

MISSOURI **W**ESTERN COLLEGE

CATALOG



St. Joseph, Missouri

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MISSOURI WESTERN COLLEGE

GENERAL CATALOG
with description of courses

1970-1971

St. Joseph • Missouri

Foreword . . .

The General Catalog of Missouri Western College serves as an authoritative guide to the academic programs of the College and is intended to assist students in the selection of their programs of study. The catalog contains general information on requirements for admission, regulations, student services and welfare, administration, facilities, and degree programs. It includes a description of all courses offered in the College and lists the officers of administration and faculty members.

For additional information, write to the specific office responsible for the matter of concern, as listed in the Directory of Correspondence on page 4 of this catalog.

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TRANSCRIPTS & RECORDS	Mr. Tom Robinson, Coordinator of Admissions & Registrar
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VETERANS AFFAIRS	Mr. George Ashworth, Director of Development

MISSOURI WESTERN COLLEGE

ST. JOSEPH, MISSOURI

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1970

JANUARY	FEBRUARY	MARCH	APRIL
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
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4 5 6 7 8 9 10	8 9 10 11 12 13 14	8 9 10 11 12 13 14	5 6 7 8 9 10 11
11 12 13 14 15 16 17	15 16 17 18 19 20 21	15 16 17 18 19 20 21	12 13 14 15 16 17 18
18 19 20 21 22 23 24	22 23 24 25 26 27 28	22 23 24 25 26 27 28	19 20 21 22 23 24 25
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3 4 5 6 7 8 9	7 8 9 10 11 12 13	5 6 7 8 9 10 11	2 3 4 5 6 7 8
10 11 12 13 14 15 16	14 15 16 17 18 19 20	12 13 14 15 16 17 18	9 10 11 12 13 14 15
17 18 19 20 21 22 23	21 22 23 24 25 26 27	19 20 21 22 23 24 25	16 17 18 19 20 21 22
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31			30 31
SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
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1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5
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13 14 15 16 17 18 19	11 12 13 14 15 16 17	15 16 17 18 19 20 21	13 14 15 16 17 18 19
20 21 22 23 24 25 26	18 19 20 21 22 23 24	22 23 24 25 26 27 28	20 21 22 23 24 25 26
27 28 29 30	25 26 27 28 29 30 31	29 30	27 28 29 30 31

1971

JANUARY	FEBRUARY	MARCH	APRIL
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
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3 4 5 6 7 8 9	7 8 9 10 11 12 13	7 8 9 10 11 12 13	4 5 6 7 8 9 10
10 11 12 13 14 15 16	14 15 16 17 18 19 20	14 15 16 17 18 19 20	11 12 13 14 15 16 17
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MAY	JUNE	JULY	AUGUST
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30 31			
SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
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5 6 7 8 9 10 11	3 4 5 6 7 8 9	7 8 9 10 11 12 13	5 6 7 8 9 10 11
12 13 14 15 16 17 18	10 11 12 13 14 15 16	14 15 16 17 18 19 20	12 13 14 15 16 17 18
19 20 21 22 23 24 25	17 18 19 20 21 22 23	17 18 19 20 21 22 23	19 20 21 22 23 24 25
26 27 28 29 30	24 25 26 27 28 29 30	28 29 30	26 27 28 29 30 31
	31		

college calendar

SUMMER SESSION 1970

June 1 & 2	Final Registration
June 1 & 2 (7:00-9:00)	Evening and Saturday School Registration
June 8	Day and Evening Classes Begin
July 4 (Saturday)	Holiday
August 1	Session Ends

FALL SEMESTER 1970-1971

September 2 & 3	Faculty Orientation
September 8 & 9	Final Registration
September 8 & 9 (6:00-9:00)	Evening and Saturday School Registration
September 14	Day and Evening Classes Begin
November 26 (7:00 a.m.)	Thanksgiving Vacation Begins
November 30	Classes Resume
December 17 (7:00 a.m.)	Christmas Vacation Begins
January 4	Classes Resume
January 18-23	Final Examinations

SPRING SEMESTER 1971

January 25 & 26	Final Registration
January 25 & 26 (6:00-9:00)	Evening and Saturday School Registration
February 1	Day and Evening Classes Begin
April 12 (7:00 a.m.)	Spring Vacation Begins
April 19	Classes Resume
May 21, 24-27	Final Examinations
May 28 (Friday)	Commencement

THE COLLEGE

With the opening of the 1969-70 academic year, Missouri Western College began its existence as a four-year college offering baccalaureate degrees. The College evolved from the earlier St. Joseph Junior College, organized by the St. Joseph Board of Education in 1915.

In 1964, interested citizens in eleven school districts—Agency-Faucett, Avenue City, DeKalb-Rushville, Easton, Gower, Lake Contrary, Moore, Platt Valley, Savannah, Spring Garden, and St. Joseph—joined in petitioning the Missouri State Board of Education for the formation of a junior college district. At a district election in 1965, the voters approved the establishment of the Missouri Western Junior College District.

Subsequently, the Missouri State Legislature authorized the addition of junior-year and senior-year instructional programs.

The College offers a comprehensive academic program designed to provide a vital center of learning and culture for the Missouri Western region. The College is accredited by the North Central Association of Colleges and Secondary Schools for the associate and baccalaureate degrees.



ACADEMIC PROGRAMS

APPLIED SCIENCE AND TECHNOLOGY

Agriculture
Allied Health
Business and Economics
Computer Science
Engineering
Public Services
Technology

EDUCATION AND PSYCHOLOGY

Elementary Education
Secondary Education
Physical Education
Psychology

LIBERAL ARTS AND SCIENCES

Biology
Chemistry
English
Fine Arts
Humanities
Physics and Mathematics
Social Sciences

DIVISIONS, DEGREES AND MAJOR STUDY AREAS DIVISION OF APPLIED SCIENCE AND TECHNOLOGY

B.S. Computer Science
B.S. Economics
B.S. in Bus. Adm. Bus./Accounting
B.S. in Bus. Adm. Bus./Management
B.S. in Bus. Adm. Bus./Marketing
B.S. in Ed. Bus. Educ.-Skills (Sec.)
B.S. in Ed. Bus. Educ.-Basic Business (Sec.)
B.S. in Tech. Communication Technology
B.S. in Tech. Electromechanical Technology
B.S. in Tech. Electronic Engineering Technology
B.S. in Tech. Industrial Electronic Technology
B.S. in Tech. (Two + Two)
Three year Prof. Engineering
A.S. Agri-Business
A.S. Computer Science
A.S. Executive Secretary
A.S. Law Enforcement
A.S. Legal Secretary
A.S. Medical Secretary
A.S. Mgmt./Accounting
A.S. Mgmt./Data Processing
A.S. Mgmt./Finance
A.S. Mgmt./Insurance
A.S. Mgmt./Real Estate
A.S. Mgmt./Retailing
A.S. Nursing Education
A.S. Drafting and Design
A.S. Electronic Engineering Technology
A.S. Industrial Electronic Engineering
A.S. Prof. Pilot Training
A.S. Radio, T.V. Technology
Certificate Clerical
Certificate Secretarial

DIVISION OF EDUCATION AND PSYCHOLOGY

B.A. Psychology
B.S. Psychology
B.S. in Ed. Art (Elem)

B.S. in Ed.	Foreign Language (Elem)
B.S. in Ed.	Language Arts (Elem)
B.S. in Ed.	Mathematics (Elem)
B.S. in Ed.	Men's Physical Education
B.S. in Ed.	Music (Elem)
B.S. in Ed.	Reading (Elem)
B.S. in Ed.	Science (Elem)
B.S. in Ed.	Social Science (Elem)
B.S. in Ed.	Special Education (Elem)
B.S. in Ed.	Women's Physical Education
A.S. in Ed.	Teacher's Aide-Disadvantaged Child (Elem)
A.S. in Ed.	Teacher's Aide-Audio-Visual (Elem)
A.S. in Ed.	Teacher's Aide-Mentally Retarded (Elem)
A.S. in Ed.	Teacher's Aide-Reading (Elem)
A.S. in Ed.	Teacher's Aide-Physically Handicapped (Elem)

DIVISION OF LIBERAL ARTS AND SCIENCE

B.A.	Art
B.A.	Biology
B.A.	Chemistry
B.A.	English
B.A.	History
B.A.	Mathematics
B.A.	Natural Science (Biology)
B.A.	Natural Science (Chemistry)
B.A.	Political Science
B.A.	Social Work
B.A.	Sociology
B.S.	Biology
B.S.	Chemistry
B.S.	Mathematics
B.S.	Medical Technology
B.S.	Physics
B.S.	Social Work
B.S. in Ed.	Art (Sec.)
B.S. in Ed.	Biology (Sec.)
B.S. in Ed.	Chemistry (Sec.)
B.S. in Ed.	English (Sec.)
B.S. in Ed.	Foreign Language-French (Sec.)
B.S. in Ed.	Foreign Language-Spanish (Sec.)
B.S. in Ed.	J. H. Science-Biology (Sec.)
B.S. in Ed.	J. H. Science-Chemistry (Sec.)
B.S. in Ed.	Mathematics (Sec.)
B.S. in Ed.	Music (Sec.)
B.S. in Ed.	Physics (Sec.)
B.S. in Ed.	Social Science-History (Sec.)
B.S. in Ed.	Social Science-Political Science (Sec.)
B.S. in Ed.	Social Science-Sociology (Sec.)
B.S. in Ed.	Speech & Theatre (Sec.)

DESCRIPTION OF COURSES

All courses offered at Missouri Western College are listed by divisions and departments in alphabetical order. Approximately eight weeks prior to the opening of each term a **Class Schedule** is published that lists the specific courses to be offered that term with the time of meeting, the building and the room number. The College reserves the right to cancel without notice any course listed in the **General Catalog** or in the **Class Schedule** for any term or to withdraw any course that does not have adequate student enrollment at the close of the registration period.

Course Numbering System

Each course bears a number that identifies it within a department and indicates its level, as follows:

000-099	Courses that usually do not apply toward a degree.
100-199	Freshman level courses
200-299	Sophomore level courses
300-399	Junior level courses
400-499	Senior level courses

Normally, courses numbered 100-299 are considered lower division courses, and those numbered 300-499 are considered upper division courses.

Credit Units

The unit of credit is the semester hour, which represents a period of weekly study for a semester. In general, a course carrying three hours credit meets for three periods weekly for one semester. The number of credit hours is shown in parentheses after the course title.

Semester Designation

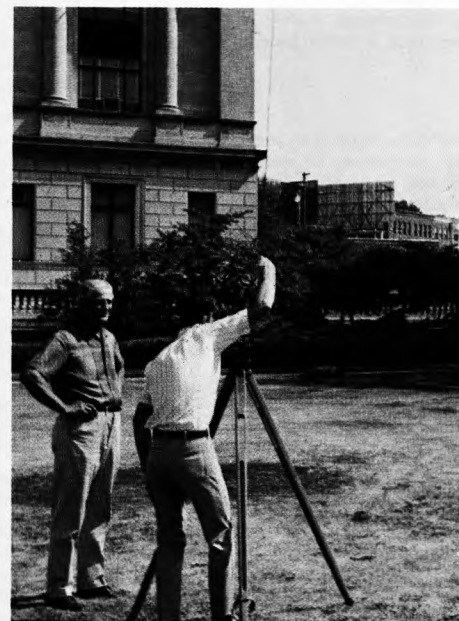
The small Roman numerals, following the title of the course and the credit shown in parentheses, indicate the semester in which the course is normally offered.

- i the course is offered in the first or fall semester
- ii the course is offered in the second or spring semester
- iii the course is offered in the summer session

APPLIED SCIENCE and TECHNOLOGY . . .



A modern model office is available to students in secretarial training at Missouri Western. This is but one program of the many offered in the Department of Business and Economics.



On-the-site use of the transit adds reality to the student's work in such courses as surveying and slide rule.



Electronics is an example of the programs in the occupational education field which lead to good-paying jobs in a short period of time.

department of AGRICULTURE

The Department of Agriculture offers a program which is designed to bridge the gap between agriculture and business. In addition to an associate degree program, the Department makes available to the adult agricultural community courses related to grain, animal, and food production.

An Associate of Science Degree with a major in Agri-Business requires the completion of the following courses for a total of 37 hours: Agri. 120, 123, 126, 129, 130, 133, 136, 220, 229, 236, 246, 252.

AGRICULTURE

- 120 Crop Production (3) i, ii**
Principles of crop production, which include such areas as: selection and identification of crops and varieties, improved cultural practices used, and products and materials used in growing crops.
Prerequisite: none.
- 123 Soil Science (4) i, ii**
Basic knowledge of soil classes and crop adaption; productivity characteristics of soil; relation of environmental factors to production; plant nutrients; relation of fertility to pH level; soil tests and their interpretation; and importance of micronutrients.
Prerequisite: High school chemistry or its equivalent recommended.
- 126 Applied Animal Biochemistry (3) i**
Basic knowledge of biochemistry, and application of that knowledge to the processes of digestion and the supplying of energy to livestock and poultry.
Prerequisite: High school chemistry or its equivalent recommended.
- 129 Structures of Agri-Related Industries (2) i**
Study of industries related to agriculture.
Prerequisite: none.
- 130 Grain Grading (2) ii**
Techniques in grading grain according to the United States Grain Standards Act.
Prerequisite: Agri-Business 120 or consent of instructor.
- 133 Soil Fertility and Fertilizers (4) i, ii**
Manufacturing, recommending, formulating, selling and applying fertilizers.
- 136 Applied Animal Nutrition (4) ii**
Classification of forages and grains as feeds; techniques of formulating livestock and poultry feeds.
Prerequisite: Agri-Business 126.
- 236 Feeds, Ingredients, Additives, and Food and Drug Regulations (4) i**
Techniques in formulating and mixing feed rations; mineral and antibiotic livestock feed additives; food and drug regulations of state and federal governments.
Prerequisite: Agri-Business 126 and 136, or consent of instructor.
- 246 Animal Husbandry I (3) ii**
Management techniques essential for beef, swine, and dairy enterprises.
Prerequisite: Agri-Business 126 and 136, or consent of instructor.
- 220 Grain Handling, Warehousing, and Merchandising (3) ii**
Movement of grain and factors influencing grain marketing.
Prerequisite: Agri-Business 120, 129, 130, or consent of instructor.
- 229 Agricultural Chemicals (3) ii**
Herbicides, insecticides, fungicides, and nematocides; external and internal parasites; types of materials, the methods of use, and safety measures to be used.
Prerequisite: none.
- 252 Planting, Tillage, and Harvesting Equipment (2) i**
Adjustment, maintenance, and repair of planting, tilling, and harvesting machinery.
Prerequisite: none.
- 290 Occupational Experience Training (arranged) i, ii, iii**
Development of competence in some phases of the grain, feed, seed, and farm supply industry which are not available at the college.
Prerequisite: By approval of the department chairman.
- 346 Animal Husbandry II (3) i**
Management practices essential for poultry, sheep, and horse enterprises.
Prerequisite: Agri-Business 126 and 136 or consent of instructor.
- 365 Agri-Business Management (3) iii**
Functions of management, marketing functions and institutions, channels of distribution; salesmanship methods.
Prerequisite: By approval of department chairman.
- 375 Agri-Business Economics and Finance (2) iii**
Economic principles, their application to agricultural distribution, with emphasis on laws of supply and demand, price determinants, financial control of business operation.
Prerequisite: By approval of department chairman.

department of ALLIED HEALTH

The Department of Allied Health offers a nursing program leading to an Associate of Science Degree. Upon completion of the program the graduate is eligible to write the State Board Test Pool Examination to qualify for license as a Registered Nurse (R.N.) This program is accredited by the Missouri State Board of Nursing.

An Associate of Science Degree with a major in Nursing requires the completion of the following courses for a total of 53 hours: Nursing 150, 151, 250, 251; Biology 250 and 399; Psychology 101, Sociology 110; plus 3 hours in Humanities.

ALLIED HEALTH

- 150 Nursing I (Fundamentals of Nursing) (6) i**
Fundamentals is a coordinated study of concepts, skills, and attitudes basic to patient care, safety, and comfort; emphasizing orientation of the student to the individual, his health, and to the community health agencies. Guided laboratory experience in an extended care facility, general hospital and a nursery school. 4 hours lecture, 6 hours lab
Prerequisite: Approval of the instructor.
- 151 Nursing II (Maternal and Child Health) (8) ii**
A family centered approach to Maternal and Child Health, building upon the concept of wellness and homeostasis introduced in fundamentals course. Concerned with maternity cycle and the family unit. Emphasis is placed upon normal health continuity from infancy to adulthood. Guided laboratory experience in a general hospital and selected clinic, out-patient and day care experience. 4 hours lecture, 12 hours lab
Prerequisite: Nursing 150
- 250 Nursing III (Physical & Mental Illness I) (10) i**
The first course in Physical and Mental Illness is designed for utilization of conceptual and developmental approach in meeting nursing care and body maintenance needs. Focus is on the physical and psychological effects of illness on the adolescent and adult. Guided laboratory experience in a general hospital, psychiatric setting, and selected observation experiences in Community Center and Day Care Facility. 5 hours lecture, 15 hours lab
Prerequisite: Nursing 150 and Nursing 151.
- 251 Nursing IV (Physical & Mental Illness II) (10) ii**
The course Physical and Mental Illness II is a continuation of Nursing 250 and provides the student with opportunities to give total patient care to individuals and groups of adults with identical and similar illnesses. Guided laboratory experience in a general hospital, mental health facility and selected health agencies. 5 hours lecture, 15 hours lab
Prerequisite: Nursing 150, Nursing 151 and Nursing 250.

department of BUSINESS and ECONOMICS

The Department of Business and Economics offers diversified programs leading to careers in accounting, marketing, management, economics, teaching, secretarial, data processing, retailing, insurance, and real estate. Students receive a background in the fundamentals of business and economics in addition to the opportunity to specialize in the areas of their interests. Programs are designed to prepare the students to become highly qualified to meeting the challenge of a career in the demanding world of business.

