissance to the Restoration.
- 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.
- 346 **Seventeenth and Eighteenth Century Drama (3)**
Critical reading of the dramatic literature of the Restoration and Post-Restoration periods.
- 350 **Special Readings (1-3)**
Prerequisite: 300-level course in area of proposed work and consent of instructor. Individual work, with conferences adjusted to needs of the student.
- 354 **Eighteenth Century Literature (3)**
Critical reading of selections from Pope, Swift, Addison, Steele, Gray, Johnson, Burke and others.
- 363 **The English Novel (3)**
Study of major English novels from the eighteenth century. The approach is principally analytical, with attention to historical development.
- 370 **Prose and Poetry of the Romantic Period (3)**
Critical reading of selections from Blake, Wordsworth, Coleridge, Lamb, Hazlitt, Byron, Shelley, Keats and others. Also selected eighteenth century writers serve as background material.
- 371 **Prose and Poetry of the Victorian Period (3)**
Critical reading of selections from Tennyson, Browning, Arnold and others, in addition to selections from the major prose writers.
- 372 **The Later Nineteenth Century (3)**
Critical examination of the literature of England, 1870-1914. Swinburne, Hopkins, Hardy, Housman, James, Conrad, Butler, Shaw, Wilde and others.
- 373 **Major American Writers I (3)**
American literature of the nineteenth century centering around such figures as Emerson, Hawthorne, Melville, Poe and Whitman.
- 374 **Major American Writers II (3)**
American literature of the late nineteenth and twentieth centuries centering around such figures as James, Dickinson, Crane, Jeffers, Faulkner and others.

- 375 **American Fiction to World War I (3)**
Development of the novel and short story in America through World War I. Emphasis is upon fiction representative of Romanticism, Realism and Naturalism.
- 376 **American Fiction After World War I (3)**
Development of the novel and short story in America since World War I.
- 383 **Modern Fiction (3)**
Critical reading and analysis of selected British and American fiction of the twentieth century.
- 384 **Modern Poetry (3)**
Critical reading and analysis of selected British and American poetry of the twentieth century.
- 385 **Modern Drama (3)**
British, American and European drama of the last one hundred years: the well-made play, the problem play, verse drama, new definitions of tragedy, the angry theater, theater of the absurd.
- 390 **Readings in American Literature (3)**
Prerequisite: Consent of instructor. Readings on a topic mutually acceptable to student and instructor.
- 391 **Readings in English Literature (3)**
Prerequisite: Consent of instructor. Readings on a topic mutually acceptable to student and instructor.

FRENCH

Prerequisites may be waived by consent of department.

- 1 **Elementary French (4)**
Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory required.
- 2 **Elementary French (4)**
Prerequisite: French 1 or equivalent. Continuation of French 1. One hour language laboratory required.
- 101 **Intermediate French (3)**
Prerequisite: French 2 or equivalent. Grammar review and cultivation of language skills through the study of moderately difficult prose selections. One hour language laboratory required.
- 102 **Intermediate French (3)**
Prerequisite: French 101 or equivalent. Further development of language skills through the reading and discussion of literary texts. May be taken concurrently with French 108, after consultation with instructor. One hour language laboratory required.

- 104 Scientific French (3)**
Prerequisite: French 101 or equivalent. Introduction to reading of selected French texts in the natural and social sciences. Designed primarily for majors in these areas. This course completes the language requirement for all science majors and may be substituted for language course 102.
- 108 Oral and Written Composition (3)**
Prerequisite: French 102 or equivalent. Emphasis will be placed upon the development of oral and written skills. May be taken concurrently with French 102.
- 110 Masterpieces of French Literature in Translation (3)**
Prerequisite: Sophomore standing. Not open to French majors. Lectures on the literature and culture of France from the Middle Ages to the contemporary period. Reading and discussion of selected masterpieces, with particular emphasis upon Classicism, Romanticism and Realism. May be taken to fulfill humanities requirements.
- 200 Advanced Syntax & Stylistics (3)**
Prerequisite: French 108. Study of the syntactical and morphological characteristics of the French language as seen in representative selections from French literature. Designed primarily and required for students majoring in French. May be taken concurrently with any 200 level course.
- 201 Introduction to French Literature (3)**
Prerequisite: French 102 or equivalent. Designed to acquaint the student with the development of French literature from the *Chanson de Roland* to the Age of Enlightenment. Critical reading of representative texts.
- 202 Introduction to French Literature (3)**
Prerequisite: French 102 or equivalent. Designed to acquaint the student with the development of French literature from the Romantic period to the present. Critical reading of representative texts.
- 220 Introduction to Linguistics (3) (Same as German 220 and Spanish 220)**
Prerequisite: French 1 and 2 or equivalent and sophomore standing. The historical development of languages, their description and classification, with emphasis on the practical application of contrastive linguistics to second language learning. Required for all foreign language majors seeking teaching certification.
- 264 Curriculum and Methods of Teaching Foreign Languages (3) (Same as Education 264)**
Prerequisite: Education 163. French 200, 201, 202 and 220. 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.
- 351 Seventeenth Century French Theater (3)**
Prerequisite: French 201 or 202. Critical reading of selected plays by Corneille, Moliere, Racine and other dramatists of the seventeenth century.
- 352 Seventeenth Century Prose and Poetry (3)**
Prerequisite: French 201 or 202. A critical study of representative poets and prose writers including both novelists and philosophers.

- 353 Eighteenth Century French Literature (3)**
Prerequisite: French 201 or 202. The philosophic movement. Selected works from Montesquieu, Voltaire, Diderot and Rousseau.
- 361 Nineteenth Century French Literature: Romanticism and Symbolism (3)**
Prerequisite: French 201 or 202. Critical reading and discussion of selected works from poetry, the drama and the novel.
- 362 Nineteenth Century French Literature: Realism and Naturalism (3)**
Prerequisite: French 201 or 202. The development of Realism and Naturalism. Particular emphasis upon the works of Flaubert, Balzac and Zola.
- 371 Twentieth Century French Literature: Prose and Poetry (3)**
Prerequisite: French 201 or 202. A study of the most representative writings of modern French literature.
- 372 Twentieth Century French Literature: The Theater (3)**
Prerequisite: French 201 or 202. A study of selected plays and critical writings on the theater from Antoine to the present.
- 399 French Seminar (3)**
Required for major students in the senior year. Subject to be announced every year by the instructor in charge of the seminar. Limited to senior majors.

GERMAN

Prerequisites in any language may be waived by consent of department.

- 1 Elementary German (4)**
Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory required.
- 2 Elementary German (4)**
Prerequisite: German 1 or equivalent. Continuation of German 1. One hour language laboratory required.
- 101 Intermediate German (3)**
Prerequisite: German 2 or equivalent. Grammar review and cultivation of language skills through the study of moderately difficult prose selections. One hour language laboratory required.
- 102 Intermediate German (3)**
Prerequisite: German 101 or equivalent. Further development of language skills through the reading and discussion of literary texts. May be taken concurrently with German 108, after consultation with instructor. One hour language laboratory required.
- 104 Scientific German (3)**
Prerequisite: German 101 or equivalent. Introduction to reading of selected German texts in the natural and social sciences. Designed primarily for majors in these areas. This course completes the language requirement for all science majors and may be substituted for language course 102.

- 108 **Oral and Written Composition (3)**
Prerequisite: German 102 or equivalent. Emphasis will be placed upon the development of oral and written skills. May be taken concurrently with German 102.
- 110 **Masterpieces of German Literature in Translation (3)**
Prerequisite: Sophomore standing. Not open to students majoring in German. Representative readings in German literature from the beginnings to the present. Emphasis to be placed upon German literature in the general context of European culture. May be taken to fulfill humanities requirements.
- 200 **German Syntax (3)**
Prerequisite: German 108 or equivalent. Study of the syntactical and morphological characteristics of the German language as seen in representative selections from German literature. Designed primarily and required for students majoring in German. May be taken concurrently with any 200 level course.
- 201 **Masterpieces of German Literature (3)**
Prerequisite: Two years of college German or equivalent. Introduction to German Literature—its subjects, forms and ideals. Required for German majors.
- 202 **The German *Novelle* and Drama (3)**
Prerequisite: German 201 or equivalent. Reading and critical analysis of selected German *novellen* and dramas.
- 204 **Lyrics and Ballads (3)**
Prerequisite: German 201 or equivalent. A survey of German lyric verse from its beginning to modern times, with a critical analysis of representative poems.
- 220 **Introduction to Linguistics (3) (Same as French 220 and Spanish 220)**
Prerequisite: German 1 and 2 or equivalent and sophomore standing. The historical development of languages, their description and classification, with emphasis on the practical application of contrastive linguistics to second language learning. Required for all language majors seeking teaching certification.
- 264 **Curriculum and Methods of Teaching Foreign Languages (3) (Same as Education 264)**
Prerequisite: Education 163, German 200, 201, 202 and 220. 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.
- 301 **German Literature to 1800 (3)**
Prerequisite: German 201 and one other course in German literature or equivalent. Study of selected texts of German writers from the origins to 1800 and the historical, cultural and political factors which influenced their writings.