The Department offers a Bachelor of Science Degree with a:

Major in Economics which requires the completion of the following courses for a total of 48 hours: Accounting 230, 231; Economics 260, 261, 306, 360, 361; and 12 hours of Economic electives; Management 210, 310, 311, 312; and Marketing 270.

The Department offers a Bachelor of Science Degree in Business Administration with a:

Major in Accounting which requires the completion of the following courses for a total of 48 hours: Accounting 230, 231, 310, 311, 330, 442, 438, and 3 hours of Accounting electives; Economics 260, 261; Management 110, 210, 310, 311, 312; and Marketing 270.

Major in Management which requires the completion of the following courses for a total of 48 hours: Accounting 230, 231; Economics 260, 261; Management 110, 210, 310, 311, 312, 323, 410, 412, and 9 hours of Management elective; and Marketing 270.

Major in Marketing which requires the completion of the following courses for a total of 48 hours: Accounting 230, 231; Economics 260, 261; Management 110, 210, 310, 311, 312; and Marketing 270, 310, 360, 420, 422, 450, and 6 hours of Marketing electives.

The Department offers a Bachelor of Science Degree in Education with a:

Major in Business Education (Skills) which requires the completion of the following courses for a total of 48 hours: Management 110, 206, or 210, 310, 311; Accounting 230, 231, 3 hours of Accounting elective; Economics 260; Secretarial 141, 144*, 145, 240, 314, 344, 340, 341**; and Business Education 465; plus Professional Sequence of 24 hours under Department of Education. (*Not to be taken for credit by students who have had one unit of high school credit. These hours are to be used for business electives. **Only required of students who do not take Secretarial 144 and 145.)

Major in Business Education (Basic Business) which requires the completion of the following courses for a total of 48 hours: Management 110, 210, 310, 311, 312; Accounting 230, 231; Economics 260, 261; Marketing 270; Secretarial 141, 240; Business Education 465; six hours of Business elective; in addition to the above, completion of the Professional Sequence of 24 hours under the Department of Education.

The Department offers an Associate of Science Degree with a:

Major in Executive Secretarial which requires the completion of the following courses for a total of 45 hours: Management 110, 206, 314; Secretarial 141, 144, 145, 148, 149, 240, 340, 341, 344; Accounting 230; Economics 260; and Computer Science 182.

Major in Legal Secretarial which requires the completion of the following courses for a total of 48 hours: Secretarial 141, 144, 145, 148, 149, 340, 341, 344 (242—Legal Typing and 347—Legal Dictation & Transcription); Accounting 230; Management 310, 311; Economics 260; Computer Science 182; and 1 hour of elective.

Major in Medical Secretarial which requires the completion of the following courses for a total of 48 hours: Secretarial 141, 144, 145, 148, 149, 240, 340, 341, 344, 346—Medical Dictation and Transcription; Management 206; Economics 260, Accounting 230; and Computer Science 182.

Major in Mid-Management (Accounting) which requires the completion of the following courses for a total of 36 hours: Management 110, 206, 210, 312; and Accounting 230, 231, 310, 311, 330, 332, 430; plus 3 hours of elective in business.

Major in Mid-Management (Data Processing) which requires the completion of the following courses for a total of 39 hours: Management 110, 206, 210, 310, 312, 410; Computer Science 182, 340, 345; Economics 260, 261; and Accounting 230, 231.

Major in Mid-Management (Finance) which requires the completion of the following courses for a total of 48 hours: Management 110, 206, 210, 310, 311, 312, 316, 323, 364, 406, 408; Accounting 230, 231; and Economics 260, 261, 306.

Major in Mid-Management (Insurance) which requires the completion of the following courses for a total of 45 hours: Management 110, 206, 210, 310, 311, 312, 316 (276—Life Insurance, 372—Property, Liability Insurance, 374—Health Insurance); Accounting 230, 231; Economics 260, 261; and Marketing 250.

Major in Mid-Management (Real Estate) which requires the completion of the following courses for a total of 42 hours: Marketing 250; Accounting 230, 231, 438; and Management 110, 312, 316, 408 (372—Property and Liability Insurance, 382—Real Estate Law, 383—Real Estate Law, 384 Real Estate Investment and Taxation, 386—Appraisal Principles and Procedures, 388—Real Estate Economics).

Major in Mid-Management (Retailing) which requires the completion of the following courses for a total of 42 hours: Marketing 125, 250, 270, 310, 325; Management 110, 206, 210, 312, 412, Economics 260, 261; and Accounting 230, 231.

The Department offers a Certificate Program with a:

Major in Clerical Training which requires the completion of the following courses for a total of 24 hours: Secretarial 141, 148, 149, 240, 344; Accounting 230; and Management 110, 206.

Major in Secretarial Training which requires the completion of the following courses for a total of 24 hours: Secretarial 141, 145, 149, 240, 340, 344; and Management 110, 206.

ACCOUNTING

- 230 Elementary Accounting (3) i, ii, iii**
Principles of Accounting and their application; analysis of the balance sheet and income statement in their usual and special forms.
Prerequisite: Management 110.
- 231 Elementary Accounting (3) i, ii, iii**
Principles and procedures of accounting with emphasis on partnerships, corporations, cost systems, taxes and financial statement analysis.
Prerequisite: Accounting 230.
- 310 Intermediate Accounting (3) i, ii**
Analysis and interpretation of fundamental processes, assets, and equity values with related revenue and expense aspects.
Prerequisite: Accounting 231.
- 311 Intermediate Accounting (3) i, ii**
A continuation of the critical study of balance sheet accounts and intensive analysis of financial statements.
Prerequisite: Accounting 310.
- 330 Cost Accounting (3) i, iii**
A study of cost accounting procedures with emphasis on the basic theory and procedures of allocating materials, labor, and manufacturing expenses in job order and process cost systems.
Prerequisite: Accounting 231.
- 332 Managerial Accounting (3) ii, iii**
Assembly and use of accounting data for managerial decision making; cost accounting, budgeting, cost-volume-profit analysis, alternative decisions and cost of capital.
Prerequisite: Accounting 231.
- 430 Advanced Accounting (3) i**
Includes joint ventures, consignments, installments, receiverships, estates and trusts, statement of affairs, and municipal and governmental accounting.
Prerequisite: Accounting 311.
- 431 Advanced Accounting (3) ii**
Home office and branch accounts and parent and subsidiary accounting.
Prerequisite: Accounting 430.

- 432 Advanced Cost Accounting (3) i, ii**
Special problems of cost analysis such as joint product costs, standard costs, differential costs, estimated costs, budget and distribution costs.
Prerequisite: Accounting 330.
- 442 Auditing (3) ii, iii**
Verification of records, valuation and analysis of accounts and presentation of conditions; practical audit cases.
Prerequisite: Accounting 311.
- 438 Tax Accounting (3) i, ii**
A study of the major aspects of federal and state income taxes as they pertain to sole proprietorships and individuals.
Prerequisite: Accounting 231 or consent of instructor.
- 439 Advanced Tax Accounting (3) ii**
A study of the major aspects of federal and state taxes as they pertain to partnerships, corporations, estates and trusts.
Prerequisite: Accounting 438.

BUSINESS EDUCATION

- 250 Seminar in Office Occupations (1) i, ii, iii**
Course designed to fulfill the requirements for work experience under the Missouri State Plan. On-the-job training stations provide a variety of experiences.
Prerequisite: none.
- 252 Seminar in Distributive Education (1) i, ii, iii**
On-the-job training that partially fulfills the requirements for work experience under the Missouri State Plan.
Prerequisite: none.
- 350 Seminar in Office Occupations (1) i, ii, iii**
A continuation of Seminar in Office Occupations 250.
Prerequisite: Business Education 250.
- 352 Seminar in Distributive Education (1) i, ii, iii**
A continuation of Seminar in Distributive Education 252.
Prerequisite: Business Education 252.
- 465 Methods of Teaching Business Subjects (3) i, ii**
A study of the methods and activities for teaching business education in the secondary school.
Prerequisite: Consent of instructor.

ECONOMICS

- 260 Principles of Economics I (3) i, ii, iii**
Introduction to basic economic concepts and terminology with emphasis on the fundamental principles underlying macroeconomic analysis and application of fiscal and monetary theories.
Prerequisite: None.
- 261 Principles of Economics II (3) i, ii, iii**
Introduction to basic economic concepts with emphasis on the neoclassical theories of the firm under varying market structures and theories of resource markets.
Prerequisite: Economics 260 or consent of instructor.
- 273 Consumer Economics (3) i, iii**
Case approach to the study of basic principles of personal financial management consideration given to household budgeting in regard to the advantages and disadvantages in the purchasing of homes, major appliances, credit, investments, insurance and other commodities.
Prerequisite: None.

- 304 Labor Economics (3) ii, iii**
Introductory course dealing with the institutional aspects of the American labor force; its organization, wage and employment theory, the economic role of bargaining, and the basic ingredients of public policy toward labor organizations.
Prerequisite: Economics 260 or consent of instructor.
- 306 Money and Banking (3) i, ii**
Monetary and banking theories of leading countries with emphasis on the monetary theories in the United States; deposit and earnings operations of individual banks, inter-banks and central bank operations.
Prerequisite: Economics 260 or consent of instructor.
- 360 Intermediate Aggregate Economic Theory (3) ii**
Intermediate level course with emphasis given to social income analysis and the functional relationships between various aggregate economic variables and social policy implications.
Prerequisite: Economics 261.
- 361 Intermediate Price Theory (3) i**
Intermediate level course stressing the market mechanism as a device for resource allocation within the application of microeconomic concepts in the economic policy decisions.
Prerequisite: Economics 261.
- 362 Public Finance (3) i**
Study of the growth and effects of public expenditure, taxation and indebtedness and the character of taxation at the Federal, state and local levels.
Prerequisite: Economics 260 or consent of instructor.
- 385 Government Regulation of Business (3) i, iii**
Analysis of the legislative and legal control of business and its implications on the various economic components of the American economy.
Prerequisite: Economics 261.
- 395 International Economics (3) i**
Introduction to the study of the theory of international trade with emphasis on the techniques of control over international trade, foreign exchange, balance of payments and world interdependence.
Prerequisite: Economics 306 or consent of instructor.
- 410 Business Cycles and Forecasting (3) i, iii**
Study of the cyclical fluctuation in the economy by means of theoretical, quantitative and measurement methods and use of basic economic and business forecasting techniques.
Prerequisite: Economics 260 and Management 210 or consent of instructor.
- 445 Regional Economic Development (3) ii**
Examination of economic growth in United States with emphasis on the problems of economic growth in the Midwest in particular. Attention is given to the factors instrumental in determining economic growth in various segments of the economy.
Prerequisite: Economics 261.
- 452 Comparative Economic Systems (3) ii**
Analytical study of the major alternative economic systems — capitalism, socialism, planned economics and non-monied economics with emphasis on the different economic problems associated with each.
Prerequisite: Economics 360 or consent of instructor.
- 462 History of Economic Thought (3) i, iii**
Study of the development and evolution of the various schools of economic thought; classical, neo-classical, institutionalism, Keynesian, and neo-Keynesian.
Prerequisite: Economics 261 or consent of instructor.
- 475 Current Economic Problems (3) i, ii, iii**
Analytical study of various problems of current interest in economics.
Prerequisite: Senior standing and consent of instructor. (By arrangement only)

MANAGEMENT

- 110 Business Organization (3) i, ii, iii**
Introduction to organizational structures and functions of managerial controls. Required

first course for all business and economic majors. (Formerly titled Introduction to Business)

- 206 Mathematics of Finance (3) i, ii**
Simple and compound interest and discount, present value and accumulated value of annuities, bonds, amortizations, sinking funds, depreciation, life annuities and life insurance. (Replaces titled Business Mathematics Principles and Problems 112)
Prerequisite: Two years high school algebra or equivalent.
- 210 Business Statistics I (3) i, ii, iii**
Tabular and graphic methods, measures of central tendency, dispersion, and skewness.
Prerequisite: Two years high school algebra or equivalent.
- 308 Business Statistics II (3) ii**
Ranking tests as used in Marketing Research, quality control as used in industrial production, analysis of variance as a method of experimenting in business, and the use of statistical tools in business and economic forecasting.
Prerequisite: Business Statistics 210.
- 310 Business Law I (3) i, ii, iii**
An introduction to the legal environment of business; examination of the constitutional and historical foundations of the American legal system; emphasis upon the area of contracts, personal property, bailments, torts, etc.
Prerequisite: Management 110.
- 311 Business Law II (3) i, ii**
A continuation of Business Law 310, with emphasis upon sales, negotiable instruments and security devices under the Uniform Commercial Code; other areas include law of agency, partnerships, corporations.
Prerequisite: Management 310 or consent of instructor.
- 312 Principles of Management (3) i, ii**
A study of the objectives and functions of a business enterprise with emphasis upon management principles of planning, organizing, and controlling the organization.
Prerequisite: Management 110 and Accounting 230 or consent of instructor.
- 316 Principles of Insurance (3) i, ii**
Nature and uses of insurance; structure, management, and regulation of insurance carriers; economic risk; principles of personal property, life and casualty insurance.
Prerequisite: Management 110.
- 321 Small Business Management (3) i, ii**
A survey of the essential practices of business management; basic controllership, human relations, training employees, time and inventory control, and general policies as related to small business.
Prerequisite: Marketing 270.
- 323 Principles of Finance (3) i, ii, iii**
Problems of providing a business with the cash to be used for prompt payment of bills; administrative functions of planning and controlling finances as well as procurement. Will serve as an introduction to Corporate Finance.
Prerequisite: Accounting 231 or consent of instructor.
- 350 Administrative Management (3) i, ii**
Administration of the business through analysis of the interactions between flows of information, money, personnel, capital equipment, and materials. (Replaces Office Management elective for Business Administration majors.)
Prerequisite: Management 312 or consent of instructor.
- 364 Corporate Finance (3) i, ii**
Capital structure, corporate securities, capital markets, dividend policies, working capital, and business mergers.
Prerequisite: Economics 260 or consent of instructor.
- 406 Investment Analysis (3) ii**
A critical approach to security analysis. Designed to present means of securing information about securities so as to permit dependable decisions to be made concerning their value and attractiveness at given prices.
Prerequisite: Management 206 or 364 or consent of instructor.

- 408 Real Estate (3) ii**
Principles of building and land evaluation. Problems relating to the purchase, transfer, lease, and financing of land and buildings.
Prerequisite: Management 110 or consent of instructor.
- 410 Business Communications (3) i, ii**
Designed to meet the needs of business for better communications—written or oral. Covers principles of research, organization, and presentation of written memoranda, letters, and reports. Oral presentations help develop necessary skills required in a business environment.
Prerequisite: Senior standing or consent of instructor.
- 412 Personnel Management (3) i, ii**
Policies and practices in personnel management, such as job analysis, selection of employees, placement training, employee services, and industrial relations.
Prerequisite: Management 312 or consent of instructor.
- 430 Contemporary Unionism (3) ii**
A study of current labor movement trends in the United States. Analysis of problems arising from management-labor relations with major emphasis on collective bargaining and labor law.
Prerequisite: Senior standing or consent of instructor.
- 450 Business and Public Policy (3) ii**
The expansion of business and its effect upon the size of the business unit, interrelations in business and the problems of control.
Prerequisite: Senior standing or consent of instructor.

MARKETING

- 125 Market Purchasing (3) i, ii**
An introductory course in Marketing. An up-to-date view in product care, and marketing of goods; with careful attention paid to industrial purchases of goods.
Prerequisite: None.
- 250 Salesmanship (3) i, iii**
Education of method, principles, procedures, and policies of a professional salesman for industrial, wholesaling, and retailing commodities.
Prerequisite: Sophomore standing.
- 270 Principles of Marketing (3) i, ii, iii**
A basic course defining the role of the marketer and marketing within our society and economy. Attention is paid to all interacting forces within the firm; dealing with price, promotion, distribution, personnel selling, product and economic aspects.
Prerequisite: Economics 260, 261 concurrently.
- 310 Marketing Promotion (3) i, ii**
An integrated consideration of promotional methods used by marketers to determine the affect and effectiveness of promotional methods upon the economy and social consequence toward buyers and society.
Prerequisite: Junior standing; courses in Principles of Marketing, or consent of instructor.
- 315 Industrial and Wholesale Marketing (3) i, iii**
Analysis of the structure of Marketing for industrial and wholesaling activities. Extensive study is made in industrial salesmanship, warehousing, and wholesaling problems.
Prerequisite: Marketing 270 or consent of instructor.
- 325 Principles of Retailing (3) ii, iii**
Principles, procedures, and problems of a retail organization with defining the product, channel of distribution, method of promotion, personal selling, and pricing to fulfill the ultimate consumer's demands.
Prerequisite: Principles of Marketing 270; junior standing; or consent of instructor.
- 350 Marketing Production Management (3) ii, iii**
The application of mathematical and statistical models of general problems encountered in the design, operation, and control of production for new and re-vitalized products from the marketer's viewpoint.
Prerequisite: Marketing 270 and Management 210.

- 360 Marketing Distribution (3) i**
An analysis of the physical distribution functions in marketing with emphasis on transportation, warehousing, material handling, and facility location as elements of an integrated system.
Prerequisite: Marketing 270.
- 380 Credits and Collections (3) ii**
Study of the function of credit of granting, risk, collections, and the interrelationship of credit activities and other functions of the firm.
Prerequisite: Marketing 270.
- 420 Marketing Management (3) i**
Analysis of marketing problems of a corporation with emphasis on the social, economic, and institutional operations. Executive problem solving on integrated activities by using marketing tools.
Prerequisites: Marketing 270; senior standing or consent of instructor.
- 422 Sales Management (3) i**
Application of sales management concepts to administration, planning, training and acquisition of the sales force for a business.
Prerequisite: Marketing 270 or consent of instructor.
- 450 Consumer Relations and Behavior (3) ii, iii**
A consideration of the influences on consumer purchase motivation and behavior indication. How certain forces in fields of anthropology, sociology, psychology, and social psychology work in relationship to marketing.
Prerequisite: Marketing 270 or consent of instructor.
- 460 Marketing Research and Development (3) i, iii**
A method of evaluation of marketing procedures by different analysis. Special emphasis will be given to mathematical analysis and report writing.
Prerequisite: Management 210, Marketing 270, and senior standing.
- 490 Marketing Systems (3) ii**
An in-depth analysis of the marketing process as an integrated system. General systems theory is stressed.
Prerequisite: Marketing 270; senior standing; or consent of instructor.

SECRETARIAL

- 040 Elementary Typewriting (no credit) i, ii, iii**
Beginning typewriting. Minimum net speed of 25 words per minute required for passing grade. Students who have received one-half high school credit or more for typewriting cannot take this course for credit. 3 hours lecture and 3 hours lab.
Prerequisite: none.
- 141 Intermediate Typewriting (3) i, ii, iii**
A continuation of Elementary Typewriting 140; speed and accuracy, typing business letters, manuscripts and business forms. Minimum net speed of 40 words per minute is expected. 3 hours lecture and 3 hours lab.
Prerequisite: Secretarial 040 or equivalent.
- 144 Elementary Shorthand (3) i, ii**
Beginning course in which principles of Gregg Shorthand, Diamond Jubilee Series is taught. Course not open for college credit to students who have received one high school credit for shorthand. 3 hours lecture and 2 hours lab.
Prerequisite: Secretarial 040 or equivalent, and Preparatory English 010 or equivalent.
- 145 Intermediate Shorthand (3) i, ii, iii**
A continuation of Elementary Shorthand 144 with emphasis on developing dictation skill. A minimum dictation speed of 70 words per minute on new material is expected for a passing grade. Intermediate Typewriting 141 should precede or parallel this course. 3 hours lecture and 2 hours lab.
Prerequisite: Elementary Shorthand 144.
- 147 Secretarial Mathematics (3) i, ii**
The computation of practical financial problems of a business, civic and personal nature. 3 hours lecture.
Prerequisite: none.

- 148 Secretarial Procedures (3) i, ii**
 Secretarial duties and responsibilities; handling of mail, office routines, and human relations.
Prerequisite: Secretarial 141.
- 149 Secretarial Communications (2) i, ii**
 Course designed to teach effective communications through business letters and reports from standpoint of a secretary. 3 hours lecture.
Prerequisite: English 010 or equivalent. Secretarial 040 or equivalent.
- 240 Office Typing Problems (3) i, ii**
 Office standards in typing business letters, forms, legal material, numbers, and tabulation.
Prerequisite: Secretarial 141 or equivalent.
- 314 Office Management (3) i, ii**
 Functions of office management including development and use of manuals; selection, training, pay and promotion of employees; control of expenses and measurement of efficiency; reproduction facilities; record retention systems; production standards.
Prerequisite: Secretarial 141.
- 340 Advanced Shorthand (3) i, ii**
 A continuation of Intermediate Shorthand 145 with further development of dictation and transcription skills. A minimum dictation speed of 90 words per minute on new material and a minimum transcription rate of 20 words per minute are expected for a passing grade. 3 hours lecture; 2 hours lab.
Prerequisite: Secretarial 141 and 145 or equivalent.
- 341 Secretarial Dictation and Transcription (3) i, ii**
 A continuation of Advanced Shorthand 341, in which students are exposed to dictation and transcription of vocabulary of various types of businesses. A minimum dictation rate of 110 words per minute on new material and a minimum transcription rate of 25 words per minute are expected for a passing grade. 3 hours lecture and 2 hours lab.
Prerequisite: Secretarial 340 or equivalent.
- 344 Office Machines (2) i, ii, iii**
 The operation of standard office machines. 4 hours lecture and lab.
Prerequisite: Secretarial 040 or equivalent.

department of COMPUTER SCIENCE

Students in computer science prepare themselves to understand and participate in the use of data processing machines that acquire, organize, and process information. These machines have already made an indelible impact on nearly all areas of human endeavor, and conservative estimates indicate the need for personnel trained to communicate with these machines will triple by 1975. Students electing this curriculum are required to have logical reasoning ability with a strong interest and aptitude in mathematics and related subjects.

The Department offers a Bachelor of Science Degree with a:

Major in Computer Science which requires the completion of the following courses for a total of 30 hours: 182, 188, 284, 286, 340, 345, plus 12 hours from Computer Science 180, 288, 310, 370, 410, or 450.

The Department offers an Associate of Science Degree with a:

Major in Computer Science which requires the completion of the following courses for a total of 21 hours: Computer Science 180, 182, 188, 284, 286, 288 and Mathematics 103.

COMPUTER SCIENCE

- CS 180 Data Processing Card Equipment (3) i**
Operating procedures, functions, and general study of unit record equipment.
2 hours lecture and 2 hours lab.
Prerequisite: none.
- CS 182 Introduction to Data Processing (3) i, ii, iii**
Overview of data processing and computer concepts as an area of general knowledge for the informed individual.
Prerequisite: none.
- CS 188 FORTRAN Language (3) i, ii, iii**
Algorithmic, procedure oriented programming language implementation, operation and use. (FORTRAN IV.)
Prerequisite: CS 182 and Mathematics 103.
- CS 284 Symbolic Assembly Language (3) i**
Assembly programming language. Assembly level structure of the IBM 360 is studied along with the IBM 1130.
Prerequisite: CS 188.
- CS 286 Monitor Operating and Programming Systems (3) ii**
Third generation disk operation systems and hardware configuration.
Prerequisite: CS 284.
- CS 288 Advanced Reading in Computer Science (3) i, ii, iii**
Independent Study.
Prerequisite: Departmental approval.
- CS 310 Character Processing with FORTRAN (2) i**
Study of subprograms designed to manipulate alphameric characters.
Prerequisite: CS 188.
- CS 340 Introduction to RPG (3) i, ii**
An introductory study of the structure and facilities of RPG (report-program-generation) problem oriented language.
Prerequisite: CS 182.
- CS 345 An Introduction to COBOL (3) i, ii**
An introductory study of the structure and facilities of COBOL (from common business oriented language, a procedural language)
Prerequisite: CS 182.
- CS 370 Information Retrieval (3) ii**
Organization; hierarchies of storage, sorting, searching, and cross referencing information from files.
Prerequisite: CS 284.
- CS 410 Mathematical and Statistical Program Packages (3) i**
Problem laboratory course to study each application program from format of data input and output.
Prerequisite: SC 188 and Mathematics 107.
- CS 450 DP System Organization (3) ii**
Comprehension study of data processing systems coordination, planning, organizing, staffing, directing and controlling.
Prerequisite: CS 286.

department of ENGINEERING

The Department of Engineering prepares the student interested in a career as an engineer, architect, or as a drafting technician. The course of study is designed to give the student a measure of versatility based upon an understanding of general engineering principles and closely related studies in science and mathematics. The engineering and architectural programs offered within the Department closely parallel the programs at the leading universities.

The Department offers the following courses toward a professional degree, amount of course work completed is determined by the ability of each student—maximum available:

For a major in Engineering is 71 hours: Engineering 104, 106, 108, 190, 200, 204, 220, 230, 260, 300, 320, 340; Mathematics 103 or 105, 107, 108, 209, 212; Physics 101; Technology 228; Economics 260; and Chemistry 111.

For a major in Architecture is 38 hours: Engineering 104, 106, 108, 114, 190, 200, 204, 214; Mathematics 103 or 105, 107; Physics 101, 201.

The Department offers an Associate of Science Degree with a:

Major in Drafting and Design which requires the completion of the following courses for a total of 46 hours: Technology 100, 110, 160, 216, 224; Engineering 104, 106, 108, 114, 118, 190, 204, 214, 220; and Physics 101.

ENGINEERING

- 104 Engineering Graphics (3) i, ii**
Fundamentals of drawing, drafting room practices, and drafting of typical engineering and technical drawings; two hours lecture and four hours lab.
Prerequisite: none.
- 106 Slide Rule (1) i, ii**
The use of the slide rule in solving rapid calculations for problems in physics, chemistry, and other engineering problems. 1 hour lecture and 1 hour lab.
Prerequisite: Mathematics 103 or Technology 110 concurrent.
- 108 Descriptive Geometry (3) i**
Descriptive geometry is the science of graphic representation and solution of space problems. Descriptive geometry is based on the principles of orthographic projection. The same principles employed in a course of engineering graphics. Two hours lecture and four hours lab.
Prerequisite: Engineering Graphics 104.
- 114 Architectural Drawing I (3) i, ii**
Deals with the planning and drawing of a wood frame home with a complete set of buildings, plans and specifications. Emphasis placed on principles, practices, and techniques of house construction.
Prerequisite: Engineering Graphics 104.
- 118 Structural Drawing (3) i**
Preparation of a complete set of plans, with emphasis on working drawings dealing with fire-resistant residence and commercial buildings. A complete set of specifications for the building is also required.
Prerequisite: Engineering Graphics 104 and Architectural Drawing 114.
- 190 Technical Report Writing (3) i, ii**
The study of types and forms of reports, the use of drawings and illustrations in supporting and clarifying report content. Practical projects in preparing reports of various lengths and degrees of complexity, oral presentation of report material, continuation of reading and practice in style, and the efficient expression of ideas.
Prerequisite: English Composition 104 or consent of instructor.
- 200 Statics (3) i**
Vectors, force systems, friction, centroids, moments of inertia.
Prerequisite: Physics 201 and Calculus 108 or consent of instructor.
- 204 Plane Surveying I (3) i, ii**
An elementary course in plane surveying. The major emphasis on field work problems, dealing with use of steel tape, the transit and the engineers level. 2 hours lecture and 3 hours lab.
Prerequisite: Mathematics 105 or 106 or high school trigonometry.
- 214 Architectural Drawing II (3) ii**
Students plan and design a wood frame home incorporating special details and techniques not covered in Architectural Drawing 120. Design and planning of the home is stressed in the course.
Prerequisite: Architectural Drawing 114.
- 218 Structural Drawing (3) ii**
Analysis of structural components and materials, including steel, aluminum, and concrete in structural design. Conceptual evolution of a framework from fixed specifications with subsequent detailing of joints, connections and fittings, and built-up beams.
Prerequisite: Architectural Drawing 118 and Technical Mathematics 105.
- 220 Elementary Structural Design (3) i**
Introduction to classical and modern methods for elastic analysis of statically indeterminate frames, trusses.
Prerequisite: Statics 200, Calculus 108 with Calculus 209, consent of instructor.

- 225 Materials Testing Lab I (1) i**
Includes compression, tension, shear, and flexure tests of steel, wood, plastics, and concrete. 3 hours lab.
Prerequisite: Concurrent with Elementary Structural Design 220.
- 230 Intermediate Strength of Materials (3) ii**
Simple stresses and strains, combined stresses and strains, deflection and redundants, buckling.
Prerequisite: Statics 200, Elementary Structural Design 220.
- 235 Materials Testing Lab II (1) ii**
Includes compression, tension, shear and flexure tests of steel, wood, plastics, and concrete. 3 hour lab.
Prerequisite: Concurrent with Intermediate Strength of Materials 230.
- 260 Circuit Theory I (4) i**
Study of circuits using resistance, capacitance and inductance with various types of driving sources.
Prerequisite: Concurrent with Calculus 209, or consent of instructor.
- 300 Dynamics (3) ii**
Motion of a particle; kinetics or rigid bodies; work and energy; impulse and momentum; impact.
Prerequisite: Statics 200.
- 320 Fluid Mechanics (3) i**
Statics and dynamics of fluid flow.
Prerequisite: Dynamics 300.
- 340 Thermodynamics (3) i**
Fluid properties, work and heat, first law, second law, entropy, applications to vapor and ideal gas processes.
Prerequisite: Calculus 209, Physics 251, or consent of instructor.
- 360 Circuit Theory II (3) ii**
Alternating current circuits, magnetically coupled circuits, polyphase circuits, fourier analysis.
Prerequisite: Circuit Theory I 260.
- 404 Soil Mechanics (3) ii**
Physical properties of solid, soil profiles and deposits, underground investigations and constructions, fills and subgrades.
Prerequisite: General Chemistry 120 technical majors; Introduction to Chemistry 101.

department of PUBLIC SERVICES

The Department of Public Services will offer as its first of many service programs one entitled "Law Enforcement." This program is designed for those students who wish to become members of public police departments, private detectives, or security offices.

An Associate of Science Degree with a major in Law Enforcement requires the completion of the following courses which total 48 hours: Law Enforcement 100, 120, 140, 160, 180, 200, 220, 260, 280, 299 and 18 hours of electives from the following: Sociology 110, 130, 210, 320, 400, 420, 430; Political Science 101, 110, 320, 330, 420; Psychology 101, 201, 309; Law Enforcement 240, 300; Management 312, 412; History 220; and English 108.

100 Introduction to Law Enforcement (3) i, ii, iii

A survey of the philosophical and historical background of law enforcement. Reviews the principles underlying social organization control devices with an emphasis upon legal systems. Designed to provide general knowledge about the causes of crime, the purpose of law enforcement and the role of law enforcement and the role of the police officer in modern society.

Prerequisite: None.

LAW ENFORCEMENT

120 Patrol Operations (3) i, ii, iii

A survey of the responsibilities and duties of the uniformed patrol. Special emphasis is placed upon patrol procedures; the mechanics of arrest, search and seizure; the interpretation and evaluation of information received on patrol and the importance of accurate report writing.

Prerequisite: None.

140 Traffic Control and Accident Investigation (3) i, ii, iii

An introduction to traffic control and accident investigation in modern cities. Reviews the principles of organizing and administering police units for traffic enforcement, accident prevention and safety education. Presents the basic techniques of accident investigation, analysis and interpretation.

Prerequisite: None.

160 Principles of Investigation (3) i, ii, iii

An introductory course on modern investigative methodology. Particular attention is given to the importance of information, interrogation, and instrumentation in the solution and preparation of criminal cases for trial.

Prerequisite: None.

180 Public Service and Community Relations (3) i

Presents a survey of the public service agency and its role in the community. Emphasis is placed upon the importance of the individual and his relationship to the public he serves. Outlines a general program of community relations to be undertaken by public service agencies.

Prerequisite: None.

200 Penology and Corrections (3) ii

Presents the origins and theories of punishment and the prison system. Introduces the principles and programs of institutional correction and special problems in administration. Reviews the modern recommendations for improvement of the system.

Prerequisite: Six (6) hours in the field of Law Enforcement.

220 Police Administration (3) i

An introductory survey of current police administrative methodology. Reviews the organization of the police service, analysis of police functions, principles of police management, operational services within police agencies, and the role of the police administrator in personnel assignment and evaluation.

Prerequisite: Six (6) hours in the field of Law Enforcement.

240 Juvenile Delinquency (3) ii

The study of the delinquent juvenile as an individual and the impact on society. Investigates delinquency causation, the role of the law enforcement officer, the juvenile officer, the juvenile court and juvenile corrections.

Prerequisite: Six (6) hours in the field of Law Enforcement or Consent of Instructor.

260 Criminal Law (3) i

Explores the origin, development, and classification of substantive criminal law. Reviews the rules of evidence of particular importance at the operational level of law enforcement and criminal procedures in arrest, force, search, and seizure.

Prerequisite: Fifteen (15) hours in the field of Law Enforcement or Consent of Instructor.

280 Criminalistics (3) ii

An introductory survey of modern methodology for police laboratories. Reviews the need for professional investigations while introducing the student to the means of achieving high degrees of proficiency in the field of scientific criminal inquiries.

Prerequisite: Fifteen (15) hours in the field of Law Enforcement.

299 Practicum in Law Enforcement (3) i, ii, iii

A course of instruction designed to provide students of law enforcement practical experience in a supporting capacity on a local police agency.

Prerequisite: Consent of instructor.

300 Seminar in Law Enforcement (3) i, ii

A course designed to provide the students of law enforcement with additional opportunities to research, discuss, and explore special areas of interest to police agencies.

Prerequisite: Consent of instructor.

department of TECHNOLOGY

The Department of Technology prepares the student interested in a career as a technician that requires skills and knowledge necessary to plan, produce, inspect, maintain, install, and distribute technological products or services. The course of study is designed to give the student a measure of versatility based upon an understanding of general mathematics.

The Department offers a baccalaureate degree which may involve one or more departments or subject areas. The degree is entitled Bachelor of Science in Technology with two majors, commonly referred to as "Two-plus-Two".

PLAN A—A student who has completed an associate degree from an accredited junior college may elect to pursue the Two + Two baccalaureate degree program by completing the general education and general college requirements for the baccalaureate degree and an appropriate cognate field.

PLAN B—A student who wishes to pursue the "Two-plus-Two" degree from the beginning of his college career may do so by studying two related associate degree programs. One of the associate degree programs **MUST BE** in the Division of Applied Science and Technology.

Regardless of which plan a student chooses, it is advisable to contact the Dean of the Division of Applied Science and Technology. As a result of this consultation, a more personable and reliable program to meet the student's needs will evolve.

As part of all programs offered by the Division of Applied Science and Technology, a specific amount of general education courses must be completed in order to secure a degree or certificate. The general education requirements are in addition to the course requirements for degrees and certificates awarded by this Division. Refer to general education requirements in the latter part of this catalog.