- 302 **German Literature since 1800 (3)**
Prerequisite: German 201 and one other course in German literature or equivalent. Continuation of German 301. Selected texts from 1800 to the present and the historical, cultural and political factors which influenced their authors.
- 311 **Goethe (3)**
Prerequisite: German 201 and one other course in German literature or equivalent. Introduction to Goethe's life and works.
- 312 **Goethe's *Faust* (3)**
Prerequisite: German 201 and one other course in German literature or equivalent. Intensive study of Goethe's *Faust*, Parts I and II.
- 321 **Schiller (3)**
Prerequisite: German 201 and one other course in German literature or equivalent. Introduction to Schiller's life and works.
- 325 **The Age of Lessing (3)**
Prerequisite: German 201 and one other course in German literature or equivalent. Study of selected works pertaining to the period extending from German Rationalism to the *Sturm und Drang*.
- 335 **Thomas Mann (3)**
Prerequisite: German 201 and one other course in German literature or equivalent. Introduction to Mann's life and works.
- 399 **German Seminar (3)**
Prerequisite: Senior standing and two 300 level courses or equivalent. Limited to senior majors. Topic to be selected by instructor.

HISTORY

Prerequisites may be waived by consent of department.

- 1 **European Civilization (3)**
Evolution of European cultural tradition from earliest times to mid-seventeenth century. The relationship of ideas and institutions to the general historical background.
- 2 **European Civilization (3)**
Continuation of History 1 to the present.
- 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.
- 4 **American Civilization (3)**
Continuation of History 3 to the present. Meets the state requirement.

- 99 **The City (3)** (Same as Economics 99, Political Science 99, Psychology 99 and Sociology 99)
Prerequisite: 12 hours of college credit. 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.
- 192 **Senior Readings (3)**
Prerequisite: Consent of department. Required for all senior history majors. Directed readings in an area mutually acceptable to student and instructor.
- 193 **Senior Seminar (3)**
Prerequisite: Consent of department. Required for all senior history majors. Directed reading and research, one product of which shall be a formal paper.
- 210 **Asian Civilization (3)**
Prerequisite: Sophomore standing. The development of Asian Civilization from earliest times to the Manchu conquest.
- 211 **Asian Civilization (3)**
Prerequisite: Sophomore standing. Either 210 or 211 may be taken separately. Continuation of History 210, with emphasis on the Asian response to the Western incursion.
- 220 **The Ancient Near East and Greece (3)**
A cultural survey of the civilizations of the Near East and Greece up to the fourth century B.C., with emphasis on social and economic trends.
- 221 **The Hellenistic World and the Roman Empire (3)**
Major political events and social and economic survey analyzing the rise, decline and fall of the Roman Empire.
- 230 **Black History in the United States (3)**
The impact of slavery on the Negro in America. Social and economic life of the Negro from reconstruction to the founding of the NAACP. Emphasis on transition from slavery to freedom, the Ku Klux Klan, the rise of the ghetto, Populism, Progressivism and the Negro, the founding of the NAACP, the "Back to Africa Movement", the "New Negro Movement", the New Deal, World War II, CORE, the Supreme Court decision, Black Muslimism, SNCC, relationship between riots and the ghetto, Black Power vs. non-violence.
- 265 **The Curriculum and Methods of Teaching History and Social Studies (3)** (Same as Education 265)
Prerequisite: Education 163 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. Recommended to be taken concurrently with student teaching.

- 315 **Twentieth Century Southeast Asia (3)**
Prerequisite: Junior standing or consent of instructor. Emphasis on the decline of colonialism, the wars of national liberation and the new nations of Southeast Asia today.
- 316 **Twentieth Century East Asia (3)**
Prerequisite: Junior standing or consent of instructor. Emphasis on Japanese expansion, the Chinese revolutions and the rise of Mao.
- 320 **The History of England from the Tudor Kings to the Congress of Vienna (3)**
Prerequisite: History 1 and 2 or consent of department. A study of the development of the English state and system of government, economics and culture (1485-1815).
- 321 **The History of England from the Congress of Vienna to the Present Day (3)**
Prerequisite: History 1 and 2 or consent of department. A continuation of History 320.
- 330 **Europe in the Seventeenth Century (3)**
Prerequisite: History 1 and 2 or consent of department. The growth of the modern state system; the origins of modern science.
- 331 **Europe in the Eighteenth Century (3)**
Prerequisite: History 1 and 2 or consent of department. The Old Regime, the Enlightenment, the French Revolution and Napoleon.
- 332 **Europe in the Nineteenth Century (3)**
Prerequisite: History 1 and 2 or consent of department. The major political, economic and intellectual developments in Europe from the Congress of Vienna to the outbreak of World War I.
- 333 **Europe in the Twentieth Century (3)**
Prerequisite: History 1 and 2 or consent of department. The impact of World Wars I and II; the search for equilibrium.
- 334 **Europe in the Early Middle Ages (3)**
Prerequisite: History 1 and 2 or consent of instructor. Fall of the Roman Empire, the Byzantine Empire and reconstruction in the West.
- 335 **Europe in the High and Late Middle Ages (3)**
Prerequisite: History 1 and 2 or consent of instructor. Continuation of History 334 up to the Renaissance.
- 336 **Economic and Social History of the Middle Ages (3)**
Prerequisite: History 1. Development of medieval society, ca. 500-1500 A.D., with emphasis on economic factors and social structure.
- 337 **Church and State in the Middle Ages (3)**
Prerequisite: History 1. Relations between Church and State ca. 500-1500 and the political and social theories which resulted from these relations.
- 338 **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.

- 339 **The Age of the Reformation (3)**
Prerequisite: Junior standing or consent of instructor. Religious, intellectual, political and socio-economic developments of the sixteenth century.
- 340 **History of Science (3)**
Prerequisite: One laboratory science and six hours of history. The origins of science and scientific methodology. The interactions of science and non-science. Emphasis upon the Greeks, the Renaissance, the seventeenth century and the nineteenth century.
- 345 **Modern Germany: to 1917 (3)**
Prerequisite: Junior standing or consent of the instructor. The development of modern Germany. Attention will focus on nationalism, unification, industrialization and the coming of the Great War.
- 346 **Modern Germany: Since 1917 (3)**
Prerequisite: Junior standing or consent of the instructor. Weimar Republic, Nazi Reich and the postwar division. Attention will focus on the failure of democracy, totalitarianism and its results.
- 350 **Special Readings (credit arranged)**
Prerequisite: Consent of instructor. Independent study through readings, reports and conferences.
- 351 **American Intellectual History (3)**
Prerequisite: History 3 and 4 or consent of department. American intellectual development to 1865.
- 352 **American Intellectual History (3)**
Prerequisite: History 3 and 4 or consent of department. Continuation of History 351.
- 353 **United States History: Colonial America to 1763 (3)**
Prerequisite: History 3 and 4 or consent of department. English background of colonization. Rise of distinctive New England and southern societies. English colonial policy to the Peace of Paris.
- 354 **United States History: Revolution and the New Nation, 1763-1815 (3)**
Prerequisite: History 3 and 4 or consent of department. The new colonial policy of Britain. Revolution and the new nation. Hamiltonians and Jeffersonians.
- 355 **United States History: Jacksonian Democracy and Sectional Conflict 1815-1865 (3)**
Prerequisite: History 3 and 4 or consent of department. The Era of Good Feelings; the Age of Jackson; Manifest Destiny; sectional and cultural conflict; the Civil War.
- 356 **United States History: Civil War to World War I (3)**
Prerequisite: History 3 and 4. Economic, social and political development of the United States, 1865 to World War I.
- 357 **United States History: World War I to Present (3)**
Prerequisite: History 3 and 4. A continuation of History 356 to the present.

- 360 **American Frontier History (3)**
The frontier considered as a factor in the development of American institutions. Frederick Jackson Turner and his critics. The westward course of settlement. The passing of the frontier.
- 365 **American Urban History (3)**
Prerequisite: History 3 and 4 or consent of department.
- 367 **Growth of the American Economy (3)**
Prerequisite: History 3 and 4 or consent of department. Economic factors in the development of American institutions, from the colonial period to the present. Emphasis is on banking, transportation, agriculture and international trade.
- 368 **Rise of Industrial America (3)**
Prerequisite: History 3 and 4 or consent of department. History of American business industry and labor.
- 370 **Asian-American Relations (3)**
Prerequisite: Junior standing or permission of instructor. A study of relations between American and Asian peoples from the early years of the China traders to the present.
- 377 **U.S. and Wars of National Liberation (3)**
Prerequisite: Junior standing or permission of instructor. A comparative study of the American response to selected revolutionary movements in Asia, Latin America and Africa.
- 437 **Britain and the Commonwealth (3)**
The origin and development of the British Commonwealth system, with emphasis on its political, economic and intellectual aspects.
- 490 **Graduate Readings in History (3)**
Prerequisite: Consent of instructor. Intensive readings in primary and secondary materials in an area mutually acceptable to student and instructor.

MATHEMATICS

Prerequisites may be waived by consent of department.