The Department offers a Bachelor of Science Degree in Technology with a:

Major in Communication Technology which requires the completion of the following courses for a total of 65-69 hours: Technology 110, 120, 140, 160, 200, 220, 230, 240, 270, 320, 340, 390, 405, 420, 440, and 470; Engineering 104, 106.

Major in Electromechanical Technology which requires the completion of the following courses for a total of 72 hours: Technology 110, 120, 140, 160, 220, 228, 230, 240, 270, 300, 360, 375, 385, 420, 460 and 475. Engineering 104, 106, 190.

Major in Electronic Engineering Technology which requires the completion of the following courses for a total of 62-66 hours: Technology 110, 120, 140, 160, 200, 230, 240, 270, 300, 310, 320, 390, 420, and 480; Engineering 104, 106, 190.

Major in Industrial Electronics which requires the completion of the following courses for a total of 68-72 hours: Technology 110, 120, 140, 160, 200, 220, 230, 240, 270, 360, 375, 390, 400, 420, and 460; Engineering 104, 106, 190; Management 210.

The Department offers an Associate of Science Degree with a:

Major in Electronic Engineering which requires the completion of the following courses for a total of 45 hours: Technology 110, 120, 140, 160, 230, 240, 270; Engineering 104, 190; and selected electives of 8 hours in the major field of concentration.

Major in Industrial Electronics which requires the completion of the following courses for a total of 44 hours: Technology 110, 120, 140, 160, 230, 240, 270; Engineering 104, 190; and selected electives of 8 hours in the major field of concentration.

Major in Radio and TV which requires the completion of the following courses for a total of 44 hours: Technology 110, 120, 140, 160, 230, 240, 270; Engineering 104, 190; and selected electives of 8 hours in the major field of concentration.

Major in Professional Pilot Training which requires the completion of the following courses for a total of 37 hours: Professional Pilot Training 120, 123, 126, 129, 240, 243, 246, 249, Engineering 106; Technology 110, 120; Math 103 or 105.

TECHNOLOGY

100 Personal and Occupational Guidance (1) i

Job requirements of engineering and technician occupations; personality development and leadership training.

Prerequisite: All engineering and technology students.

110 Technical Mathematics I (5) i, iii

College algebra and trigonometry practical problems following the exposition of each major topic will help to motivate the student and will strengthen his understanding of the principles involved.

Prerequisite: Consent of instructor.

116 Estimating of the Building Trades (3) ii

The course deals in aiding the student, contractor and builder in making quick, accurate take-offs and labor-time estimates. The emphasis is on accurate analysis of the working drawings and specifications.

Prerequisite: Architectural Drawing 120 concurrently.

120 Technical Physics I (4) i, iii

Free body diagrams, elementary statics, friction, centroids, moment of inertia, displacement, velocity, acceleration; systems of units, dynamics, energy considerations, simple harmonic motion.

Prerequisite: Technical Mathematics I, 110 or consent of instructor.

140 Circuit Analysis I (4) i, ii, iii

Basic principles of electricity covering electrical units, Ohm's law, Kirchoff's law, circuit solution, network solutions, magnetism, inductance, and capacitance. Three hours lecture and four hours lab.

Prerequisite: Concurrent with Technical Mathematics I, 110 or consent of instructor.

160 Technical Mathematics II (5) ii, iii

Applied Calculus, prepares the student to work effectively with the engineer, to

read technical publications, and to apply these mathematical tools to the solution of technical problems which he may be expected to encounter as a technician.
Prerequisite: Technical Mathematics I, 110 or consent of instructor.

- 200 Electronic Drafting (3) i**
 Drafting communication of electronic components. 2 hours lecture and three hours lab.
Prerequisite: Engineering Graphics 104 or consent of instructor.
- 208 Technical Computer Programming (3) i, ii**
 Theory and application of FORTRAN II-D, SPS and APT to the solution of problems in industrial process control and digital drafting.
Prerequisite: Engineering Graphics 104, Introduction to Data Processing 182.
- 216 Materials of Architectural Construction (3) ii**
 Designed to develop an understanding of the materials and methods of construction of residential and commercial type construction. Includes a survey of different types of common construction and their advantages and limitations.
Prerequisite: Architectural Drawing 114.
- 220 Technical Physics II (4)**
 Temperature and effects (expansion), quantity of heat, heat transfer, change of state, calorimetry, work and heat; simple harmonic motion, wave motion, sound, acoustics, nature and speed of light, reflection and refraction, illumination.
Prerequisite: Technical Physics I, 120 concurrent with Technical Mathematics II, 160 or consent of instructor.
- 224 Production Illustration (3) i, ii**
 The technical illustrator's tools, skills, and opportunities. A study of the practice in lettering, axonometric, oblique, and perspective drawings. Special treatment including cutaway and exploded assemblies, shades and shadows, airbrush techniques, inking methods, and paste-up layouts.
Prerequisite: Engineering Graphics 104.
- 228 Machine Design (3) i**
 A graphic approach to the solution of motion characteristics and the design of mechanisms. Attention is given to the detail layout of mechanisms, cams, gears. Related motion studies relative to velocities and acceleration are also studied dependent on a graphical solution.
Prerequisite: Engineering Graphics 104 and Descriptive Geometry 108.
- 230 Introduction to Electronics (4) i, ii, iii**
 The operating principles of transistors and thermionic tubes and the application of these devices as elementary amplifiers. Included also are special tube types such as cathode-ray, gas-filled, and phototubes. 3 hours lecture and 4 hours lab.
Prerequisite: Circuit Analysis I, 140 or consent of instructor.
- 240 Circuit Analysis II (4) ii**
 Characteristics of alternating current waves and time varying circuits, the behavior of alternating current components; phase and power factor; power measurements under balanced and unbalanced conditions in delta and wye connected systems; two phase and three-phase systems; application of vector algebra in the analysis of series and parallel combinations of impedance. 3 hours lecture and 4 hours lab.
Prerequisite: Circuit Analysis I, 140 concurrent with Technical Mathematics II 160 or consent of instructor.
- 270 Electronic Amplifiers (4) ii**
 A continuation of Technical Physics I, 120; multi-stage transistor and vacuum tube amplifiers, compensation techniques, feed-back principles, Class B and Class C amplifiers and oscillators. 3 hours lecture and 4 hours lab.
Prerequisite: Introduction to Electronics 220 or consent of instructor.
- 300 Boolean Algebra (3) i, ii, iii**
 The principles of symbolic logic, logical statements, and electronic circuits used for logical functions.
Prerequisite: Technical Mathematics II, 160 or consent of instructor.
- 308 Pipe Drafting (3)**
 Introduction in pipe uses and drafting applications for transporting liquids and gases, and in uses of structural elements. To show the location, the type and position of various units in a pipe line, and the sizes and descriptions of all parts used in the piping system.
Prerequisite: Descriptive Geometry 108..

- 310 Technical Mathematics III (3) i, ii, iii**
 Technical Mathematics III is designed to introduce the student to some methods of solution of the differential equations most common to circuit analysis. Emphasis is therefore placed on the solution of second order linear differential equations with constant coefficients.
Prerequisite: Technical Mathematics II, 160, or consent of instructor.
- 314 Jigs and Fixtures (3)**
 This course is an introduction to the principles of jig and fixtures. It covers standard parts available; standard types of drilling, milling, welding, and inspection fixtures, standard types of drill jigs; and simple economics of jigs and fixtures.
Prerequisite: Machine Design 228.
- 318 Materials and Processes (3)**
 A survey of the properties of materials and manufacturing processes used in high volume production industry. An introduction to the technical and economic characteristics of equipment considered in the design of such processes.
Prerequisite: Engineering Graphics 104 and Technical Mathematics I, 110.
- 320 Instruments and Measurements (4) i, ii**
 Basic circuits in electronic measurements and the application of these circuits in these instruments such as oscilloscopes, vacuum-tube voltmeters, and bridges, including the analysis of irregular waveforms and bandwidth requirements of instruments. 3 hours lecture and 4 hours lab.
Prerequisite: Circuit Analysis II, 240, Technical Mathematics II, 160, Electronic Amplifiers, 270, or consent of instructor.
- 340 Communication Systems I (4) i**
 The study of circuits and systems fundamental to radio communications. Included are small signal tuned amplifiers, tuned power amplifiers, oscillators, A.M. and F.M. modulation and detection, and the principles of transmitters and receivers.
Prerequisite: Instruments and Measurements 320 or consent of instructor.
- 360 D. C. Machinery (4) i**
 The study of the operation of D. C. machinery together with laboratory tests, such as, load tests of DC shunt, series; and compound motors; hysteresis curves, generator characteristics. 3 hours lecture and 4 hours lab.
Prerequisite: Technical Mathematics II, 160, Instruments and Measurements 320, or consent of instructor.
- 375 Hydraulics, Pneumatics, Fluidics (5)**
 A study of the basic components of hydraulic, pneumatic, and fluidic, and systems and how they are combined to build up various circuits.
Prerequisite: Technical Mathematics II, 160, Technical Physics I, 120, or consent of instructor.
- 385 Theory and Problems of Internal Combustion Engines (4) ii**
 Principles of operation of spark ignition and compression ignition engines. A comparative study of the variations in design and operational characteristics of engine types. 3 hours lecture and 4 hours lab.
Prerequisite: Technical Physics I, 120, Technical Mathematics II, 160, or consent of instructor.
- 390 Technological Projects (1-5) i, ii, iii**
 Completion of two years work in the Missouri Western College Technology curriculum. Special projects will be assigned by advisors with the approval of the Dean. A comprehensive written report of the work accomplished must be prepared and approved before credit is received. An oral examination is also required.
Prerequisite: Consent of Technology Department.
- 400 Electrical Codes (3) ii**
 An analysis of local and national electrical codes.
Prerequisite: Circuit Analysis II, 240 or consent of instructor.
- 405 F.C.C. License Preparation (3) ii**
 Prepares technicians for the first class radio-telephone operator's license examination as administered by the Federal Communications Commission.
Prerequisite: Communications Systems I, 340, or consent of instructor.

- 406 Concrete Technology (3)**
The theory and design of reinforced concrete structures including beams, columns, slabs, walls, and buildings incorporating current ACI Code provisions for elastic and ultimate design.
Prerequisite: Introduction to Chemistry 101 and Materials of Architectural Construction 216.
- 408 Tool Design (3)**
Basic principles of design and construction of cutting tools, jig and fixtures in joining operations, inspection and gaging, automated machines, and tooling systems.
Prerequisite: Machine Design 228.
- 420 Automatic Control Systems (4) i, ii**
Control systems and electronically timed operations; synchros in open-ended systems; error sensing transducers and feed-back control systems. 3 hours lecture and 4 hours lab.
Prerequisite: Instruments and Measurements 320 or consent of instructor.
- 430 Electronic Computers (4) i, ii**
The methods of using electronic circuits to perform computations; included are the elements of both analog and digital computers and the organization of these elements in a functioning computer. 3 hours lecture and 4 hours lab.
Prerequisite: Instruments and Measurements 320, or consent of instructor.
- 440 Communication Systems II (4) ii**
A continuation of Communication Systems I, 340. An introduction to the basic principles of pulse modulation systems and television systems, and a study of the characteristics of radio frequency transmission lines, antennas, and electromagnetic radiation. 3 hours lecture and 4 hours lab.
Prerequisite: Communication Systems I, 340, or consent of instructor.
- 448 Industrial Management (3)**
Principles of management as applied to the design of organizations' physical facilities and the systems by which they are operated.
Prerequisite: Technical Report Writing.
- 460 A. C. Machinery (4) ii**
Theory of operation, actual operation and testing, and installation of many types of alternating current machinery. 3 hours lecture and four hours lab.
Prerequisite: D. C. Machinery 360 or consent of instructor.
- 470 Microwave Systems (4) i, ii**
U.H.F. and V.H.F. components, circuits and measurements techniques; distributed constant elements; waveguides, microwave links, radar and similar systems. 3 hours lecture and 4 hours lab.
Prerequisite: Instruments and Measurements 320 or consent of instructor.
- 475 Refrigeration and Air Conditioning (4)**
Study of refrigeration and air conditioning principles and their application.
Prerequisite: Technical Mathematics 160; Technical Physics I 120; Hydraulics, Pneumatics, Fluidics, 375; and consent of instructor.
- 480 Electronic Design (3) i, ii**
Design and construction of individual projects. Two hours lecture and 6 hours lab.
Prerequisite: Instruments and Measurements 320, student with approved project, or consent of instructor.
- 485 Electromechanical Design (3) i, ii, iii**
An analysis is made of the processes required for manufacture of a selected electro-mechanical assembly. Written plan sheets are made of these processes and the processes and the procedures are checked by actual shop production of the assembly. One hour lecture and eight hours lab.
Prerequisite: Instruments and Measurements 320 or consent of instructor.
- 490 Technological Practice (1-5) i, ii, iii**
Completion of three years of Technology curriculum at Missouri Western College. Conducted and operated to give experience in applying basic scientific and engineering principles to practical situations related to research, development, and/or maintenance techniques and methods.
Prerequisite: Consent of Technology Department.

PROFESSIONAL PILOT TRAINING

- 120 Private Flight (3) i**
Flight maneuvers leading to private pilot, single engine, Land Certificate; Algebra 103 or 105 must be taken concurrently. 2 hrs. lecture, 4 hrs. lab.
Prerequisite: Concurrent with Tech. 105.
- 123 Private Ground (3) i**
Ground training leading to a private pilot, single engine, Land Certificate. To be taken concurrently with Private Flight Course 120.
Prerequisite: Concurrent with P.P. 120.
- 126 Commercial Flight I (3) ii**
A continuation of flight training leading to qualification for commercial license. 2 hrs. lecture, 4 hrs. lab.
Prerequisite: P.P. 123.
- 129 Commercial Ground (3) ii**
Advanced weights and balances, meteorology, flight computers, navigation and radio, Federal Aviation regulations, and flight maneuvers.
Prerequisite: P.P. 123 and concurrent with P.P. 126.
- 240 Commercial Flight II (3) i**
Continuation of Commercial Flight I. May be taken at the convenience of the student and the flight school. 2 hrs. lecture, 4 hrs. lab.
Prerequisite: P.P. 126.
- 243 Instrument Flight (3) ii**
Flight maneuvers and planning by sole reference to flight instruments. 2 hrs. lecture, 4 hrs. lab.
Prerequisite: P.P. 126.
- 246 Instrument Ground (3) ii**
Aircraft instruments and systems; instrument flight rules, flight charts, shorthand clearances, visual omni-range flight procedure, instrument landing systems, and automatic direction finder approaches.
Prerequisite: P.P. 129 and concurrent with P.P. 243.
- 249 Instructor Flight (3) ii**
Flight teaching procedure. 2 hrs. lecture, 4 hrs. lab.
Prerequisite: P.P. 240 and concurrent with P.P. 243 and P.P. 246.

EDUCATION and PSYCHOLOGY ...



An innovative teacher education program places potential teachers in the classroom during sophomore and junior years culminating with student teaching during the senior year.



Athletics are a part of the educational process serving as a teaching method and as a rallying point for the school and community.



Baseball, football, tennis and golf, along with basketball, are offered on intercollegiate levels with additional intramural activities for physical education majors.

departments of ELEMENTARY and SECONDARY EDUCATION

The Departments of Elementary and Secondary Education are concerned with the total process of learning and application. Students who wish to become elementary or secondary teachers or other educational specialists learn to use and understand principles of learning, human growth and development, and interpersonal relationships. The Departments also supply the student with specialized educational job experiences in participating elementary and secondary schools under the supervision of experienced master teachers. The professional training of the prospective teacher is placed largely in the third and fourth years of the program. The professional sequence complements a broad general education curriculum. A sound command of a major teaching field is integrated throughout the four year program.

The Department of Elementary Education offers majors in elementary education for the degree Bachelor of Science in Education. Majors in secondary education for the degree Bachelor of Science in Education are offered in conjunction with other departments.

Two-year associate degrees are also offered in the teacher education fields.

Professional Sequence (24 hours)

In addition to the general education requirements, the following professional courses are required for the Bachelor of Science degree in Education: Education 202, 304, 305, 306, 406, and 405 or 408.

Elementary Education (32 hours)

In addition to the professional sequence, the elementary education major is required to take the following courses: Political Science 101, Mathematics 300 and 400, Art 300, Music 300, Education 204, Physical Education 382 and 300, and Biology 101. The following courses meet both general education and elementary education requirements:

History 140 and 150, Geography 100, Mathematics 101, Literature 300, Physical Science 101, Earth Science 460, and English 104 and 108.

The elementary major should also select a special teaching area from one of the following: Physical Education, Music, Art, Special Education, Social Science, Science, Reading, Language Arts, Foreign Language, Math, or area approved by the Department Chairman.

Secondary Education

1. Satisfactory completion of a minimum of 50 credit hours in general education.
2. Specific requirements in the academic area of major field as set by the departments. Secondary education majors are available in the following fields: Art, Biology, Business, Junior High School Science (Biology or Chemistry), Mathematics, Music, English, Chemistry, Foreign Language, Physical Education, Social Science (History, Political Science, or Sociology), Speech and Theatre, Physics.
3. The Professional Sequence as stated above.

Admission to the teacher education program requires:

1. Written application for conditional admission prior to the Sophomore Participation program.
 - a. Requirements
 1. 2.0 overall grade point average.
 2. Approval of the Departmental Admissions Committee
2. Re-evaluation of the above application will be made prior to entrance into Junior Experience.
 - a. Requirements
 1. 2.0 overall grade point average.
 2. Recommendations of college personnel and cooperating school personnel.
 3. Approval of the Departmental Admissions Committee.
3. Final evaluation will be made prior to entrance in Student Teaching and Resources.
 - a. Requirements
 1. 2.3 grade point average in major field and professional sequence courses.
 2. 2.0 overall grade point average.
 3. Recommendations of college personnel and cooperating school personnel.
 4. Approval of the Departmental Admissions Committee.

EDUCATION

- 010 Reading Improvement (0) i, ii**
Basic reading skills for the advanced student; speed, comprehension, and vocabulary.
- 011 Career Orientation (1) i, ii**
Interdisciplinary seminar on professional opportunities and choice of academic majors.
- 202 Sophomore Participation (2) i, ii**
Off-campus participation in schools as a teacher assistant to develop an understanding of the role of a teacher, teaching procedure, evaluation.
Prerequisite: Approved admission to Teacher Education Program.
- 203 Teaching of Reading in Secondary School (3) i, ii, iii**
Techniques of teaching upper-level reading.

EDUCATION

- 204 Teaching of Reading in Elementary School (3) i, ii, iii**
Developmental reading; techniques of teaching reading in the elementary grades.
- 304 Junior Experience (3) i, ii**
A continuation of the off-campus experiences in cooperating school as a teacher associate. To be taken concurrently with Education 305.
Prerequisite: Approved admission to Teacher Education Program and Education 202.
- 305 Psychology in Teaching (4) i, ii**
A study of psychological principles as applied to educational settings. Required of all education majors. Team-teaching approach emphasizing particular areas in adolescent and childhood development. To be taken concurrently with Education 304.
Prerequisite: Psychology 101 and Education 202.
- 306 Current Trends in Education (3) i, ii**
Seminar on education innovations, new media, current teaching problems and issues.
Prerequisite: Education 202.
- 330 Speech Correction for the Classroom Teacher (3) ii**
Methods and techniques of speech correction applied and utilized by the classroom teacher.
- 342 Measurement and Evaluation in Education (3) ii**
Principles and techniques of administration; application and interpretation of tests, test results, and data for education majors.
Prerequisite: Education 304 and 305.
- 383 Diagnostic and Corrective Reading for the Classroom Teacher (3) i, ii**
Evaluation and diagnosis of reading in the elementary grades.
Prerequisite: Education 204 or 203.
- 405 Internship (6) i, ii**
One semester of off-campus teaching with full classroom responsibilities.
Prerequisite: Approved admission to teacher education program and Education 202, 304, 305.
- 406 Foundations in Education (4) i, ii, iii**
Problems in teaching, organization and management of the school; the teacher and society and methodology of teaching and resources. Taken concurrently with the Internship or Student Teaching.
Prerequisite: Approved admission to teacher education program, Education 202, 304, 305.
- 408 Student Teaching and Resources (8) i, ii, iii**
One semester off-campus teaching under a cooperating teacher; audio-visual materials, school resources, and referral agencies.
Prerequisite: Approved admission to teacher education program, Education 202, 304, 305.
- 412 Problems in Teaching (3) iii**
Seminar on recognized problems and proposed solutions relevant to modern teaching. By arrangement with Department Chairman.
- 414 Methods of Teaching the Mentally Retarded (3) ii**
Special techniques for teaching the atypical child.
Prerequisite: Education 202, 304, 305 (or approval of Department Chairman).
- 450 Independent Study (credit hours open) i, ii, iii**
A research-oriented involvement intended to extend the competencies of the student in a particular area of education.
Approval of the Department Chairman.

ASSOCIATE OF SCIENCE IN EDUCATION PROGRAMS

Two-year associate degree programs which will qualify the student as a teacher aide are available in the following areas: Reading, Mentally Retarded, Disadvantaged Child, Audio-Visual, Physically Handicapped. These programs may be applied to the Bachelor of Science in Education should the student wish to continue.

Elementary Teacher's Aide—Reading

In addition to general education requirements, the following specific courses are required: Physical Education 300 or 192; Education 202,203,204,304,305,383; Art 300.

Elementary Teacher's Aide—Mentally Retarded

In addition to general education requirements, the following specific courses are required: Physical Education 300 or 192, 382; Education 202,204,304,305,330,383; Music 300; Psychology 312; Art 300.

Elementary Teacher's Aide—Disadvantaged Child

In addition to general education requirements, the following specific courses are required: Physical Education 300 or 192,382,383; Education 202,204,304,305,330,383; Psychology 304,313; Art 300.

Elementary Teacher's Aide—Audio-Visual

In addition to general education requirements, the following specific courses are required: Physical Education 192,382; Education 202,204,304,305; Art 260,300; and 6 credit hours of courses in Audio-Visual.

Elementary Teacher's Aide—Physically Handicapped

In addition to general education requirements, the following specific courses are required: Physical Education 192,201,250,382,383,391; Education 202,304,305; Art 300.

department of PHYSICAL EDUCATION

Whether promoting intercollegiate sports, programming intramural competition, offering a planned sequence of exercises and sports activities to help students develop strong and active bodies, or working with student majors in physical education, the Department of Physical Education is interested in assisting all students to become healthy and productive members of society.

The department offers a comprehensive program of team, individual and dual sports, dance, aquatics, adaptives, and physical fitness activities for all students. These activities are geared to the needs of the individual. Students who desire a major in this department encounter the various strategies of successful team coaching, various techniques of planning, teaching, and evaluating physical education programs as well as a scientific background of the discipline.

Driver education is also included in this department. Majors in this department must meet the requirements of the general education, teacher education, and physical education core as well as an area of specialization in physical education.

The department offers an all level (elementary-secondary) major in physical education for the degree Bachelor of Science in Education. It offers specialization areas in women's physical education, and men's physical education and coaching. It also offers courses which meet certification in driver education. Majors in other departments may also receive certification in coaching or obtain certification in driver education through this department.

An activity course cannot be repeated for credit.

Major in Physical Education—Women

Courses in Physical Education must total 39 hours and 5 hours in Biology. The following are the specific courses required: Physical Education 114,120,148,153,175,191,192,201,244,246,300,303,304,373,382,383,392,393,450,465 and Biology 250.

Major in Physical Education—Men

Courses in Physical Education must total 40 hours and 5 hours in Biology. The following are the specific courses required: Physical Education 114,120,148,182,191,192,201,243,245,300,303,304,373,382,383,385,393,450, Biology 250, and two of the following: Physical Education 331,341,343,345,351,353.

Certification in Coaching

Majors in any department, who receive a degree in education, may also receive athletic coaching certification. Courses must total 9 hours in Physical Education. The following are the specific courses required: Physical Education 373,385, and two of the following: Physical Education 331, 341, 343, 345,351,353.

Certification in Driver Education

Majors in any department, who receive a degree in education, may also receive certification in driver education. Courses must total 2 hours in Physical Education, 3 hours in Safety Education, 6 hours in Driver Education, and 12 hours in Education. The following are the specific courses required: Physical Education 201, Safety Education 154, Driver Education 254, 354, Education 305 and 408.

GENERAL PHYSICAL EDUCATION CORE

- 114 Beginning Gymnastics and Trampoline (1) i, ii, iii**
Development of knowledge, skills, and appreciation of gymnastics and trampoline as recreational and fitness activities. (Two hours lab)
- 120 Beginning Tennis and Badminton (1) i, ii, iii**
Development of techniques, knowledge, and appreciation of tennis and badminton as lifetime and fitness activities. (Two hours lab)
- 148 Beginning Folk and Square Dance (1) i, ii, iii**
Fundamentals of circle, square, line, and couple dances. (Two hour lab)
- 191 Foundations of Physical Education (2) i, ii, iii**
Meaning of physical education, opportunities in the field, and evaluation of aptitudes and abilities. For freshman. (Two hours lecture)
- 192 Personal and Community Health (2) i, ii, iii**
Personal health concerns, family and community health responsibilities. (Two hours lecture)
- 201 First Aid (2) i, ii, iii**
General emergency care, major disaster, civil defense; Red Cross standard and advanced certification included. (Two hours lecture)
- 300 Elementary School Health Education (2) i, ii, iii**
Emphasis on content, methods, and materials at the elementary grade levels. (Two hours lecture)
- 303 Kinesiology (3) i**
The analysis of movement from a study of the anatomical structure and the mechanical principles of the human body. (Three hours lecture)
Prerequisite: Biology 250
- 304 Physiology of Exercise (3) ii**
Basic physiology applied to physical education and the training and conditioning of athletes. (Three hours lecture)
Prerequisite: Biology 250

- 373 Organization and Administration of Physical Education and Athletics (3) i**
Programming, staff selection, principles of administration, public relations, budget making, purchase and care of equipment, facilities, and organization of physical education and athletic programs. (Three hours lecture)
- 382 Elementary School Physical Education (3) i, ii, iii**
Rhythmic activities, movement education, fundamental skills, and sports and games for the elementary school physical education program. (2 hours lecture, 2 hours lab)
- 383 Adaptive and Corrective Physical Education (2) i, ii**
Theory and methods of programming activities for handicapped students. Recognition, prevention, and correction of functional and structural deviations from normal body mechanics. (Two hours lecture)
- 393 Measurement in Physical Education (3) i, ii**
Methods in evaluation of the product and process; special emphasis on physical fitness, motor ability, posture, and specific sport skills. (Three hours lecture)
- 450 Practicum in Physical Education (1-3) i, ii, iii**
Individualized in-depth study of a subject in which the student is particularly interested. (Senior classification)

MEN'S AND COACHING SPECIALIZATION

- 182 Beginning Soccer and Volleyball (1) i, ii, iii**
Development of techniques, knowledges, and appreciation of soccer and volleyball as recreational and fitness activities. (Two hours lab)
- 243 Theory and Methods of Teaching Men's Team Sports (2) i**
Methods and procedures for instruction of team sports activities for men. (One hour lecture, two hours lab)
Prerequisite: Physical Education 182
- 245 Theory and Methods of Teaching Men's Individual and Dual Sports (2) ii**
Methods and procedures for instruction of individual and dual sports activities for men. (One hour lecture, two hours lab)
Prerequisite: Physical Education 120
- 331 Coaching of Swimming (2) ii**
Theory and methods of coaching swimming. (1 hour lecture and 2 hours lab)
- 341 Coaching of Baseball (2) ii**
Theory and methods of coaching baseball. (1 hour lecture and 2 hours lab)
- 343 Coaching of Basketball (2) i**
Theory and methods of coaching basketball. (1 hour lecture and 2 hours lab)
- 345—Coaching of Football (2) i**
Theory and methods of coaching football. (1 hour lecture and 2 hours lab)
- 351 Coaching of Track and Field (2) ii**
Theory and methods of coaching track and field. (1 hour lecture and 2 hours lab)
- 353 Coaching of Wrestling (2) i**
Theory and methods of coaching wrestling. (1 hour lecture and 2 hours lab)
- 385 Athletic Training (2) i**
Prevention and care of common athletic injuries; protective equipment, training methods. (2 hour lecture)

WOMEN'S SPECIALIZATION

- 153 Beginning Modern Dance (1) i, ii, iii**
Fundamentals of creative modern dance. (Two hours lab)
- 175 Beginning Softball and Volleyball (1) i, ii, iii**
Development of techniques, knowledge, and appreciation of softball and volleyball as recreational and fitness activities. (Two hours lab)
- 244 Theory and Methods of Teaching Women's Team Sports (2) i**
Methods and procedures for instruction of team sports activities for women. (One hour lecture and two hours lab)
- 246 Theory and Methods of Teaching Women's Individual and Dual Sports (2) ii**
Methods and procedures for instruction of individual and dual sport activities for women. (One hour lecture and two hours lab)
Prerequisite: Physical Education 120
- 392 Sports Officiating for Women (2) i**
Rules and techniques used in officiating athletic contests. Officiating in the intramural program is desired. (Two hours lecture)
- 465 Theory and Methods of Teaching Rhythms (2) ii**
Methods and procedures for instruction of folk, square, social, modern, and tap dancing. (One hour lecture and two hours lab)
Prerequisite: Physical Education 148 and 153

ELECTIVES

- 381 Outdoor Education (2) i, ii**
Development of competencies in teaching in an outdoor learning environment. (2 hours lecture)
- 390 Introduction to Recreation (2) i**
Meaning of recreation, opportunities in the field, evaluation of aptitudes and abilities of those interested in entering the recreation field. (2 hours lecture)
- 391 Sports Officiating for Men (2) i**
Rules and techniques used in officiating athletic contests. Officiating in the intramural program is desired. (2 hours lecture)
- 395 Intramural Management (2) i, ii**
Organization and administration of intramural and extramural activities. Assistance in the intramural program is desired. (2 hours lecture)

DRIVER EDUCATION CERTIFICATION

- 154 Principles and Practices of Safety (3) i, ii, iii**
Overview of the latest safety education programs. Emphasis on traffic, school, civil defense, shops and laboratories, home and recreational safety. (Three hours lecture)
- 201 First Aid (2) i, ii, iii**
General emergency care, major disaster, civil defense, Red Cross standard and advanced certification included. (Two hours lecture)
- 254 Developmental Traffic Education (3) i, ii, iii**
Introductory course to prepare teachers of driver education. Classroom instruction, laboratory experience, and driving skills are involved. (Three hours lecture, lab arranged)
- 354 Advanced Traffic Education (3) i, ii, iii**
Advanced course to prepare teachers of driver education. Actual experience in teaching beginning drivers in both the classroom and the car. (One hour lecture, 3 hours lab arranged)
Prerequisite: Driver Education 254

CO-EDUCATIONAL ACTIVITY COURSES

(2 hrs. week)

- 110 **Adaptive Activities I (1) i, ii, iii**
A program of activities adapted to the needs of the handicapped student. By permission of the department chairman only.
- 111 **Adaptive Activities II (1) i, ii, iii**
A continuation of Adaptive Activities I.
- 112 **Adaptive Activities III (1) i, ii, iii**
A continuation of Adaptive Activities II.
- 113 **Adaptive Activities IV (1) i, ii, iii**
A continuation of Adaptive Activities III.
- 114 **Beginning Gymnastics and Trampoline (1) i, ii, iii**
- 116 **Beginning Angling and Marksmanship (1) ii**
Development of techniques, knowledges, appreciation, and skills used in various types of angling and marksmanship.
- 118 **Beginning Bowling and Golf (1) i, ii, iii**
Development of techniques, knowledges, and appreciation of bowling and golf as recreational and fitness activities. Fee required.
- 119 **Intermediate Bowling and Golf (1) ii, iii**
Advanced activity for more skilled performer in bowling and golf. Fee required.
Prerequisite: Physical Education 118 or permission of bowling and golf coordinator.
- 120 **Beginning Tennis and Badminton (1) i, ii, iii**
Development of techniques, knowledges, and appreciation of tennis and badminton as recreational and fitness activities.
- 121 **Intermediate Tennis and Badminton (1) ii**
Advanced activity for more skilled performer in tennis and badminton.
Prerequisite: Physical Education 120 or permission of tennis and badminton coordinator.
- 123 **Beginning Judo and Karate (1) i, ii, iii**
Development of techniques, knowledges, and appreciations of judo and karate as recreational, fitness, and self-defense activities.
- 124 **Intermediate Judo and Karate (1) ii**
Advanced activity for more skilled performer in judo and karate.
Prerequisite: Physical Education 123 or permission of judo and karate coordinator.
- 125 **Beginning Handball and Squash (1) i, ii, iii**
Development of techniques, knowledges, and appreciations of handball and squash as recreational and fitness activities.
- 128 **Beginning Archery and Fencing (1) i**
Development of techniques, knowledges, and appreciations of archery and fencing as recreational and fitness activities.
- 130 **Beginning Swimming (1) i, ii, iii**
Development of basic skills in swimming. For non-swimmers only.
- 132 **Intermediate Swimming (1) ii**
Development of the various strokes in swimming.
Prerequisite: Ability to swim
- 133 **Advanced Swimming and Diving (1) i, iii**
Development of advanced skills in swimming and the fundamentals of diving. Some competitive swimming included.
Prerequisite: Above average ability to swim
- 134 **Life Saving (1) ii, iii**
Development of life saving techniques. Red Cross senior life saving certification.
Prerequisite: Above average ability to swim

- 135 **Skin and Scuba Diving (1) i, ii, iii**
Techniques and safety precautions in skin and scuba diving.
Prerequisite: Above average ability to swim.
- 144 **Beginning Recreational Games (1) i**
Development of skills, knowledge, and appreciation of shuffle-board, table tennis, horseshoe pitching, deck tennis, croquet, and other recreational games.
- 146 **Beginning Social Dance (1) i**
Fundamentals of waltz, foxtrot, polka, rhumba, samba, tango, and cha cha cha.
- 148 **Beginning Folk and Square Dance (1) i, ii, iii**
- 153 **Beginning Modern Dance (1) i, ii, iii**
Development of skills, knowledges, and appreciations for creative modern dance or a recreational, fitness, and creative physical activity.
- 155 **Intermediate Modern Dance (1) ii**
Advanced activity for more skilled performer in creative modern dance.
Prerequisite: Physical Education 153 or permission of dance coordinator.
- 156 **Beginning Tap Dance (1) i, ii**
Development of skills, knowledges, and appreciations for tap dance as a recreational and fitness activity.
- 158 **Intercollegiate Sports I (1) i, ii**
College intercollegiate team members only. Must have permission of coach.
- 159 **Intercollegiate Sports II (1) i, ii**
College intercollegiate team members only. Must have permission of coach.

ACTIVITY COURSES—WOMEN ONLY

(2 hours week)

- 174 **Beginning Field Hockey and Tumbling (1) i, ii**
Development of techniques, knowledges, and appreciations of field hockey and stunts in tumbling as recreational and fitness activities.
- 175 **Beginning Softball and Volleyball (1) i, ii, iii**
- 176 **Beginning Soccer and Basketball (1) i, ii**
Development of techniques, knowledges, and appreciations of soccer and basketball as recreational and fitness activities.
- 177 **Beginning Body Dynamics (1) i, ii, iii**
Development of physical fitness through a program of formal body development exercises.