- 03 **Basic Algebra (3)**
Fundamentals of algebra for students who have two years or less of mathematics in high school, excluding general mathematics. No credit toward a degree.
- 10 **College Algebra (3)**
Prerequisite: Two and one-half high school units of mathematics, including one and one-half units of algebra and a satisfactory score on the mathematics placement examination or Mathematics 03. Review of fundamental concepts and topics from elementary algebra. Emphasis on polynomial functions and graphic representation of functions. Equations, systems of equations, inequalities, the binomial theorem, mathematical induction.

- 11 Elementary Transcendental Functions (3)**
Prerequisite: Mathematics 10 or two and one-half high school units of mathematics and a satisfactory score on the mathematics placement examination. Introduction to trigonometric, inverse trigonometric, logarithmic and exponential functions.
- 12 College Algebra and Transcendental Functions (5)**
Prerequisite: Two and one-half high school units of mathematics, including one and one-half units of algebra and a satisfactory score on the mathematics placement examination or Mathematics 03. A combination of Mathematics 10 and 11.
- 15 Mathematics: Ideas and Structure (3)**
Prerequisite: Two high school units in mathematics, excluding general mathematics, or Mathematics 03. 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.
- 50 Structure of Mathematical Systems I (3)**
Prerequisite: One unit high school algebra and one unit high school geometry. A study of mathematical systems, elementary logic, natural numbers, sets, construction of the integers. Recommended for elementary education students.
- 51 Structure of Mathematical Systems II (3)**
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.
- 80 Analytic Geometry and Calculus I (5)**
Prerequisite: Mathematics 10 and 11 or Mathematics 12; or four high school units of mathematics, including two units of algebra and one-half unit of trigonometry and a satisfactory score on the mathematics placement examination. Introduction to analytic geometry, differential calculus and integral calculus. Courses 80, 175 and 201 are a sequence of courses which have integrated the material formerly contained in courses in plane and solid analytic geometry and differential and integral calculus.
- 101 Survey Calculus (4)**
Prerequisite: Same as for Mathematics 80. Introduction to plane analytic geometry and a study of the basic techniques of the differential and integral calculus with application to various areas. No credit for mathematics majors. Credit not granted for both Mathematics 80 and 101. Mathematics 101 may not be used to satisfy the prerequisite for Mathematics 175.
- 104 Fundamentals of Digital Computer Programming (3)**
Prerequisite: Mathematics 10 or equivalent. Principles of programming digital computers in machine, symbolic and algebraic languages. Does not count toward a major in mathematics.
- 175 Analytic Geometry and Calculus II (5)**
Prerequisite: Mathematics 80. Selected topics from plane analytic geometry and calculus.

- 201 Analytic Geometry and Calculus III (5)**
Prerequisite: Mathematics 175. Solid analytic geometry and selected topics in calculus.
- 222 Digital Computer Methods (2)**
Prerequisite: Mathematics 201 or concurrent registration. Study of digital computer systems, techniques of programming and application to problems in the calculus. No credit to students having credit in Mathematics 104.
- 230 Theory of Equations (3)**
Prerequisite: Mathematics 175 or consent of department. Solution of algebraic equations, systems of equations, relations among the roots and numerical methods.
- 250 Introduction to Abstract Mathematics (3)**
Prerequisite: Mathematics 201. An introduction to some of the fundamental ideas of abstract mathematics.
- 301 Differential Equations (3)**
Prerequisite: Mathematics 201. Common types of ordinary differential equations, including many applied problems, operational methods. Brief introduction to partial differential equations, boundary value problems.
- 303 Applied Mathematical Analysis I (3)**
Prerequisite: Mathematics 201. Topics selected from advanced calculus, in particular vector analysis, line and surface integrals, Jacobians; and topics selected from complex analysis, in particular analytic functions, integration, power series, residue theory, conformal mapping. May not be taken for credit in addition to Mathematics 310 and may not be used to fulfill the analysis requirement for a mathematics major.
- 304 Applied Mathematical Analysis II (3)**
Prerequisite: Mathematics 301 and Mathematics 303 or 310. Fourier series, integrals and transforms, applications to boundary value problems in partial differential equations, Bessel functions, Legendre, Laguerre and Hermite polynomials.
- 310 Advanced Calculus I (3)**
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.
- 311 Advanced Calculus II (3)**
Prerequisite: Mathematics 310. Continuation of Mathematics 310.
- 316 Functions of a Complex Variable (3)**
Prerequisite: Mathematics 310. Complex numbers and their geometrical representation, point sets, analytic functions of a complex variable, complex integration, Taylor and Laurent series, Residue Theorem, conformal mapping.
- 320 Mathematical Statistics (3)**
Prerequisite: Mathematics 250 or consent of department. Introduction to theory of probability and statistics using concepts and methods of the calculus.

- 323 **Numerical Analysis (3)**
Prerequisite: Mathematics 201. Finite differences, numerical differentiation, integration, solution of equations and differential equations. Special reference to use of high speed computers.
- 335 **Theory of Numbers (3)**
Prerequisite: Mathematics 250 or consent of department. Properties of the integers, multiplicative functions, congruences, primitive roots, quadratic residues.
- 340 **Introduction to Abstract Algebra (3)**
Prerequisite: Mathematics 250 or consent of department. Introduction to theory of groups, rings, integral domains, fields and polynomials over a field.
- 341 **Linear Algebra and Matrices (3)**
Prerequisite: Mathematics 250 or consent of department. A brief introduction to groups, vector spaces, matrices, determinants, bilinear and quadratic forms and quadratic forms under groups.
- 350 **Special Readings (credit arranged)**
Prerequisite: Mathematics 250 and consent of instructor.
- 358 **Mathematical Logic (3)**
Prerequisite: Mathematics 250 or 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.
- 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.
- 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.
- 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.
- 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.
- 410 **Theory of Functions of a Real Variable (3)**
Prerequisite: Mathematics 310. The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory.

- 448 **Topics in Algebra (3)**
Prerequisite: Mathematics 340 and 341 and consent of department. Topics selected from the areas of groups, rings, fields, algebras and other algebraic systems. May be taken more than once for credit with consent of department.

MILITARY SCIENCE

The courses in this department make up the Army ROTC program designed to qualify for commissions those male students who desire to serve in the United States Army. All of the following courses are held on the campus of Washington University in St. Louis. (For enrollment information see page 30) Course credit indicated is for two semesters or one full year enrollment in the course.

- MS 101-102 Fundamental Concepts of United States Military Forces (2)**
Acquaints the freshman with fundamental concepts of the structure and roles of the U.S. Army and their application to current affairs; introduces basic principles of leadership through practical laboratory work. A small-bore rifle range is used to familiarize each student with military small arms, safety and marksmanship fundamentals. Three class hours and one leadership laboratory per week.
- MS 201-202 Development of United States Military Power and Tactics (2)**
Prerequisite: MS 101-102 or equivalent. Instruction in the military development of the United States and related topics; analysis of terrain maps and aerial photographs; small unit operations and tactical employment and leadership. Three class hours and one leadership laboratory per week.
- MS 301-302 Applied Military Science I: Command Concepts, Development and Responsibilities (6)**
Prerequisite: MS 201-202 or equivalent and selection by the Military Department. Instruction in functional roles of the military leader and instructor; officer specialization; exercise of command; solution of advanced tactical problems. All topics stress practical application of principles, concepts and knowledge and development of individual command-leadership abilities. Three class hours and one leadership laboratory per week and, during either the first or second semester, concurrent enrollment in a department-approved, University-taught three-unit course.
- MS 401-402 Applied Military Science II: Officer Development (6)**
Prerequisite: MS 301-302. Completes the development of the cadet for entry into active duty as a commissioned officer. Includes study of Army administration, military operations, logistics, military law, service orientation, and the role of the United States in world affairs. Cadets conduct leadership laboratory classes for MS 101-102 and 201-202. Three class hours and one leadership laboratory per week, and, during either the first or second semester, concurrent enrollment in a department-approved, University-taught, three-unit course.

AIR FORCE AEROSPACE STUDIES

The courses in AF Aerospace Studies make up the Air Force ROTC program designed to qualify for commission those male students who desire to serve as officers in the United States Air Force. All of the following courses are held on the campus of Washington University in St. Louis. (For enrollment information see page 30.) Course credit indicated is for two semesters or one full year enrollment in the course.

AS 301-302 and AS 401-402 comprise the complete two-year institutional phase of the AFROTC program. Students desiring the Air Force commission should attend a six-week field training camp during the summer before enrolling in AS 301. Application for field training may be directed to any professor of AF Aerospace Studies during the fall or early spring prior to the summer in which the training will be taken. Applicants must have two years of graduate or undergraduate school remaining after attending summer camp.

AS 301-302 Growth and Development of Aerospace Power (6)

Prerequisite: Six weeks of field training. Survey course on the nature of war; development of air power in the United States; mission and organization of the Defense Department; Air Force concepts, doctrine and employment; astronautics and space operations; future development of aerospace power, including problems in space exploration. Three class hours per week.

AS 401-402 The Professional Officer (6)

Prerequisite: AS 301-302. A study of the meaning and responsibilities of professionalism; the Military Justice System; theory, function and discipline of leadership principles, functions and tools of management, with special attention to problem solving and communication. Future Air Force pilots are given 36½ hours of free flying instruction in light aircraft. Three class hours per week.

MUSIC

Prerequisites may be waived by consent of department.