ACTIVITY COURSES—MEN ONLY

(2 hours week)

- 180 **Beginning Flag Football and Basketball (1) i**
Development of techniques, knowledges, and appreciations of flag football and basketball as recreational and fitness activities.
- 181 **Beginning Speedball and Tumbling (1) i, ii, iii**
Development of techniques, knowledges, and appreciations of speedball and the stunts in tumbling as recreational and fitness activities.
- 182 **Beginner Soccer and Volleyball (1) i, ii, iii**
- 183 **Beginning Wrestling (1) i, ii**
Development of techniques, knowledges, and appreciations of wrestling as a recreational and fitness activity.
- 185 **Beginning Weight Training and Conditioning (1) i, ii, iii**
Development of physical fitness through a program of formal body development exercises.

department of PSYCHOLOGY

The study of psychology gives the student a better understanding of human nature and of the behavior of himself and others as individuals and as members of groups.

The Department of Psychology offers a major and a minor for the Bachelor of Arts degree and for the Bachelor of Science Degree.

The department also serves other areas of the College by offering electives and requirements which meet their needs.

General Psychology 101 is a general education requirement for baccalaureate degrees.

BACHELOR OF SCIENCE OR BACHELOR OF ARTS, MAJOR IN PSYCHOLOGY

Courses in Psychology must total 28 credit hours. The following courses totaling 16 credit hours are required: Psychology 101, 250, 330, 401, and Mathematics 201 which is considered as one of the Psychology courses. The remaining courses totaling 12 credit hours are electives in Psychology.

Candidates for either degree must also comply with the appropriate Baccalaureate degree program and meet the general education requirements for Baccalaureate degrees as outlined elsewhere in this catalog.

MINOR OR EMPHASIS IN PSYCHOLOGY

Courses in Psychology must total 19 credit hours. The following courses are required: Psychology 101, 250, 330, and Math 201, plus an additional 6 credit hours selected from Psychology courses.

- 101 General Psychology (3) i, ii, iii**
History, philosophy, and scope of psychology.
- 201 Applied Psychology (3) i, ii, iii**
Extension of Psychological principles; especially interpersonal relationships and vocational choice.
Prerequisite: Psychology 101
- 210 Mental Hygiene (3) ii, iii**
A presentation of meaningful techniques for maintaining good mental health.
Prerequisite: Psychology 101
- 220 Psychology of Personality (3) ii**
Dynamics of personality and human behavior; adjustment, group behavior, personality and behavior theories.
Prerequisite: Psychology 101
- 250 Experimental Psychology (4) i, ii**
Three hours lecture and two hours lab to acquaint the student with the basic methodology which establishes psychology as a science. Emphasis is on experimental design and the tools required for data interpretation.
Prerequisite: Psychology 101 and Math 201.
- 304 Child Psychology (3) i, iii**
The acquisition of psychological equipment during childhood from conception to puberty, emphasizing biological and social origins of personality.
Prerequisite: Psychology 101
- 305 Educational Psychology (3) i, ii, iii**
Introductory professional course for the education major. Psychology relevant for the educative process.
Prerequisite: Psychology 101
- 309 Abnormal Psychology (3) i, ii**
Deviant behavior patterns and their causes, therapies, and history.
Prerequisite: Psychology 101
- 310 Industrial Psychology (3) i, ii, iii**
Psychology for management and employee in business and industry.
Prerequisite: Psychology 101
- 312 Psychology of the Exceptional Child (3) ii, iii**
Consideration of the problems and needs of children who noticeably deviate from established physical, psychological, and social norms.
Prerequisite: Psychology 101 and 304.
- 313 Psychology of the Disadvantaged Child (3) ii**
Designed to aid teachers in working with disadvantaged children in the school setting.
Prerequisite: Psychology 101 and 304.
- 320 Adolescent Psychology (3) iii**
A descriptive and explanatory consideration of the psychological behavior typical of the period from puberty to maturity in cultures ranging from the primitive to the complexities of modern civilized societies.
Prerequisite: Psychology 101
- 330 Systematic Psychology (3) ii**
Consideration of the major ways of defining, organizing, and explaining psychological phenomena.
Prerequisite: Psychology 101.
- 401 Social Psychology (3) i, ii**
A study of man in his social habitat, designed to give the student an understanding of social behavior, its origin and habituation, with an analysis of such topics as leadership, social influence, rumor, and intergroup and intragroup relations.
Prerequisite: Psychology 101
- 450 Independent Study (credit hours open) i, ii, iii**
By arrangement. An intensive program designed to meet the special need or interest of the upper-class psychology student. Consent of Department Chairman.

LIBERAL ARTS and SCIENCES



Music, both vocal and instrumental, provides the student with cultural outlets both academically and artistically.



A modern foreign language lab makes the learning process more meaningful and attractive.



The study of life at all levels with a natural habitat available on the campus to provide the students reality.

department of BIOLOGY

Biology students study all forms of life at the molecular as well as the organismal and population levels of complexity. These students work in new laboratories using modern tools and techniques, and in the department's wilderness area studying life in its natural environment. Independent study and special problems are offered for advanced students. The biology curriculum consists of core courses which are taken by all biology majors regardless of specialization, followed by biology electives in specific areas. These core courses are designed to give students a rigorous and sophisticated introduction to the principles of all important areas of modern biology.

BACHELOR OF ARTS

Major in Natural Science (Biology Emphasis)

Courses in Biology must total 27 credit hours. The following specific courses are required: Biology 111, 112, 212, 312, 412, plus an additional 12 credit hours selected from Biology courses numbered 200 or higher; Chemistry 111, 120, 127, 310, 311, 312, 313, 370; Physics 101 and 102. Mathematics 107.

Major in Biology

Courses in Biology must total 36 credit hours. The following specific biology courses are required: Biology 111, 112, 211, 212, 311, 312, 411, 412; plus an additional 10 credit hours of Biology; Chemistry 111, 215, 370; Mathematics 105 and 201; Physics 101 and 102.

BACHELOR OF SCIENCE

Major in Biology

Courses in Biology must total 40 credit hours. The following specific courses are required: Biology 111, 112, 211, 212, 311, 312, 411, 412, plus an additional 14 credit hours of Biology; Chemistry 111, 215, 370; Mathematics 105 and 201; Physics 101 and 102.

BACHELOR OF SCIENCE IN EDUCATION

Major in Biology

Courses in Biology must total 36 credit hours. The following specific courses are required: Biology 111, 112, 211, 212, 311, 312, 380, 411, 412, plus an additional 7 credit hours of Biology; Chemistry 111, 215, 370; Mathematics 105 and 201; Physics 101 and 102.

Major in Junior High School Science (Biology Emphasis)

Courses in Biology must total 24 credit hours. The following specific courses are required: Biology 111, 112, 305, 380, plus an additional 9 credit hours of Biology; Chemistry 111, 215, 370; Physics 101 and 102; Mathematics 105 and 106; Earth Science 460.

Minor in Biology

A minor in Biology consists of Biology 111 and 112 plus electives in Biology to total 20 credit hours.

BIOLOGY

- 101 Principles of Biology (5) i, ii, iii**
Principles of living phenomena; meets the general education biological science requirement. Elective credit for student who subsequently majors in biology. 4 hrs. lecture, 2 hrs. lab.
- 111 General Biology (3) i, iii**
Phenomena associated with living organisms; intended for biology majors only. 2 hrs. lecture, 3 hrs. lab.
- 112 General Biology (3) ii, iii**
Continuation of Biology 111. 2 hrs. lecture, 3 hrs. lab.
Prerequisite: Biology 111 and Chemistry 111.
- 211 Environmental Biology (3) i, iii**
Basic concepts and field techniques used in studying the relationships of organisms to their environment. 2 hrs. lecture, 3 hrs. lab.
Prerequisite: Biology 112 or consent of the instructor.
- 212 Cellular Biology (4) ii**
Molecular cell structure with relationship to such cell functions as transport, chemical transformations, growth, and reproduction. 3 hrs. lecture, 2 hrs. lab.
Prerequisite: Biology 112 and Chemistry 340.

- 250 Anatomy and Physiology (5) i**
Concepts of human function and structure and relationship of these concepts to cells, tissues, organs, and systems. 4 hrs. lecture, 2 hrs. lab.
Prerequisite: Biology 101 or consent of instructor.
- 305 Conservation of Natural Resources (3) ii, iii**
Major problems of conservation in the United States concerning soil, water, forests, minerals.
- 311 Structural and Functional Biology (4) ii**
Structure and function of plants and animals, their inter-relationships. 3 hrs. lecture 2 hrs. lab.
Prerequisite: Biology 112.
- 312 Genetic Biology (4) i**
Hereditary and adaptive principles as applied to plants and animals. 3 hrs. lecture, 3 hrs. lab.
Prerequisite: Biology 112.
- 380 Biology Teaching: Materials and Methods (3) i**
Curricula, evaluation, laboratory equipment, supplies and techniques.
Prerequisite: Twenty hours biology or consent of instructor.
- 399 Microbiology (5) ii**
Identification, characteristics and importance of common forms of micro-organisms; their application to the needs of man, infectious diseases and immunity, microbiology of air, water, foods, and their uses in industrial and scientific processes. 3 hrs. lecture, 4 hrs. lab.
Prerequisite: Biology 112 and Biology 212 or consent of instructor.
- 405 Plant Morphology: Nonvascular Plants (3) i**
Structure, development, and relationships of the algae, fungi and the bryophytes. 2 hours lecture. 2 hours lab.
Prerequisite: Biology 112.
- 406 Plant Morphology: Vascular Plants (3) ii**
Structure, development and relationships of the vascular plants. 2 hours lecture, 2 hours lab.
Prerequisite: Biology 112.
- 411 Developmental Biology (4) ii**
Plant and animal development; formation of organs and organ systems. 3 hours lecture, 3 hours lab.
Prerequisite: Biology 112.
- 412 Seminar in Biology (1) ii**
Individual reports and group discussion on problems and current research in biology.
Prerequisite: Consent of instructor.
- 415 Invertebrate Zoology (3) i**
Comparative anatomy and biological principles of the invertebrates. 2 hours lecture, 2 hours lab.
Prerequisite: Biology 112.
- 416 Vertebrate Zoology (3) ii**
Principles and evolution of vertebrate structure and function. 2 hours lecture, 2 hours lab.
Prerequisite: Biology 112.
- 450 Independent Study of Biology (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.
- 470 Literature of Biology (2) ii**
Research in major journals and other literature in the area of biology. For biology majors.
Prerequisite: Consent of instructor.
- 499 Special Problems in Biology (1-5) i, ii, iii**
Research problems in biology.
Prerequisite: Consent of instructor.

department of CHEMISTRY

The Department of Chemistry deals with a core of knowledge that is essential to much of the scientific experimentation that influences our daily lives in the modern world. From atomic theories to basic chemical structures, the prospective chemist studies that material which forms a basis for important work in engineering, pharmacy, medicine, medical technology, dentistry, and research chemistry. The Department also assists in the preparation of prospective science teachers. These students, as well as those who study chemistry as a part of their basic education, work in new facilities fully equipped for investigating contemporary chemistry topics in both classroom and laboratory.

BACHELOR OF SCIENCE

Major in Chemistry

Courses in Chemistry must total 42 credit hours. The following specific courses are required: chemistry 111, 120, 127, 310, 311, 312, 313, 321, 326, 341, 431, 432, 433, 434, 495; Mathematics 107, 108, 209; Physics 101, 201, 251; German 101.

Major in Medical Technology

Courses in the Sciences and Mathematics must total 47 credit hours; courses in Medical Technology must total 30 credit hours. The following specific courses are required: Chemistry 111, 120, 127, 310, 311, 321; Biology 111, 112, 250, 399, plus 4 credit hours selected from Biology courses numbered 300 or higher; Mathematics 105; Physics 101, 102, Medical Technology 451, 452, 453.

BACHELOR OF ARTS

Major in Chemistry

Courses in Chemistry must total 35 credit hours. The following specific courses are required: Chemistry 111, 120, 127, 310, 311, 312, 313, 321, 431, 432, 495, plus an additional 5 credit hours from Chemistry courses numbered 300 or higher; Mathematics 107, 108, 209; Physics 101, 201; German 101, 110, 260.

Major in Natural Science (Chemistry Emphasis)

Courses in Chemistry must total 27 credit hours. The following specific courses are required: Chemistry 111, 120, 127, 310, 311, 370, plus an additional 9 credit hours from Chemistry courses numbered 300 or higher; Biology 111, 112, 212, 312, plus an additional 4 credit hours selected from Biology courses numbered 300 or higher; Mathematics 107; Physics 101 and 102.

BACHELOR OF SCIENCE IN EDUCATION

Major in Chemistry

Courses in Chemistry must total 32 credit hours. The following specific courses are required: Chemistry 111, 120, 127, 310, 311, 321, 431, 432, 465, 495, plus an additional 5 credit hours from Chemistry courses 300 or higher; Mathematics 107, 108, 209; Physics 101, 201.

Major in Junior High School Science (Chemistry Emphasis)

Courses in Chemistry must total 22 credit hours. The following specific courses are required: Chemistry 111, 120, 127, plus an additional 12 credit hours selected from Chemistry courses numbered 300 or higher; Biology 111, 112, 305, plus an additional 3 credit hours selected from Biology courses numbered 200 or higher; Mathematics 105 and 106; Physics 101 and 102; Earth Science 460.

CHEMISTRY

101 Introductory Chemistry (5) i, ii, iii

Chemistry for Arts and Science students; meets the minimum physical science requirement. Credit reduced to two hours if student takes Chemistry 111 for credit. 3 hrs. lecture, 1 hr. discussion, 2 hrs. lab.

111 General Chemistry I (5) i, ii, iii

Basic concepts of chemistry; atomic theory and periodic system, chemical calculations, oxidation-reduction, states of matter, theory of chemical bonding, atomic structures. 3 hrs. lecture, 1 hr. discussion, 2 hrs. lab.
Prerequisite: Two units algebra. High school chemistry is also recommended.

112 Honors General Chemistry (5) i

Parallels Chemistry 111 for honors students only. 3 hrs. lecture, 1 hr. discussion, 2 hrs. lab.

Prerequisite: Two units algebra and one unit high school chemistry or Chemistry 101; admission by selection of the Chemistry Department based on rank in high school graduating class and scores on College Entrance Examinations.

120 General Chemistry II (3) i, ii

Continuation of Chemistry 111; thermochemistry, equilibrium, electrochemistry, radiochemistry, important elements and their compounds, periodic relationships. 3 hrs. lecture.

Prerequisite: Chemistry 111 with a grade of C or better.

127 Qualitative Analysis (2) ii

Separation and identification of some of the more common anions and cations by qualitative analysis; theories of chemical equilibrium; quantitative analytical techniques; introduction to instrumentation. 6 hrs. lab.

Prerequisite: Preceded or concurrent with Chemistry 120.

215 Elementary Organic Chemistry (3) ii

Aliphatic and aromatic series; their relation to life processes. 2 hrs. lecture, 3 hrs. lab.

Prerequisite: Chemistry 101 or 111 with a grade of C or better.

310 Organic Chemistry I (3) i

Methods of synthesis of organic compounds, reaction paths, chemical bonding, and geometry of organic molecules; aliphatic and aromatic compounds studied concurrently. If Chemistry 215 or equivalent has been completed previously, course carries only one hour of credit. 3 hrs. lecture.

Prerequisite: Chemistry 120 with a grade of C or better.

311 Organic Chemistry Laboratory I (2) i

Laboratory course to accompany Chemistry 310. 6 hrs. lab.

Prerequisite: Chemistry 310 concurrently.

312 Organic Chemistry II (3) ii

Continuation of Chemistry 310. 3 hrs. lecture.

Prerequisite: Chemistry 310 with a grade of C or better.

313 Organic Chemistry Laboratory II (2) ii

Laboratory course to accompany Chemistry 312. 6 hrs. lab.

Prerequisite: Chemistry 312 concurrently.

321 Quantitative Analysis (4) ii

Analytical chemistry; gravimetric volumetric, colorimetric, and electroanalytical determinations. The instrumental approach to analysis is emphasized. 2 hrs. lecture, 6 hrs. lab.

Prerequisite: Chemistry 127 with a grade of C or better.

326 Instrumental Analysis (4) ii

Theories and methods in modern instrumental analysis. 3 hrs. lecture. 3 hrs. lab.

Prerequisite: Chemistry 321 with a grade of C or better.

341 Advanced Inorganic Chemistry (3) i

Modern concepts of inorganic chemistry, encompassing chemical bonding theories, acid-base theories, mechanisms of inorganic chemistry, symmetry in molecules, inorganic thermodynamics and atomic and molecular structure. 3 hrs. lecture.

Prerequisite: Chemistry 111, 120, 127 with a grade of C or better.

370 Biochemistry (3) i

Chemistry of biological compounds, metabolism, and biochemical genetics. 2 hrs. lecture, 3 hrs. lab.

Prerequisite: Chemistry 111, and 215, or 310 with a grade of C or better.

431 Physical Chemistry I (3) i

Thermodynamics, properties of solutions, phase equilibria, chemical equilibrium and conductivity. 3 hrs. lecture.

Prerequisites: Chemistry 311, 321 with a grade of C or better; Physics 201; Math 209 (Math. 209 may be taken concurrently).

- 432 Physical Chemistry Laboratory I (2) i**
Laboratory course to accompany Chemistry 431. 6 hrs. lab.
Prerequisite: Concurrent enrollment in Chemistry 431.
- 433 Physical Chemistry II (3) ii**
A continuation of Chemistry 431: Electrochemistry, chemical kinetics, absorption and emission spectroscopy and introduction to quantum chemistry. 3 hrs. lecture.
Prerequisite: Chemistry 431 with a grade of C or better.
- 434 Physical Chemistry Laboratory II (2) ii**
Laboratory course to accompany Chemistry 433. 6 hrs. lab.
Prerequisite: Concurrent enrollment in Chemistry 433.
- 450 Independent Study in Chemistry (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.
- 465 Chemistry Teaching: Methods and Techniques (2) ii**
Modern techniques in teaching high school chemistry: use of audio-visual equipment, project approach, lesson planning and difficulties in chemistry instruction at the secondary level.
Prerequisite: Senior standing.
- 490 Senior Research (0-3) i, ii**
Original research on problems in various fields of chemistry. Hours arranged.
Prerequisite: Consent of Department Chairman
- 495 Seminar in Chemistry (1) i, ii**
Individual reports and group discussion on modern topics in chemistry.
Prerequisite: Senior standing or consent of instructor.

MEDICAL TECHNOLOGY

Full internship program, including Medical Technology 451, 452 and 453, is of twelve months duration in a hospital affiliated with Missouri Western College and approved by the American Society of Clinical Pathologists.

- 451 Medical Technology Internship (12) i**
Practical training and theoretical instruction in all phases of medical laboratory work; microbiology, basal metabolism, blood banking, chemistry, cytology, hematology, histology, serology, and urinalysis.
Prerequisite: Completion of ninety-four hours course work as required for award of B.S. degree in Medical Technology.
- 452 Medical Technology Internship (12) ii**
Continuation of Course 451.
Prerequisite: Medical Technology 451.
- 453 Medical Technology Internship (6) iii**
Continuation of Course 452.
Prerequisite: Medical Technology 452.

EARTH SCIENCE

- 460 Environmental Earth Science (4) ii**
Basic concepts of geology, meteorology, astronomy, and related subjects; teaching techniques and special projects for teachers. 3 hrs. lecture, 1 1/2 hrs. lab.
Prerequisite: 5 credit hours of Physical Science.

department of ENGLISH

The Department of English concentrates its efforts upon the various uses of the language which students use almost everywhere—in class, at home, or on the job. The functions of the Department are threefold:

The production of acceptable and effective writing, the ability to read critically and perceptively, and the acquisition of greater skill in dealing with ideas. In its composition courses the Department provides training in more effective communication, in receiving (reading) and in transmitting (putting ideas onto paper), both in required courses for freshmen and in the more advanced courses for those who wish to develop greater skill in expression. Literature courses concern themselves with the printed page, with the uses of language in all media, and with methods of literary research. In all these areas, even as means and techniques vary, the major emphasis remains the same: to provide a liberal education, the goal of which is a freeing and a strengthening of the human spirit as it learns to communicate more effectively with the present and the past, with itself and with other fellow human beings.

BACHELOR OF ARTS

Major in English

Courses in English must total 42 credit hours. The following specific courses are required: English Composition and Language 104, 108, 224, 332, 434; English Literature 210, 212, 310, 312, 360, 362, 368. An additional 6 credit hours must be selected from English courses numbered 300 or higher.

Minor in English

Courses in English must total 30 credit hours. The following specific courses are required: English Composition and Language 104, 108, 224; English Literature 210 or 212, 310, 312, 360, 362, 368. An additional 3 credit hours must be selected from English courses numbered 300 or higher.

BACHELOR OF SCIENCE IN EDUCATION

Major in English

Courses in English must total 41 credit hours. The following specific courses are required: English Composition and Language 104, 108, 224, 434, 436, 465; English Literature 210 or 212, 310, 312, 360, 362, 368, 400; Theatre 218; Education 203. An additional 3 credit hours must be selected from English courses numbered 300 or higher.

Minor in English

Courses in English must total 27 credit hours. The following specific courses are required: English Composition and Language 104, 108, 224, 434; English Literature 210 or 212, 310, 312, 360, 362; Education 203.

ENGLISH COMPOSITION AND LANGUAGE

101 Preparatory English (3) i, ii, iii

Remedial instruction in reading and writing for those students who enter with low marks in English and who score low on placement tests; does not fulfill any part of the six-hour English Composition requirement for a degree.

104 English Composition and Literature I (3) i, ii, iii

Practice in writing and in reading for analysis of structure and style.

108 English Composition and Literature II (3) i, ii, iii

Continuation of English 104.

Prerequisite: English 104.

112 Honors English Composition and Literature (3) i, iii

An enriched course, open to students with high class rank and high scores on placement tests. These students take Advanced Composition 224 to fulfill the six-hour English Composition requirement for a degree.

224 Advanced Composition (3) i, ii, iii

Continuation of English 108 or 112.

Prerequisite: English 108 or 112.

332 History of the English Language (3) i

Growth and structure of the English language.

Prerequisite: English 224.

338 Critical Reading and Creative Writing (3) i, ii

Writing and analysis of imaginative literary forms.

Prerequisite: English 224.

434 Descriptive English Grammar (3) ii

The grammatical structure and syntax of present-day American English; criteria for correct usage and theories of its structure.

Prerequisite: English 224.

436 The Critical Essay (3) ii

Reading and writing of essays on literary ideas and values.

Prerequisite: English 224.

465 English Teaching: Methods and Materials (2) ii

Techniques, materials and resources used in the English curriculum in secondary schools.

Prerequisite: Upperclass standing, candidate for Bachelor of Science in Education degree.

ENGLISH LITERATURE

146 Afro-American Literature (3) i, ii

Writings by Americans of African descent.

210 Introduction to Literature: Fiction and Narrative Poetry (3) i, ii, iii

The short story, the novel, and narrative poetry by American, British and foreign writers.

Prerequisite: English 108 or 112, or consent of instructor.

212 Introduction to Literature: Drama and Poetry (3) i, ii, iii

Drama: Sophocles to modern; Poetry: Chaucer to modern.

Prerequisite: English 108 or 112, or consent of instructor.

242 European Literature (3) ii, iii

European literature studied in preparation for a summer European tour.

Prerequisite: English 108 or 112.

248 Visual Literature (3) ii

Study of theme or idea comparatively embodied in a variety of media, including cinema; an interdisciplinary approach.

Prerequisite: English 108 or 112.

300 Children's Literature (3) i, ii, iii

Children's books; the use of literature with children.

Prerequisite: English 108 or 112.

310 English Literature (3) i, iii

English from the Old English period to 1785.

Prerequisite: English 210 or 212.

312 English Literature (3) ii, iii

A continuation of English Literature 310; 1785 to the present.

Prerequisite: English 210 or 212.

360 American Literature to 1865 (3) i

American Literature from Bradford to Lincoln.

Prerequisite: English 210 to 212.

362 American Literature since 1865 (3) ii

American Literature from Whitman to the present.

Prerequisite: English 210 or 212.

368 Shakespeare (3) i, ii, iii

Shakespearean drama and poetry.

Prerequisite: English 210 or 212.

372 Seventeenth Century English Literature (3) i

The poetry and prose of the seventeenth century, including Milton.

Prerequisite: English 210 or 212.

374 The Age of Reason: Eighteenth Century English Literature (3) ii

The major literary movements and writers of the eighteenth century.

Prerequisite: English 210 or 212.

400 Literature for Adolescents (3) i, ii

Contemporary and traditional material suitable for secondary schools; standards of evaluation; listings and reliable reviews of appropriate books.

Prerequisite: English 210, 212, or 248.

- 476 Nineteenth Century English Literature (3) i, ii**
Major writers and movements of nineteenth century English literature.
Prerequisite: English 210 or 212.
- 478 Modern Drama (3) i, ii**
American and international drama from Ibsen to the present.
Prerequisite: English 210 or 212.
- 480 The Novel in English (3) i, ii, iii**
American and international novels; survey and criticism.
Prerequisite: English 210 or 212.
- 482 Chaucer (3) i**
Chaucer's works and the social background of the England of his day.
Prerequisite: English 210 or 212.
- 484 Milton (3) ii**
Life, period, and representative works.
Prerequisite: English 210 or 212.
- 486 Introduction to Literary Criticism (3) ii**
Principles of criticism; the work of selected critics.
Prerequisite: English 210 or 212.

department of FINE ARTS

The Department of Fine Arts is concerned with developing and deepening the appreciation and understanding of music and art for the entire student body as well as improving the skills and disciplining the talents of majors. The Department also provides courses in history, appreciation, and basic skills for those who wish to teach subjects in the fine arts area in elementary and secondary schools.

In order to provide students the opportunity to broaden their contact with the fine arts, the Department encourages attendance at the many cultural programs in the St. Joseph galleries and concert halls, in addition to presenting programs and showings by student musicians and artists.

BACHELOR OF ARTS

Major in Art

Courses in Art must total 42 credit hours. The following specific courses are required: Two courses selected from Art 105, 106, 207; also Art 130, 131, 232, 260, 261, 320, 390, 420 or 421, 450. An additional 3 credit hours must be taken in art history and an additional 6 credit hours in studio art.

BACHELOR OF SCIENCE IN EDUCATION

Major in Art

Courses in Art must total 33 credit hours. The following specific courses are required: Art 130, 131, 260, 261, 300. An additional 6 credit hours must be taken in art history and an additional 12 credit hours in studio art.

Major in Elementary Music

Courses in music must total 50 credit hours. The following specific courses are required: Music 140, 141, 142, 143, either 144 and 145 or 345, 146, 147, 160, 161, 240, 245, 250, 260, 261, 330, 331, 332, 351, 462, plus 8 credit hours in applied major. Degree candidates must pass piano proficiency examination, participate in one major ensemble each semester (with the exception of the professional semester), and present a recital during the senior year.

Major in Secondary Music—Vocal Emphasis

Courses in Music must total 50 credit hours. The following specific courses are required: 140, 141, 142, 143, either 144 and 145 or 345, 146, 147, 160, 161, 240, 241, 245, 250, 260, 261, 350, 462, 465, plus 6 credit hours applied voice and 4 credit hours music electives. Degree candidates must pass piano proficiency examination, participate in one major ensemble each semester (with the exception of the professional semester), and present a recital during the senior year.

Major in Secondary Music—Instrumental Emphasis

Courses in music must total 50 credit hours. The following specific courses are required: 140, 141, 142, 143, either 144 and 145 or 345, 146, 147, 160, 161, 240, 242, 245, 250, 260, 261, 351, 462, 463, 465, plus 8 credit hours applied major. Degree candidates must pass piano proficiency examination, participate in one major ensemble each semester (with the exception of the professional semester), and present a recital during the senior year.

ART

HISTORY AND APPRECIATION OF ART

- 100 Art Appreciation (3) i, ii, iii**
General background in the history, philosophy, principles, and techniques of the visual arts. For non-art majors.
- 105 Ancient and Medieval Art (3) i**
History of art in western civilization: prehistoric times through the Middle Ages.
- 106 Renaissance and Modern Art (3) ii**
History of art in western civilization: Renaissance through modern times.
- 207 Art of Eastern Civilization (3) i**
The history of art in eastern civilization from earliest records to the present day; visual arts of India, China, and Japan.
Prerequisite: Art 105 or 106.
- 208 Modern Painting, Architecture and Sculpture (3) ii**
Art in the twentieth century.
Prerequisite: Art 105 or 106.

- 311 American Art (3) i**
Development of Art in the Americas; emphasis on art of the United States.
Prerequisite: Art 105 or 106.
- 315 History and Technique of the Film (3) ii**
Film history; technical and esthetic advances since the inception of the medium.
- 490 Research in Art History (3) i, ii, iii**
Research on selected topics of art history.
Prerequisite: Consent of instructor.

STUDIO ART

- 130 Drawing I (3) i, ii, iii**
Elementary drawing with the figure, still life, landscape, and perspective in various media. 6 studio hours.
- 131 Drawing II (3) i, ii**
Intermediate drawing, the figure in various media. 6 studio hours.
Prerequisite: Art 130.
- 232 Drawing III (3) i, ii**
Advanced drawing as a complete form. 6 studio hours.
Prerequisite: Art 131.
- 240 Printmaking I (3) i**
Wood block, etching, engraving, serigraphy. 6 studio hours.
Prerequisite: Art 131.
- 241 Printmaking II (3) ii**
Continuation of Printmaking I. 6 studio hours.
Prerequisite: Art 240.
- 250 Sculpture I (3) i**
Basic foundations in sculpture: Theory, techniques, materials, processes. 6 studio hours.
Prerequisite: Art 130.
- 251 Sculpture II (3) ii**
Advanced techniques in various media. 6 studio hours.
Prerequisite: Art 250.
- 260 Design I (3) i**
Design in two-dimensional problems in various media. 6 studio hours.
Prerequisite: Art 130.
- 261 Design II (3) ii**
Form in the third dimension; design principles and elements as they relate to three dimensions. 6 studio hours.
Prerequisite: Art 260.
- 300 Art Teaching: Media and Concepts (3) i, ii**
Media and concepts in studio art for education majors.
- 320 Water Media I (3) i, ii**
Water media: color, composition, and techniques. 6 studio hours.
Prerequisite: Art 130.
- 321 Water Media II (3)**
Continuation of Water Media I. 6 studio hours.
Prerequisite: Art 320.
- 350 Painting I (3) i, ii**
Beginning painting: color, composition, technique; the figure and still life. 6 studio hours.
Prerequisite: Art 131.
- 351 Painting II (3) ii**
Continuation of Painting I. 6 studio hours.
Prerequisite: Art 350.

- 380 Multi-Media Studio Projects (3) i, ii**
Application of a variety of studio disciplines toward creative solution of assigned problems: three-dimensional design, sculpture, watercolor, mixed media drawing, printmaking, painting. 6 studio hours.
Prerequisite: Art 130, 131, plus 6 additional credit hours in studio art.
- 390 Individual Instruction (arranged) i, ii, iii**
Special problems in studio areas.
Prerequisite: Consent of instructor.
- 420 Seminar: Art Criticism (3) i, ii, iii**
Readings in art criticism.
Prerequisite: Nine hours art history and twelve hours studio art.
- 421 Seminar: Mass Media and Environment (Related Arts) (3) i, ii**
The new esthetic creative forms; breakdown of the traditional distinctions among visual arts, music, literature, film, television, dance, theatre, and poetry.
Prerequisite: Nine hours art history and twelve hours studio art.
- 450 Independent Study in Art (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.

MUSIC

- 101 Music Appreciation (3) i, ii, iii**
Music materials, forms, historical-social development of composers and compositions. For non-music majors.
- 110 Chorus (1) i, ii**
Group singing of various styles of musical literature. 3 hrs.
- 111 Choir (1) i, ii**
Emphasizes tone production and musicianship; public performance of sacred and secular works. 3 hrs.
Prerequisite: Approval of the director.
- 112 Vocal Ensemble (1) i, ii**
Madrigal group, trios and quartets for public appearance. 3 hrs.
Prerequisite: Approval of the director.
- 122 Wind Ensemble (1) i, ii**
Chamber music performance. 3 hrs.
Prerequisite: Approval of the director.
- 123 String Ensemble (1) i, ii**
Chamber music performance. 3 hrs.
Prerequisite: Approval of the director.
- 124 Symphony Orchestra (1) i, ii**
Performance with the St. Joseph Symphony Orchestra for students who qualify by audition. 3 hours.
- 125 College Orchestra (1) i, ii**
Emphasizes musicianship and development on instrumental skills by study and performance of standard orchestra literature. 3 hrs.
- 131 Symphonic Winds (1) i, ii**
Emphasizes musicianship, playing skills: representative literature. 3 hrs.
Prerequisite: Approval of the director.
- 133 Stage Band (1) i, ii**
Select ensemble for public performance. 3 hrs.
Prerequisite: Approval of the director.
- 135 Marching Band (1) i**
Performance of marching maneuvers and pageants. 3 hrs.
Prerequisite: Approval of the director.
- (Courses 110 and 135 may be repeated for credit.)
- 140 Class Strings I (1) i**
Class lessons to develop a playing knowledge of all string instruments with a concentration on one instrument; techniques of teaching instrumental groups. 3 hrs.
- 141 Class Strings II (2) ii**
Class lessons in playing all string instruments. Continuation of Music 140. 5 hrs.
Prerequisite: Music 140.
- 142 Class Wood Winds (1) i**
Same as Music 140 except for the instruments used. 3 hrs.
- 143 Class Brass and Percussion (1) ii**
Same as Music 140 except for the instruments used. 3 hrs.
- 144 Class Piano I (1) i**
Sight reading, transposition, harmonization, reading music, playing by ear, improvisation. Little or no piano background required. 3 hrs.
- 145 Class Piano II (1) ii**
Continuation of Music 144. 3 hrs.
Prerequisite: Music 144.
- 146 Class Voice I (1) i**
Tone production, breath control, articulation, and interpretation. 3 hrs.
- 147 Class Voice II (1) ii**
Continuation of Music 146. 3 hrs.
Prerequisite: Music 146.
- 160 Elementary Theory I (4) i**
Simple chord progression, accessory tones, harmonizing melodies and figured bass, original compositions in simple two and three part forms; ear training, sight singing, and keyboard application. 5 hrs.
- 161 Elementary Theory II (3) ii**
Continuation of 160 adding modulation and seventh chords. 4 hrs.
Prerequisite: Music 160.
- 170 Applied Voice (1) i, ii**
Private lessons. May be repeated for a maximum total of 8 credit hours. ½ hour.
- 171 Applied Piano (1) i, ii**
Private lessons. May be repeated for a maximum total of 8 credit hours. ½ hour.
- 172 Applied Strings (1) i, ii**
Private lessons. May be repeated for a maximum total of 8 credit hours. ½ hour.
- 173 Applied Brass (1) i, ii**
Private lessons. May be repeated for a maximum total of 8 credit hours. ½ hour.
- 174 Applied Percussion (1) i, ii**
Private lessons. May be repeated for a maximum total of 8 credit hours. ½ hour.
- 175 Applied Woodwinds (1) i, ii**
Private lessons. May be repeated for a maximum total of 8 credit hours. ½ hour.
- 176 Applied Organ (1) i, ii**
Private lessons. May be repeated for a maximum total of 8 credit hours. ½ hour.
- 240 Elements of Conducting (2) i**
Basic baton techniques for all rhythmic patterns; score reading and analysis of vocal and instrumental music.
Prerequisite: Music 161.
- 241 Choral Conducting (2) ii**
A laboratory course in advanced problems of choral conducting. Supervised conducting experience is provided.
Prerequisite: Music 240.
- 242 Instrumental Conducting (2) ii**
A laboratory course in advanced problems of instrumental conducting. Supervised conducting experience is provided.
Prerequisite: Music 240.