Applied Music

45, 46 (1)

115, 116, 135, 155, 156 (2)

Credit shall be granted for applied study in the following areas: baritone, bassoon, clarinet, flute, french horn, oboe, organ, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, violoncello and voice.

14, 15, 16 Piano Proficiency Class (1)

Prerequisite: Permission of the department. Group instruction for those who intend to be music majors and who do not meet minimum keyboard requirements. Two class periods per week.

17 Secondary Applied Music Class (1)

Prerequisite: Permission of the department. Performance, teaching techniques and materials for the various performance media. Two class periods per week.

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|----------------|----------------|----------------|
| a. Bassoon | g. Piano | m. Viola |
| b. Clarinet | h. Saxophone | n. Violin |
| c. Flute | i. String Bass | o. Violoncello |
| d. French Horn | j. Trumpet | p. Voice |
| e. Oboe | k. Trombone | |
| f. Percussion | l. Tuba | |

40 University Chorus (1)

Prerequisite: Consent of instructor. Preparation and performance of choral masterpieces.

41 The Missouri Singers (1)

Prerequisite: Consent of instructor. The study and performance of music for vocal chamber ensemble.

50 University Orchestra (1)

Prerequisite: Consent of instructor. Study, preparation and performance of orchestral repertory.

52 University Band (1)

Prerequisite: Consent of instructor. Study, preparation and performance of literature for the wind ensemble and band.

60 Collegium Musicum (1)

Prerequisite: Consent of instructor. Performance of music for chamber ensemble with particular emphasis on the Renaissance and Baroque Periods.

Music History, Literature, Theory

Prerequisites may be waived by consent of department.

1 Introduction to Music (3)

An historically oriented study of music, its styles and its forms from the Middle Ages to the present day. This course will not apply toward requirements for a music major.

2 Introduction To Symphonic Music (3)

Orchestral music from the Baroque era to the present time; concerto grosso and suite; program music; the symphony. This course will not apply toward requirements for a music major.

3 Theory of Music (3)

Basic vocabulary: scales, intervals, triads and seventh chords. Techniques of analyzing and writing music. Systematic instruction in ear training, sight-singing, and melodic, rhythmic and harmonic aspects of music-reading.

4 Theory of Music (3)

Prerequisite: Music 3 or consent of department. Continuation of Music 3.

5 Introduction to Non-Western Music (3)

A survey of the music of the Asian and African continents, with emphasis upon the function of music in the various cultures.

- 101 History of Western Music (3)**
Prerequisite: Music 3 or consent of department. A general survey of the history of Western music. Includes the evolution and development of styles and forms.
- 102 History of Western Music (3)**
Prerequisite: Music 3 or consent of department. Continuation of Music 101.
- 111 Theory of Music (3)**
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 form.
- 112 Theory of Music (3)**
Prerequisite: Music 111 or consent of department. Continuation of Music 111.
- 121 Form and Analysis (2)**
Prerequisite: Music 112. Study of basic musical forms and structures.
- 122 Form and Analysis (2)**
Prerequisite: Music 121. Emphasis upon the larger musical forms. Introduction of contemporary structure.
- 134 Introduction to the Theory of Music (2)**
An introductory course in the rudiments of music, specifically designed to meet the needs of the elementary classroom teacher. Systematic training in the fundamentals of music and their application. The course will not apply toward requirements for a music major.
- 137 Elementary School Music (2)**
Prerequisite: Music 134 or consent of department. Basic musical preparation for all students preparing for elementary school teaching. Development of the elementary school music program, with emphasis on selection of music and methods of teaching music to children. This course will not apply toward requirements for a music major.
- 141 Orchestration (2)**
Prerequisite: Music 112. Scoring for various instrumental ensembles including full orchestra; score analysis.
- 151 Conducting (2)**
Prerequisite: Music 112 or consent of department. Techniques and problems in conducting. Discussion and study of musical terminology. Rehearsal procedures for vocal and instrumental organizations.
- 160 Music in the Elementary School (3)**
Prerequisite: Music 112 or consent of department. Creating a musical environment in the classroom. The child voice in singing; development of rhythmic and melodic expression; rote songs; part singing; directed listening; utilization of notational elements; analysis of instrumental materials.

- 162 Music in the Secondary School (3)**
Prerequisite: Music 112 or consent of department. Curriculum organization and administration of secondary school music classes. The adolescent voice; general music class; vocal and instrumental literature; music theory and music literature classes.
- 180 Practice Teaching in Music (6)**
Prerequisite: Consent of the department. Observation and teaching in the elementary or secondary school under University supervision.
- 192 Senior Readings (3)**
Prerequisite: Consent of department. Required of all senior music majors. Directed readings and research in an area mutually acceptable to the student and instructor.
- 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*.
- 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.
- 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.
- 324 Music of the Classical 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.
- 325 Music of the Romantic Period (3)**
Prerequisite: Music 102 or consent of department. Composers, forms and styles from Beethoven through the early twentieth century. Late eighteenth century background of romantic music, nationalistic currents.
- 326 Music of the Twentieth Century (3)**
Prerequisite: Music 102 or consent of department. A detailed study of trends in contemporary music. Impressionism, serial composition, neo-classicism, electronic music, and other recent techniques.
- 351 Advanced Conducting (2)**
Prerequisite: Music 151 or consent of department. Advanced study of conducting and rehearsal techniques, score reading and interpretation.
a. Instrumental
b. Choral

PHILOSOPHY

Prerequisites may be waived by consent of department.

- 50 **Major Questions in Philosophy (3)**
A study and discussion of representative issues in philosophy, such as freewill and determinism, relations of mind and body, the basis of value judgments, models of knowledge and belief and the possibility of constructing a world view.
- 60 **Logic and Language (3)**
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.
- 101 **Approaches to Ethics (3)**
Prerequisite: Freshmen admitted by consent of department. Traditional and contemporary approaches to an understanding of moral choice and appraisal, the conditions of moral conduct and relations between individual and social ethics.
- 102 **Philosophy of Religion (3)**
Prerequisite: Freshmen admitted by consent of department. A philosophical investigation of problems posed by religion, such as the nature of religious faith and experience, the relation of faith and reason, alternative concepts of deity and the problem of evil.
- 105 **Philosophical Ideas in Literature (3)**
Prerequisite: Freshmen admitted by consent of department. Critical reading and discussion of selected literary works in terms of the philosophical problems they present.
- 160 **Formal Logic (3)**
Prerequisite: Freshmen admitted by consent of department. An introductory formal study of deductive inference. Emphasis is placed on the logical structure of language and construction of proofs.
- 170 **Asian Philosophy (3)**
Prerequisite: Freshmen admitted by consent of department. Critical study of selected philosophical classics of India and China.
- 201 **Ancient Philosophy (3)**
Prerequisite: Freshmen admitted by consent of department. The principal philosophical doctrines of the ancient world, with special emphasis on the philosophies of Plato and Aristotle.
- 202 **Medieval and Renaissance Philosophy (3)**
A critical study of the most important philosophies of the period from Augustine to the Renaissance.
- 203 **Early Modern Philosophy (3)**
Principal figures in the development of rationalism, empiricism and skepticism in early modern Europe, from Descartes to Kant.
- 204 **Nineteenth Century Philosophy (3)**
A study of the conflict of idealistic, materialistic, utilitarian and irrationalist philosophies of the nineteenth century, from Kant to J.S. Mill and from Hegel to Nietzsche.

- 205 **Twentieth Century Philosophy (3)**
The major issues and trends in contemporary philosophy, presented through selected readings from pragmatism, logical positivism, process philosophy, linguistic analysis and existentialism.
- 220 **Problems in the Philosophy of Education (3)**
A critical study and discussion of selected issues in education, including the distinctive features of education as an activity and achievement, the concepts of teaching and learning, relations between education and values, and the functions of a university.
- 225 **Philosophy of Art (3)**
A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, taste and appreciation and the criticism of art.
- 230 **Social and Political Philosophy (3)**
A systematic analysis of concepts and norms which relate to the theory and practice of political societies. Among the concepts and norms considered are those of community, political authority, freedom and personal rights, equality and social justice, welfare and collective preference.
- 250 **Philosophy of Science (3)**
An examination of logical and methodological problems related to the sciences, including the structure of scientific explanations, laws and theories; methods of concept formation; and confirmation and the problem of induction.
- 260 **Philosophy of History (3)**
A critical analysis of concepts and methods characteristic of the study of history. Among the topics considered are historical explanation, objectivity, causation, significance and concepts of historical trends and patterns.
- 265 **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 assigning responsibility and punishment.
- 269 **The Marxist Heritage (3) (Same as Political Science 269 and Economics 269)**
An interdisciplinary study of Marx and leading Marxists, designed to evaluate their influence on recent political, economic and social thought and institutions.
- 301 **Plato and Neo-Platonism (3)**
An intensive study of Plato's writings, with special emphasis on his ethics, theory of knowledge, and metaphysics, and of selected philosophers on whom Plato has had a significant influence.
- 302 **Aristotle and His Influence (3)**
A detailed critical study of Aristotle's metaphysics, physics, psychology and ethics, together with an attempt to assess his influence on later philosophy.

- 305 **Modern Rationalism (3)**
An examination of rationalism as a modern philosophical tradition, and especially its classical formulations by Descartes, Spinoza and Leibniz.
- 306 **British Empiricism (3)**
An investigation of the sources of empiricism as a philosophy, its classical development by Locke, Berkeley and Hume, and a few of its more recent manifestations.
- 307 **Kant's Philosophy and the Modern World (3)**
The critical idealism of Kant, with special emphasis on his theory of knowledge and moral philosophy. A study of Kant's impact on epistemology, ethical theory and recent conceptions of science and mathematics.
- 308 **Hegel and the Idealist Tradition (3)**
Absolute idealism as developed by Hegel and his followers. Detailed study of Hegel's metaphysics and theory of knowledge, together with an exploration of his influence on other thinkers of the past and present.
- 310 **Pragmatism (3)**
An intensive study of pragmatism as developed by Peirce, James, Dewey and other contemporary proponents.
- 315 **Existentialism and Phenomenology (3)**
Critical study of the major existentialist philosophers from Kierkegaard to the present, together with the phenomenology of Husserl and his followers.
- 318 **Philosophy of Mind (3)**
Analysis of mental concepts, such as consciousness, perception, action and intention, as a basis for understanding the relation between mind and body, the basis of personal identity and knowledge of other minds.
- 320 **Theories of Knowledge (3)**
An examination of concepts and problems involved in the characterization and appraisal of knowledge. Specific topics will vary, but will include scientific and common sense knowledge, belief, perception, memory, truth and necessity. Both traditional and contemporary philosophers will be read and discussed.
- 321 **Metaphysics (3)**
A critical examination of selected metaphysical questions—such as substance, universals, causality, necessity, space and time, freewill, being and identity—as they are treated in the writings of one or more philosophers.
- 325 **Recent Ethical Theory (3)**
An intensive study of major contributions to twentieth century ethics, including works by Moore, Dewey, Ross, Stevenson and Hare.
- 330 **Philosophy of Language (3)**
A systematic analysis of language and its uses, meaning and its various modes, definition, metaphor and symbolism.
- 335 **Philosophical Issues in the Social Sciences (3)**
A detailed analysis of issues raised by the social sciences, including the logical characterization of explanations, predictions, laws and theories; types of reductionism; and objectivity, values and the empirical basis of the social sciences.

- 350 **Special Readings (credit arranged)**
Prerequisite: Consent of instructor. Independent study through readings, reports and conferences.
- 360 **Advanced Formal Logic (3)**
Prerequisite: Philosophy 160 or consent of instructor. Rigorous study of major developments in a variety of contemporary logical systems. Emphasis is given to theoretical problems in logic, and some attention to philosophical issues arising from logic.
- 391 **Senior Thesis (3-6)**
Prerequisite: Consent of department. Directed individual research and thesis for qualified senior majors. At least six hours are required for departmental honors in philosophy. May be repeated, but no more than nine hours may be credited toward a degree.

PHYSICS

Prerequisites may be waived by consent of department.

- 1 **Foundations of Modern Physical Theory (3)**
Prerequisite: Mathematics 03 or equivalent. An introduction to fundamental principles underlying the foundations of physics. Recommended for any student interested in physics, with special sections designed for elementary education majors. Five hours multi-media per week.
- 2 **Applications of Modern Physical Theory (3)**
Prerequisite: Physics 1. Continuation of Physics 1 designed for students who plan to pursue a career in medicine or in one of the medically-oriented professions. No credit for students majoring in physics or chemistry. Three hours lecture plus one hour discussion per week.
- 3 **Demonstration Experiments in Physical Theory (2)**
Prerequisite: Physics 1 (may be taken concurrently). Laboratory course designed to accompany Physics 1. No credit for students majoring in physics and chemistry. Four hours laboratory per week.
- 10 **Experimentation in Physics (2)**
Prerequisite: Mathematics 12. Laboratory course designed to help the student discover how experimental techniques may be used to obtain meaningful information about nature. One hour lecture and two hours laboratory per week.
- 15 **Introductory Physics Laboratory (2)**
Prerequisite: Physics 10, 111 (Physics 111 may be taken concurrently). Set of experiments selected from certain areas of physics, utilizing the methods developed in Physics 10. Four hours laboratory per week.
- 101 **Elementary Electronics I (3)**
Prerequisite: Physics I (may be taken concurrently). 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 of laboratory per week.

- 102 Elementary Electronics II (3)**
Prerequisite: Physics 101. Continuation of Physics 101. Six hours laboratory per week.
- 111 Elementary Theoretical Physics I (3)**
Prerequisite: Physics 1 and Mathematics 80 or 101. A survey of the main areas of theoretical physics using elementary mathematical techniques. Three hours lecture plus one hour discussion per week.
- 112 Elementary Theoretical Physics II (3)**
Prerequisite: Physics 111 and Mathematics 175 or 101. Continuation of Physics 111. Three hours lecture plus one hour discussion per week.
- 180 Methods of Teaching Physics in Secondary Schools (3)**
Prerequisite: Education 163 and a near-major in the subject area. A study of the scope and sequence of the science course 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.
- 200 Survey of Theoretical Physics (3)**
Prerequisite: Physics 111 or Physics 2 and Mathematics 201. A survey of the main areas of theoretical physics using relatively elementary mathematical techniques, including classical mechanics, electricity and magnetism, quantum mechanics, relativity and statistical mechanics. Three hours lecture per week.
- 211 Intermediate Physics Laboratory I (1)**
Prerequisite: Physics 112. Experiments covering topics in classical and quantum physics with emphasis on experimental accuracy and modern laboratory techniques. Four hours laboratory per week.
- 212 Intermediate Physics Laboratory II (1)**
Prerequisite: Physics 112. Experiments covering topics in classical and quantum physics with emphasis on experimental accuracy and modern laboratory techniques. Four hours laboratory per week.
- 215 Electronic Instrumentation I (1-3)**
Prerequisite: Physics 102 and consent of department. Special topics in electronic instrumentation selected through consultation between student and instructor. Hours arranged.
- 216 Electronic Instrumentation II (1-3)**
Prerequisite: Physics 102 and consent of department. Special topics in electronic instrumentation selected through consultation between student and instructor. Hours arranged.
- 221 Mechanics (3)**
Prerequisite: Mathematics 301 and Physics 112 (Mathematics 301 may be taken concurrently). 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.

- 223 Electricity and Magnetism (3)**
Prerequisite: Physics 301 (may be taken concurrently). Electromagnetic fields, including electrostatics, dielectric materials, solution to Laplace's equation, currents and magnetic fields, motion of charged particles, introduction to electromagnetic waves. Three hours lecture and one hour discussion per week.
- 225 Physical Optics (3)**
Prerequisite: Physics 112. A basic study of light: interference, diffraction, crystal optics, reflection scattering and light quanta. Three hours lecture and one hour discussion per week.
- 231 Introduction to Modern Physics (3)**
Prerequisite: Physics 111. Introduction to modern physics for physics majors and students in other departments. Relativity, radiation and quanta, atomic and nuclear physics. Three hours lecture and one hour discussion per week.
- 241 Thermal and Statistical Physics (3)**
Prerequisite: Physics 221. Introduction to statistical mechanics, laws of thermodynamics, kinetic theory. Three hours lecture and one hour discussion per week.
- 281 Directed Readings in Physics (credit arranged)**
Prerequisite: Physics 111 and Physics 231 (Physics 231 may be taken concurrently). A study of the literature of Physics. A paper is required on an approved topic. Hours arranged.
- 282 History of Physics (3)**
Prerequisite: Physics 111 and Physics 231. A study of the historical evolution of Physics. Three hours lecture per week.
- 289 Seminar (1)**
Presentation of selected papers by students and faculty members at weekly departmental meetings. May be taken twice for credit.
- 290 Research (credit arranged)**
Prerequisite: Consent of department. Independent physics research projects arranged between student and instructor. Hours arranged.
- 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; integral equations. Three hours lecture and one hour discussion per week.
- 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.
- 311 Advanced Physics Laboratory I (1-3)**
Prerequisite: Physics 211, 212, 221 and 223. Physics majors are introduced to the experimental techniques used in research. A student may be given a special problem or assigned to an existing research project. Hours arranged.

- 312 **Advanced Physics Laboratory II (1-3)**
Prerequisite: Physics 211, 212, 221 and 223. Physics majors are introduced to the experimental techniques used in research. A student may be given a special problem or assigned to an existing research project. Hours arranged.
- 321 **Dynamics (3)**
Prerequisite: Physics 221, Mathematics 301. Theory of small oscillation, perturbation methods, Lagrange's equations, Hamilton's equations, canonical transformations, Hamilton-Jacobi theory. Three hours lecture and one hour discussion per week.
- 323 **Electromagnetic Theory (3)**
Prerequisite: Physics 301, 223. Maxwell's equations, reflection and refraction, guided waves, radiation of electromagnetic waves, and electromagnetic fields of moving charges. Three hours lecture and one hour discussion per week.
- 331 **Introduction to Quantum Mechanics (3)**
Prerequisite: Physics 301, 321, 323, 341 (Physics 323 may be taken concurrently). 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.
- 333 **Astrophysics I (3)**
Prerequisite: Physics 221, 223, 231. Applications of basic physical principles to investigation of sun, planetary systems, stars, galaxies and interstellar matter. Three hours lecture and one hour discussion per week.
- 334 **Astrophysics II (3)**
Prerequisite: Physics 333. Continuation of Physics 333. (Will not be offered until 1970-1971.) Three hours lecture and one hour discussion per week.
- 335 **Atomic and Nuclear Physics (3)**
Prerequisite: Physics 331. Applications of Schrodinger's equation to hydrogen-like atoms, atomic structure and spectra; nuclear masses, energy levels; alpha, beta and gamma radiation, nuclear reactions, models of the nucleus. Three hours lecture and one hour discussion per week.
- 341 **Statistical Thermodynamics (3)**
Prerequisite: Physics 321 (may be taken concurrently). An introduction to ensemble theory applied to systems in equilibrium. Applications include Fermi-Dirac and Einstein-Bose statistics; specific heats of solids. Three hours lecture and one hour discussion per week.
- 351 **Elementary Solid State Physics (3)**
Prerequisite: Physics 331. Theoretical and experimental aspects of solid state physics, including one-dimensional band theory of solids; electron emission from metals and semiconductors; electrical and thermal conductivity of solids. Three hours lecture and one hour discussion per week.

ASTRONOMY

The following courses carry credit through the Department of Physics, University of Missouri - St. Louis. All courses in astronomy are offered at the McDonnell Planetarium.

- 1 **General Astronomy I (3)**
Prerequisite: Mathematics 03 or equivalent. Study of earth structure, earth motions, the moon, planets, asteroids, comets, meteors, the sun and stars. Origin and evolution of the solar system. History of astronomy from ancient times to present day. Planetarium observing session to be announced.
- 2 **General Astronomy II (3)**
Prerequisite: Mathematics 03 or equivalent. (General Astronomy I is *not* a prerequisite.) A further study of general astronomy. Topics include multiple stars, variable stars, star clusters and associations, interstellar media, galaxies, cosmologies, the evolution of stars and the probability of life in the galaxy. Observing session.
- 11 **Introduction to Astronomy I (4)**
Prerequisite: Mathematics 175, Physics 111 and Physics 15. An introduction to modern concepts of the physical nature of the astronomical universe. Topics to include instruments, stars, sun, nebula, star clusters, galaxies, various objects that make up the solar system and their motion. Designed to allow a student to continue a study of astronomy.
- 12 **Introduction to Astronomy II (4)**
Prerequisite: Mathematics 175, Physics 111 and Physics 15. Introduction to Astronomy I. A continuation of Introduction to Astronomy I.
- 222 **Introduction to Celestial Mechanics I (3)**
Prerequisite: Mathematics 301 (or concurrent registration). Topics include vectorial mechanics, central force motion, orbit determination, introduction to the digital computer, earth satellite theory.
- 223 **Introduction to Celestial Mechanics II (3)**
Prerequisite: Mathematics 301 (or concurrent registration) and Introduction to Celestial Mechanics I (or consent of instructor). A continuation of Introduction to Celestial Mechanics I.

POLITICAL SCIENCE

Prerequisites may be waived by consent of department.

UNGROUPEd COURSES

- 11 **Government in Modern Society (3)**
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.
- 12 **Government in Modern Society (3)**
Prerequisite: Political Science 11. Continuation of Political Science 11. Application of basic concepts of government in modern society, with special emphasis on the United States. Course fulfills the state requirement.

- 99 **The City (3)** (Same as Economics 99, History 99, Psychology 99 and Sociology 99)
Prerequisite: 12 hours of college credit. 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.
- 190 **Political Science Readings (credit arranged)**
Prerequisite: Political Science 11, consent of instructor and junior standing. Readings on topics mutually acceptable to student and instructor.
- 192 **Senior Readings (3)**
Prerequisite: Consent of department. Directed readings of selected contemporary literature in the discipline.
- 193 **Senior Seminar (3)**
Prerequisite: Consent of department. Directed reading and research, one product of which shall be a formal paper.
- 390 **Special Readings (credit arranged)**
Prerequisite: Consent of instructor. Independent study through readings, reports and conferences.

GROUP I: PUBLIC LAW

- 320 **Introduction to American Constitutional Law (3)**
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.
- 321 **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.
- 323 **The Judicial Process (3)**
Prerequisite: Political Science 11. Analysis of the role of the judiciary in policy formation.
- 325 **Jurisprudence (3)**
Prerequisite: Political Science 11. 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; contributions and influence of schools of legal thought in relation to law and government.

GROUP II: POLITICAL PROCESS

- 315 **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.

- 331 **Legislative Process (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.
- 335 **Political Parties (3)**
Prerequisite: Political Science 11. Development, organization, functions, activities of major and minor political parties; pressure groups, elections administration, especially in the United States. Course fulfills the state requirement.
- 336 **Interest Groups (3)**
Prerequisite: Political Science 11. Examination of the basis of power and methods of interest groups and of the points of access to and influence on public policy. Attention is given to the problems of defining power and comparing the behavior of groups with their statements of interest.
- 337 **Public Opinion and Communications (3)**
Prerequisite: Political Science 11. Analysis of the methodology and techniques of public opinion formation and the role of public opinion in the American political system. Communications is examined as a tool of opinion makers.
- 338 **Political Behavior (3)**
Prerequisite: Political Science 11. Economic, psychological and social dimensions of political behavior, political participation, leadership and elites; political attitudes; voting behavior and decision making processes.

GROUP III: PUBLIC ADMINISTRATION

- 340 **Public Administration (3)**
Prerequisite: Political Science 11. Survey of public administration, with reference to organization, financial administration, personnel management, judicial control of the administrative process.
- 343 **Public Policy and the Administrative Process (3)**
Prerequisite: Political Science 11. Analysis of the formulation of public policies through the administrative process.
- 345 **Business and Government (3) (Same as Economics 355)**
Prerequisite: Economics 51. Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines and competition considered.
- 377 **Municipal Administration (3) (See Group VI)**

GROUP IV: COMPARATIVE POLITICS

- 150 **European Comparative Politics (3)**
Prerequisite: Political Science 11. Examination of theoretical approaches to the study of political systems and a study of selected foreign political systems with primary emphasis upon west European democratic systems.
- 255 **Asian Comparative Politics (3)**
Study of the political systems of Asia including China, Japan, India and Southeast Asia. Emphasis on the non-Western political process. Course fulfills the non-Western requirement.

- 352 **The Politics of Modernization (3)**
Prerequisite: Political Science 11. Analysis of the dimensions and problems of modernization and the role of political systems, with primary emphasis on African nations. Course fulfills the non-Western requirement.
- 353 **Soviet Political System (3)**
Prerequisite: Political Science 11. 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, bureaucratization of social, economic and cultural life.

GROUP V: THEORY AND METHODOLOGY

- 261 **History of Political Thought (3)**
Study of political philosophy from Plato to Machiavelli.
- 262 **History of Political Thought (3)**
Study of political philosophy from Machiavelli to the present.
- 269 **The Marxist Heritage (3) (Same as Philosophy 269 and Economics 269)**
An interdisciplinary study of Marx and leading Marxists, designed to evaluate their influence on recent political, economic and social thought and institutions.
- 300 **Empirical Political Theory (3)**
Prerequisite: Political Science 11. Consideration of the elements of scientific method: scientific method and social phenomena; critics of the scientific approach in political science, nature and logic of explanatory theories, such as systems theory, structural-functional analysis and deductive theories.
- 301 **Positive Models and Theories of Strategy (3)**
Prerequisite: Political Science 11. An introduction to utility theory, model building, game theory and political man as a rational decision-maker. Special emphasis is given to the consideration of work dealing with strategies of bargaining and voting procedures.
- 360 **American Political Thought (3)**
Prerequisite: Political Science 11. Development of political thought in America from colonial period to contemporary scene.
- 365 **Normative Political Philosophy (3)**
Prerequisite: Political Science 11. Analysis of the concepts of justice, liberty, equality, power and authority in political philosophy. Theories of revolution. General consideration of problems in normative political philosophy.
- 366 **Utopian Political Thought (3)**
Prerequisite: Political Science 11 or consent of instructor. Study of the utopian tradition in the history of political thought. Particular emphasis on utopian socialism, the communitarian movement and contemporary anti-utopian thought.

GROUP VI: URBAN AND REGIONAL POLITICS

- 170 **State and Local Government (3)**
Prerequisite: Political Science 11 or consent of instructor. Origin, development and problems of state and local government in the American federal system, including the role of the United States Constitution as the framework for the federal system. Survey of the organization, functions and operation of state and local governments in the United States. Course fulfills both the state requirement and the state teacher certification requirement.
- 375 **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.
- 376 **Community Politics (3)**
Prerequisite: Political Science 11. Examination of the structure and processes of politics in the urban community, with emphasis on their relationships to community power structures. Course fulfills the state requirement.
- 377 **Municipal Administration (3)**
Prerequisite: Political Science 11. Study of administrative organization and problems at the municipal level.
- 379 **The Socio-Political Nature of Urban Regions (3) (Same as Sociology 379)**
Prerequisite: Political Science 170 or 376 or Sociology 316. An interdisciplinary seminar providing the student with an opportunity to develop an understanding of the modern metropolis through the perspectives of sociology and political science.

GROUP VII: INTERNATIONAL RELATIONS

- 180 **World Politics (3)**
Prerequisite: Political Science 11. Analysis of politics among nations: imperialism, balance of power, international morality, sovereignty, diplomacy; analysis of the problem of peace, disarmament, international organizations, world government.
- 380 **International Politics: Theory and Process (3)**
Prerequisite: Political Science 180 or consent of instructor. Examination of the principal theories of international politics, focusing especially upon the processes of international political behavior, including coalition-formation, negotiation and bargaining and integration and community-building.
- 382 **United States Foreign Policy (3)**
Prerequisite: Political Science 11. Examination of the factors influencing the formation and the execution of United States foreign policy and of specific contemporary foreign policies and problems.
- 385 **International Organization (3)**
Prerequisite: Political Science 11. Forms and functions of international organizations, with special reference to the United Nations and problems of international integration.

PSYCHOLOGY

Prerequisites may be waived by consent of department.

- 1 **General Psychology (3)**
A survey of the facts, principles and methods in the study of human behavior.
- 2 **General Psychology (3)**
Prerequisite: Psychology 1. Continuation of Psychology 1.
- 99 **The City (3) (Same as History 99, Political Science 99, Sociology 99 and Economics 99)**
Prerequisite: 12 hours of college credit. 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.
- 150 **The Psychology of Individual Differences (3)**
Prerequisite: Psychology 2. 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 infra-human species will be considered.
- 160 **Social Psychology (3) (Same as Sociology 160)**
Prerequisite: Psychology 2 or Sociology 2. Study of the interaction between the individual and his social environment. Examination of basic principles, concepts, methods.
- 192 **Senior Readings (3)**
Prerequisite: Consent of department. Required for all senior psychology majors. Directed reading and research, one product of which shall be a formal paper.
- 193 **Senior Seminar (3)**
Prerequisite: Consent of department. Required for all senior psychology majors. Directed readings and research, one product of which shall be a formal paper.
- 201 **Psychological Statistics (4) (with laboratory)**
Prerequisite: Psychology 2, Mathematics 10 (may be taken concurrently). Statistical methods in psychological measurement, analysis of psychological data, frequency distribution analysis, sampling, tests of significance, correlational methods.
- 212 **Principles of Learning (3)**
Prerequisite: Psychology 2. A consideration of critical findings in learning.
- 215 **Psychology of Perception (3)**
Prerequisite: Psychology 2. Classical and current problems in psychophysics, sensory physiology and the development and comparative psychology of sensory processes.
- 270 **Child Psychology (3)**
Prerequisite: Psychology 2. Principles of biological, behavioral and personality development from conception to puberty.

- 271 **Adolescent Psychology (3)**
Prerequisite: Psychology 2. Principles of biological, behavioral and personality development from puberty to maturity.
- 290 **Psychology Readings (3)**
Prerequisite: Psychology 2 and consent of instructor. Readings on a topic mutually acceptable to student and instructor.
- 301 **Advanced Statistics and Experimental Design (3)**
Prerequisite: 12 hours of psychology, including Psychology 201. Statistical methods particularly useful in psychological research and the design of experiments appropriate to these methods.
- 310 **Motivation Theory (3)**
Prerequisite: 12 hours of psychology. Survey of current theoretical material in the area of motivation.
- 313 **The Psychology of Exceptional Children (3) (Same as Education 313)**
Prerequisite: Education 102 and either Psychology 270 or Psychology 271. A study of the special psychological and educational problems of the child who deviates from the normal.
- 314 **Physiological Psychology (3)**
Prerequisite: 12 hours of psychology and Biology 11 and 12. Critical consideration of the biological determinants of behavior with particular emphasis on the nervous and endocrine systems.
- 315 **Personality Theory (3)**
Prerequisite: 12 hours of psychology. Structural and dynamic aspects of the human personality considered in the context of selected theoretical systems.
- 318 **Industrial Psychology (3) (Same as Business 318)**
Prerequisite: Psychology 201 or equivalent or Business 310. Activities of the applied psychologist. Selection and placement, testing and interviewing, personnel research, morale, motivation, and job satisfaction. Leadership skills and styles; creative management; industrial mental health. Psychology in advertising and marketing.
- 319 **General Experimental Psychology (3) (with laboratory)**
Prerequisite: Psychology 201. Study of various classical areas in psychology including reaction time, psychophysics, perception, psychomotor skills and autonomic reactions.
- 320 **General Experimental Psychology (3) (with Laboratory)**
Prerequisite: Psychology 319. Continuation of Psychology 319.
- 328 **Personality and Culture (3) (Same as Sociology 328)**
Prerequisite: Sociology 160. Analysis of behavior from the standpoint of interaction between psychological systems, sociological systems and cultural systems.
- 345 **Abnormal Psychology (3)**
Prerequisite: 12 hours of psychology. Etiology and description of certain symptom complexes commonly found in the mentally ill, with a consideration of selected therapeutic procedures.

- 350 **Special Readings (credit arranged)**
Prerequisite: Consent of instructor. Independent study through readings, reports and conferences.
- 356 **Cognitive Processes (3)**
Prerequisite: 12 hours of psychology. Evolution of contemporary approaches to the higher mental functions. Analyses of some of the psychological processes involved in association, memory, meaning, language and conceptual behavior.
- 357 **Psychology of Learning (4) (with laboratory)**
Prerequisite: Psychology 201 and 320. Lecture and laboratory in areas of human learning (verbal and motor skills). Primary emphasis on methodology.
- 358 **Comparative Psychology (4) (with laboratory)**
Prerequisite: Psychology 201 and 320. Methods and techniques in the investigation of learning processes in infra-human organisms.
- 361 **History and Systems of Psychology (3)**
Prerequisite: 12 hours of psychology. Historical antecedents of contemporary scientific psychology, including a survey of systems and schools of psychology.
- 365 **Psychological Tests and Measurements (3)**
Prerequisite: Psychology 2 and 201. Survey of psychological testing, including intelligence, aptitudes, interests and personality. Critical consideration of criteria of adequate tests and measurements.

RUSSIAN

Prerequisites in any language may be waived by consent of department.

- 1 **Elementary Russian (4)**
Acquisition of basic language skills. Presentation of the sound system, basic vocabulary and grammar. One hour language laboratory required.
- 2 **Elementary Russian (4)**
Prerequisite: Russian 1 or equivalent. Continuation of Russian 1. One hour language laboratory required.
- 101 **Intermediate Russian (3)**
Prerequisite: Russian 2 or equivalent. Further presentation of the structure of Russian; development of oral and aural skills; elementary composition; readings of simplified texts. One hour language laboratory required.
- 102 **Intermediate Russian (3)**
Prerequisite: Russian 101 or equivalent. Continuation of Russian 101. One hour language laboratory required.
- 104 **Scientific Russian (3)**
Prerequisite: Russian 101 or equivalent. Introduction to reading of selected Russian texts in the natural and social sciences. Designed primarily for majors in these areas. This course completes the language requirement for all science majors and may be substituted for language course 102.

- 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.
- 110 **Nineteenth Century Russian Literature in Translation (3)**
Readings of representative works drawn from the nineteenth century Russian literature up to 1845. Course to focus upon works of Pushkin, Lermontov, Gogol and Turgenev. Lectures and discussion. May be taken to fulfill humanities requirements.
- 111 **Nineteenth Century Russian Literature in Translation (3)**
Readings of representative works drawn from nineteenth century Russian literature after 1845. Course to focus upon works of Dostoyevsky, Tolstoy and Chekhov. Lectures and discussion. May be taken to fulfill humanities requirements.

SOCIOLOGY

Prerequisites may be waived by consent of department.

- 1 **Introduction to Sociology (3)**
Study of human behavior as related to the human group. Principal sociological concepts and theories.
- 2 **Introduction to Sociology (3)**
Prerequisite: Sociology 1. Continuation of Sociology 1. Application of basic sociological principles to the problems of contemporary society.
- 99 **The City (3) (Same as Economics 99, Psychology 99, Political Science 99 and History 99)**
Prerequisite: 12 hours of college credit. 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.
- 100 **Sociological Aspects of Social Work (3)**
Prerequisite: Sociology 1. An introduction to social work for students of sociology. Stress is placed upon uses of sociological theory, methods and research findings in various types of social service programs.
- 101 **Sociological Theory (3)**
Prerequisite: Sociology 2. The nature of sociological theory. A survey of theory from Comte through the Parsonian school. Required of sociology majors in sophomore or junior year.
- 102 **Research Methods (3)**
Prerequisite: Sociology 2. Research planning; the collection, analysis and presentation of data. Course includes practical experience in the conduct of a research project. Required of sociology majors in sophomore or junior year.
- 150 **Social Disorganization (3)**
May not be taken by students who have taken Sociology 2. Carries no credit toward a sociology major. A survey of contemporary social problems.

- 160 **Social Psychology (3) (Same as Psychology 160)**
Prerequisite: Psychology 2 or Sociology 2. Study of the interaction between the individual and his social environment. Examination of basic principles, concepts, methods.
- 192 **Senior Readings (3)**
Prerequisite: Consent of instructor. Readings and discussions covering specific areas of student interest. Course includes the planning phase for senior thesis. Required of sociology and anthropology majors in senior year.
- 193 **Senior Seminar (Thesis Research) (3)**
Prerequisite: Sociology 192. Completion of a major report dealing with a subject chosen through student-staff consultation. Periodic conferences with designated faculty. Required of sociology and anthropology majors in senior year.
- 200 **Advanced Principles (3)**
Analysis of the main concepts and principles of sociology, and survey of sociology as a social science.
- 301 **Quantitative Techniques in Sociology (3)**
Prerequisite: Three hours of sociology. An introduction to the rationale and use of quantitative techniques in sociology; techniques for collecting, analyzing and presenting social data in numerical form with emphasis on general descriptive techniques, contingency tables and measures of association.
- 310 **Social Stratification (3)**
Prerequisite: Sociology 1. Theories of social stratification and an examination of current research. Changes in the occupational and hierarchical structure of contemporary society.
- 311 **Criminology (3)**
Prerequisite: Sociology 1. Crime as a social phenomenon. The treatment of offenders. Theories of deviance and anti-social behavior.
- 312 **Juvenile Delinquency (3)**
Prerequisite: Nine hours of sociology. Delinquency viewed as a product of the society; the societal factors of apprehension, treatment and prevention.
- 313 **Sociology of Adolescence (3)**
Prerequisite: Nine hours of sociology. Cultural values and the social processes that help explain the development of the phenomenon of modern adolescence, including investigation of adolescent subcultures and cross-cultural references.
- 314 **Sociology and the Family (3)**
Prerequisite: Sociology 1. Universal and variable aspects of family organization. Family role systems. Changes in family social structure.
- 316 **Urban Sociology (3)**
Prerequisite: Sociology 1. Urbanism as a world phenomenon; ecological, demographic and structural characteristics of cities. The sociological aspects of urban problems.

- 320 **Medical Sociology (3)**
Prerequisite: Sociology 1. The application of sociology in the field of health and human behavior. Patterns of medical care. Sociological aspects of mental illness.
- 327 **Race and Ethnic Relations (3)**
Prerequisite: Sociology 1. Cultural and social-psychological aspects of race and ethnic categories. Historical and contemporary perspectives.
- 328 **Personality and Culture (3) (Same as Psychology 328)**
Prerequisite: Sociology 160 or Anthropology 11. Analysis of behavior from the standpoint of interaction between psychological systems, sociological systems and cultural systems.
- 329 **Industrial Sociology (3)**
Prerequisite: Sociology 1. The work setting as a social system. Types of occupations and their sociological relevance.
- 330 **Organizational Analysis (3)**
Prerequisite: Sociology 1. The structural characteristics of formal and informal organizations. Rational and natural-system models. Pressures toward equilibrium and change.
- 331 **The Sociology of Art and Literature (3)**
Prerequisite: Sociology 1. The creative individual, his work and his public. Social pressures and rewards.
- 332 **The Sociology of Religion (3)**
Prerequisite: Sociology 1. Religion as a universal phenomenon. The effect of religion upon the individual and society. The organization of religious enterprises.
- 340 **Social Change (3)**
Prerequisite: Sociology 1. The relationship between structural change and alterations in culture. The individual, the group and the collectivity as agents of change.
- 350 **Special Readings (credit arranged)**
Prerequisite: Consent of instructor. Independent study through readings, reports and conferences.
- 360 **Sociology of Law (3)**
Prerequisite: Nine hours of sociology. 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 a study of the courts, the legal profession, the police and various social institutions. Consideration is given to law as an instrument of social change.
- 370 **Demography (3)**
Prerequisite: Nine hours of sociology. Theories of population change: births, deaths, migration; population policies.

- 379 **The Socio-Political Nature of Urban Regions (3) (Same as Political Science 379)**
Prerequisite: Sociology 316 or Political Science 170 or 376. An interdisciplinary seminar providing the student with an opportunity to develop an understanding of the modern metropolis through the perspectives of sociology and political science.

SPANISH

Prerequisites may be waived by consent of department.

- 1 **Elementary Spanish (4)**
Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One hour language laboratory required.
- 2 **Elementary Spanish (4)**
Prerequisite: Spanish 1 or equivalent. Continuation of Spanish 1. One hour language laboratory required.
- 101 **Intermediate Spanish (3)**
Prerequisite: Spanish 2 or equivalent. Grammar review and cultivation of language skills through the study of moderately difficult prose selections. One hour language laboratory required.
- 102 **Intermediate Spanish (3)**
Prerequisite: Spanish 101 or equivalent. Further development of language skills through the reading and discussion of literary texts. May be taken concurrently with Spanish 108 after consultation with instructor. One hour language laboratory required.
- 108 **Oral and Written Composition (3)**
Prerequisite: Spanish 102 or equivalent. Emphasis will be placed upon the development of oral and written skills. May be taken concurrently with Spanish 102.
- 110 **Masterpieces of Spanish Literature in Translation (3)**
Prerequisite: Sophomore standing. Not open to Spanish majors. Lectures on the literature and culture of Spain from the Middle Ages to the contemporary period. Reading and discussion of works of representative Spanish writers: Cervantes, Calderón, Galdós, Unamuno, Ortega, García, Lorca, Cela and others. May be taken to fulfill humanities requirements.
- 111 **Masterpieces of Spanish American Literature in Translation (3)**
Prerequisite: Sophomore standing. Not open to Spanish majors. 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 be taken to fulfill humanities requirements.
- 200 **Syntax of the Spanish Language (3)**
Prerequisite: Spanish 108. Study of the syntactical and morphological characteristics of the Spanish language as seen in representative selections from Hispanic literature. Designed primarily and required for students majoring in Spanish. May be taken concurrently with any 200 level course.

- 201 **Introduction to Hispanic Literature: Spain (3)**
Prerequisite: Spanish 102. 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.
- 202 **Introduction to Hispanic Literature: Spanish America (3)**
Prerequisite: Spanish 102. 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.
- 220 **Introduction to Linguistics (3) (Same as French 220 and German 220)**
Prerequisite: Spanish 1 and 2 or equivalent and sophomore standing. The historical development of languages, their description and classification, with emphasis on the practical application of contrastive linguistics to second language learning. Required for all foreign language majors seeking teaching certification.
- 264 **Curriculum and Methods of Teaching Foreign Languages (3) (Same as Education 264)**
Prerequisite: Education 163, Spanish 200, 201, 202 and 220. 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.
- 310 **Spanish Literature from 1898 to 1939 (3)**
Prerequisite: Spanish 201. A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists and dramatists.
- 315 **Spanish Literature from 1939 to the Present (3)**
Prerequisite: Spanish 201. A study of cultural and literary developments since the Spanish Civil War. Emphasis on leading novelists, poets, essayists and dramatists.
- 320 **Poetry, Drama and Fiction of the Nineteenth Century (3)**
Prerequisite: Spanish 201. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading figures of Romanticism and Realism.
- 325 **Poetry and Drama of the Golden Age (3)**
Prerequisite: Spanish 201. Selective readings from the drama of Lope de Vega, Tirso de Molina, Ruiz de Alarcón, Calderón de la Barca and from the poetry of Garcilaso, Fray Luis de León, San Juan de la Cruz, Góngora, Lope de Vega, Quevedo.
- 330 **Cervantes (3)**
Prerequisite: Spanish 201. A study of *Don Quixote* in relation with the author's life and with the cultural background of the Spanish Golden Age. Independent reading of other works of Cervantes.

- 335 **Masterpieces of Spanish Medieval & Renaissance Literature (3)**
Prerequisite: Spanish 201. Designed to acquaint students with the cultural background of Medieval and Renaissance Spanish traditions. Critical reading and discussion of representative works of these periods: *Poema del Cid*; *El Conde Lucanor*; *Libro de Buen Amor*; *Marqués de Santillana*; *El Romancero*; *La Celestina*; the picaresque novel, and *Don Quijote*.
- 340 **Spanish American Literature of the Nineteenth Century (3)**
Prerequisite: Spanish 202. A study of the culture and literature of Spanish America in the nineteenth century with emphasis on the leading figures of *Modernismo* and representative novelists and essayists of this period.
- 345 **Spanish American Literature of the 20th Century (3)**
Prerequisite: Spanish 202. 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.
- 399 **Seminar on Hispanic Literature (3)**
Required of major students in the senior year. Subject to be announced every year by the instructor in charge of the seminar. Limited to senior majors.

SPEECH

Prerequisites may be waived by consent of department.

- 101 **Effective Speaking (3)**
Prerequisite: Sophomore standing. Emphasis on effective oral communication, formal and informal. Theories and techniques of argument and persuasion, organization, evidence, delivery.
- 201 **Introduction to Argumentation and Debate (3)**
Fundamentals of argumentation and debate. Application of logic and audience analysis. Preparing briefs. Some debating.
- 203 **Introduction to Communication Theory and Research (3)**
A survey of communication theories and research techniques. Use of several research techniques and application of one or more in a communication research project.
- 301 **Communication in American Politics (3)**
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.

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