- 245 Seminar in Music Education (2) i, ii**
Introduction to the continuing evolution of the philosophical, psychological, and sociological thought which influences practices in music education.
Prerequisite: Music 160.
- 250 Introduction to Music Literature (3) ii**
Vocal, Keyboard, symphonic, and chamber music.
Prerequisite: Music 160.
- 260 Advanced Theory I (4) i**
Continuation of Music 161 adding extended use of sevenths, accessory tones, harmonic elaboration, originals in the larger forms. 5 hrs.
Prerequisite: Music 161.
- 261 Advanced Theory II (3) ii**
Continuation of Music 260. Extended modulations, altered chords, introduction to present day harmonic practice, original work in the larger forms. 4 hrs.
Prerequisite: Music 260.
- 300 Fundamentals of Music (3) i, ii, iii**
Music fundamentals: development of skills necessary for sight singing, writing simple songs, playing piano and simple instruments. Primarily for elementary education majors.
- 330 Methods and Materials for Elementary Music Teachers (2) i, ii**
Materials and procedures for teaching singing, music reading, rhythms, instrumental, listening, and creative activities. 3 hrs.
Prerequisite: Music 245 or consent of instructor.
- 331 Music Activities for the Elementary Teacher (2) i, ii**
A study of music activities using rhythmic and melodic instruments and audio-visual aids suitable to the limited skills of the classroom teacher.
Prerequisite: Music 245 or consent of instructor.
- 332 Supervising Elementary Teaching of Music (2) i, ii**
Procedures for supervising the music program and for assisting elementary teachers. In-service training for the classroom music teacher.
Prerequisite: Music 245, 330, 331.
- 337 Marching Band Techniques (2) i**
Materials and ideas in Marching Band Techniques.
Prerequisite: Music 135.
- 338 Instrument Care and Repair (2) i, ii**
Techniques and experience in the repair of band and orchestra instruments. Emphasizes practical and economical use of materials, skill, and time.
Prerequisite: Music 141, 142, 143.
- 345 Functional Piano (2) i, ii**
Sight reading, transposition, harmonization, learning to play by ear, improvisation. 3 hrs. (This one-semester course is equivalent in content to two semesters of Class Piano.)
Prerequisite: Four years of piano study, or consent of instructor.
- 348 Vocal Pedagogy (2) ii**
Scientific study of vocal teaching techniques, physiological, psychological, acoustical and musical, with application in an actual teaching situation.
Prerequisite: Music 241.
- 350 History of Music: Primitive to Baroque (3) i**
Musical styles and techniques; from primitive music to baroque.
Prerequisite: Music 250 and 261.
- 351 History of Music: Classical to Modern (3) ii**
Musical styles and techniques; from classical to modern.
Prerequisite: Music 250 and 261.
- 364 Counterpoint (2) ii**
A study of the five species of counterpoint through four parts (or voices); the invention, canon, and fugue; a seminar on the construction and form as applied to the contrapuntal technique.

- 449 Vocal Literature (2) i**
Survey of vocal literature emphasizing from a pedagogical stand point: form, text, melody, rhythm, harmony, and accompaniment. 3 hrs.
Prerequisite: Music 250 or either 350 or 351.
- 450 Independent Study in Music (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.
- 462 Form and Analysis (3) ii**
The elements, harmonic content, and formal structures of music; historical development.
Prerequisite: Music 250 or 261.
- 463—Orchestration (2) ii**
Classification of instruments, transposition, and ranges; orchestrating and arranging for small orchestra and different combinations of instruments.
Prerequisite: Music 250 and 261.
- 465 Music Teaching: Methods and Materials for Secondary Schools (2) ii**
Problems and techniques of teaching music in junior and senior high schools; organization of instrumental and vocal groups; evaluation of materials. 3 hrs.
Prerequisite: Music 245.

department of HUMANITIES

The Department of Humanities represents the assimilation of several diversified areas of knowledge and experience. The humanities point of view centers on the human being—his aspirations, his potentialities, his relationships with his fellow man—especially as seen through his literature, drama, philosophy and religion. The department is concerned with those aspects of communication which focus on the transactions between human beings that invoke an expression and exchange of ideas in writing and speaking. It is from an understanding of these processes that a picture of the total human being emerges. Students in the department are confronted with the many aspects of man as a social animal, thereby acquiring the substance for numerous careers in such fields as linguistics, religion, politics, and teaching. The Department of Humanities offers majors in Speech and Theatre, and in Modern Foreign Language for the degree, Bachelor of Science in Education. The Department as a whole contributes to the General Education of all students with the objective of providing method and substance to the term "humanities".

BACHELOR OF SCIENCE IN EDUCATION

Major in Foreign Language (French Emphasis)

Courses in Foreign Languages must total 47 credit hours. The following specific courses are required: French 101, 110, 201, 215, 300, 319, 320; Foreign Language 465; plus a minor in a second foreign language (see below).

Major in Foreign Language (German Emphasis)

Courses in Foreign Languages must total 47 credit hours. The following specific courses are required: German 101, 110, 201, 215, plus an additional 9 credit hours in German Literature; Foreign Language 465; plus a minor in a second foreign language (see below).

Major in Foreign Language (Spanish Emphasis)

Courses in Foreign Languages must total 47 credit hours. The following specific courses are required: Spanish 101, 110, 201, 210, 320, 345 plus an additional 3 credit hours in Spanish Literature; Foreign Language 465; plus a minor in a second foreign language (see below).

Major in Speech and Theatre

Courses in Speech and Theatre must total 40 credit hours. The following specific courses are required: Speech 104, 124, 214, 224, 416, plus an additional 6 credit hours in Speech, 3 credit hours of which must be numbered 300 or higher; Theatre 113, 218, 249, 338, plus an additional 6 credit hours in Theatre, 3 credit hours of which must be numbered 300 or higher.

Minor in French

Courses in French must total 19 credit hours. The following specific courses are required: French 101, 110, 201, 215, and 300.

Minor in German

Courses in German must total 19 credit hours. The following specific courses are required: German 101, 110, 201, 210, and 345.

Minor in Spanish

Courses in Spanish must total 19 credit hours. The following specific courses are required: Spanish 101, 110, 201, 210, and 320.

Minor in Speech and Theatre

Courses in Speech and Theatre must total 19 credit hours. The following specific courses are required: Speech 104 and 214; Theatre 113, 249, 318 and 338.

FRENCH

- 101 Elementary French (5) i, ii, iii**
Basic structural patterns of the language and essential grammar; development of active proficiencies and comprehension of grammatical concepts. 5 hrs. lecture, 2 hrs. lab.
- 110 Intermediate French (5) i, ii, iii**
Continuation of French 101. 5 hrs. lecture, 2 hrs. lab.
Prerequisite: French 101 or equivalent.
- 201 French Conversation and Composition (3) i**
Refinement of writing and speaking skills through review of structural patterns, mastery of idiomatic usages and study of vocabulary distinctions. 3 hrs. lecture, 1 hr. lab.
Prerequisite: French 110 or equivalent.

- 215 French Reading and Conversation (3) ii**
Short contemporary French masterpieces. 3 hrs. lecture, 1 hr. lab.
Prerequisite: French 110 or equivalent.
- 300 French Phonetics (3) i, ii**
Description and analysis of the French sound system. A corrective approach involving intensive drill and practice. 3 hrs. lecture, 2 hrs. lab.
Prerequisite: French 110 or equivalent.
- 319 Advanced French Conversation and Composition (3) ii**
Advanced French grammar and syntax, less common idiomatic forms and subtle vocabulary distinctions.
Prerequisite: French 215 or equivalent.
- 320 French Civilization and Culture (3) i**
The cultural basis of modern France.
Prerequisite: French 215 or equivalent.
- 340 Survey of French Literature I (3) i**
Representative French literary works from the Middle Ages to the end of the seven-teenth century.
Prerequisite: French 215 or equivalent.
- 345 Survey of French Literature II (3) ii**
Continuation of French 340. French literature from the eighteenth century to the present.
Prerequisite: French 215 or equivalent.
- 450 Independent Study of French (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.

GERMAN

- 101 Elementary German (5) i, ii**
Basic structural patterns of the language and essential grammar; development of ac-tive proficiencies and comprehension of grammatical concepts. 5 hrs. lecture, 2 hrs. lab.
- 110 Intermediate German (5) i, ii, iii**
Continuation of German 101. 5 hrs. lecture, 2 hrs. lab.
Prerequisite: German 101 or equivalent.
- 201 German Conversation and Composition (3) i, ii**
Use of short literary works as a basis for conversation and short compositions.
Prerequisite: German 110 or equivalent.
- 215 German Reading and Conversation (3) i, ii**
Short contemporary German masterpieces.
Prerequisite: German 110 or equivalent.
- 260 Scientific German (3) i**
Scientific material written in German; basic scientific terms. Reading and translation; stress on scientific vocabulary.
Prerequisite: German 110 or equivalent.
- 340 Survey of German Literature I (3) i**
Literary development in Germany from its beginning to the end of the nineteenth century.
Prerequisite: German 215.
- 345 Survey of German Literature II (3) ii**
Continuation of German 340. German literature from the nineteenth century to the present.
Prerequisite: German 215.
- 450 Independent Study in German (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.

SPANISH

- 101 Elementary Spanish (5) i, ii, iii**
Basic structural patterns of the language and essential grammar, the Spanish-speaking cultures and their backgrounds. 5 hrs. lecture, 2 hrs. lab.
- 110 Intermediate Spanish (5) i, ii, iii**
Continuation of Spanish 101. 5 hrs. lecture, 2 hrs. lab.
Prerequisite: Spanish 101 or equivalent.
- 201 Spanish Conversation and Composition (3) i**
Conversations and oral compositions based on textual material as well as contempo-rary topics. 3 hrs. lecture, 1 hr. lab.
Prerequisite: Spanish 110 or equivalent.
- 210 Spanish Conversation and Reading (3) ii**
Continuation of oral skills with emphasis on the writing skills. Reading of well-known Spanish literature. 3 hrs. lecture, 1 hr. lab.
Prerequisite: Spanish 201 or equivalent.
- 320 Peninsular Spanish Culture and Civilization (3) i**
Iberian culture and civilization from beginning to the present. 3 hrs. lecture.
Prerequisite: Spanish 201 or equivalent.
- 330 Spanish-American Civilization and Culture (3) ii**
Historical and cultural development of Spanish-America from 1492 to the present. 3 hrs. lecture.
Prerequisite: Spanish 201 or equivalent.
- 340 Survey of Spanish Literature I (3) ii**
Literary development in Spain from its beginning to through 17th century. 3 hrs. lecture.
Prerequisite: Spanish 210 or equivalent.
- 345 Survey of Spanish Literature II (3) i, ii**
Literary development in Spain from 1800 to the present. 3 hrs. lecture.
Prerequisite: Spanish 210 or equivalent.
- 450 Independent Study in Spanish (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.

MODERN LANGUAGES

- 465 Methods of Teaching Foreign Languages (3) ii**
Theory, methods, and materials of language teaching: linguistics, language laboratory, evaluation.
Prerequisite: Sixteen credit hours of foreign language.

PHILOSOPHY

- 210 Introduction to Philosophy (3) i, ii, iii**
A survey of the origins and development of philosophic thought.
- 330 Comparative Religions (3) i, ii**
A survey of the nature and effects of major and minor religions on the culture and civilization of mankind.
- 340 Ethics (3) i, ii**
Definition, meaning, scope and application of ethics to every phase of mankind as comprehended by an analysis of ethics in ancient, medieval and modern times.

- 420 Readings in Philosophy (3) i, ii**
A seminar course directed toward the analysis of principal works of leading philosophers: ancient, medieval and modern.
Prerequisite: Philosophy 210.

SPEECH

- 104 Oral Communication (3) i, ii, iii**
Principles of speech as applied in meaningful participation in society.
- 114 Honors Oral Communication (3) i, ii**
Parallels Speech 104; for students of high academic rank.
Prerequisite: Consent of Department Chairman.
- 124 Voice and Articulation (3) i, ii**
Theories and techniques of improving voice and articulation. Includes mastery of a working knowledge of phonetics.
- 151 Laboratory Forensics (1) i, ii**
Participation in collegiate forensic activities including debate, oratory, manuscript reading, oral interpretation and extempore speaking. May be repeated for a maximum total of four credit hours.
- 214 Speech Composition (3) i**
Refinement of speech preparation and presentation; platform experience, extemporaneous and manuscript speeches for various occasions.
Prerequisite: Speech 104 or consent of instructor.
- 224 Group Discussion (3) ii**
Group processes and techniques; application to the development of attitudes and skills for effective participation and leadership in discussion.
Prerequisite: Speech 104.
- 234 Argumentation and Debate (3) i**
Examination and application of philosophical and theoretical foundations of logic and argumentation to the persuasive process; experience in preparation and presentation through debate and discussion formats.
Prerequisite: Speech 104.
- 314 Persuasion (3) ii**
Persuasion as a process of influencing attitude and behavior; preparation and delivery of suatory discourse. Emphasis on experimental research as reflected on the persuasive process.
Prerequisite: Speech 104.
- 315 General Semantics (3) ii**
Symbolism, language, words, meaning and the abstraction thereof as related to instrumental communication.
- 344 Extemporaneous Speaking (2) ii**
Preparation and delivery of short discourses based on prepared outlines.
Prerequisite: Speech 104.
- 405 Survey of Rhetorical Theory (3) i**
Contributions of rhetoricians from classical origins to the present.
Prerequisite: Speech 104.
- 416 Methods of Teaching Speech and Drama (3) i**
Analysis, organization and presentation of textual materials and various methodological approaches for the classroom teacher.
Prerequisite: Senior standing.
- 417 History of Speech and Speech Education (3) i**
Survey of theories, rhetoricians and courses of study, characteristic of the American rhetorical tradition.
Prerequisite: Speech 405 or Consent of instructor.

- 435 Rhetorical Criticism (3) ii**
Philosophies of rhetorical criticism and their application to public address.
Prerequisite: Speech 214, 405.
- 450 Independent Study in Speech (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.
- 465 Seminar in Rhetoric and Public Address (3) ii**
Modern philosophies of rhetorical theory and criticism as applied to public discourse. Studies in a specialized area with emphasis on individual research.
Prerequisite: Speech 214, 405, 435.
- 475 Modern Communication Theory (3) ii**
Examination of communication theory with particular emphasis on innovations from the inter-disciplinary field; recent experimental behavioral research, implications for rhetorical theory.
Prerequisite: Consent of instructor.

THEATRE

- 113 Introduction to Theatre (3) i, ii, iii**
The contributions made by directors, actors, designers, technicians, and playwrights to modern dramatic productions. Participation in a production as performer, member of stage or construction crew, or member of production committee is required.
- 140 Production Participation (1) i, ii**
Supervised practical work in any area of theatre activities in any one semester. May be repeated for a maximum total of four credit hours.
- 218 Oral Interpretation (3) i**
Oral reading and analysis of prose, poetry, and drama.
- 229 Stage Makeup (2) i**
Techniques and materials involved in make up and hair styling as required by the various styles and periods of dramatic productions. 1 hr. lecture, 2 hrs. lab.
- 249 Stagecraft: Stages and Construction (4) i, iii**
Stages, staging techniques and construction in relation to theatrical production requirements. 3 hrs. lecture-demonstration, 4 hrs. lab.
- 259 Stagecraft: Staging and Lighting (4) ii, iii**
A continuation of Theatre 249; emphasizes the element of stagelighting as a production requirement. 3 hrs. lecture-demonstration, 4 hrs. lab.
- 318 Acting I (3) i**
Basic principles of acting and stage movement developed through improvisational techniques.
Prerequisite: Theatre 113 or consent of instructor.
- 328 Acting II (3) ii**
Theories and practice in characterization.
Prerequisite: Theatre 318 or consent of instructor.
- 329 Costume Design (3) i**
Costuming for the stage: history (style and period), theory and design of costumes. 2 hrs. lecture, 4 hrs. lab.
- 338 Directing (3) i**
Principles of play direction: selection, casting, blocking, staging a production.
Prerequisite: Theatre 249.
- 349 Scene Design (3) ii**
Theory, principles and techniques of scene and lighting design for the contemporary theatre. Comprehensive analysis of a play and the development of a design through the media of floor plans, lighting plots, and perspective line drawings. 2 hrs. lecture, 2 hrs. lab.

- 358 Readers' Theatre (3) ii**
Principles and techniques involved in readers' theatre.
Prerequisite: Theatre 218 or consent of instructor.
- 450 Independent Study in Theatre (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.
- 453 Childrens' Theatre (3) ii**
Theories and principles involved in choosing and producing plays for children.
Prerequisite: Theatre 338 or consent of instructor.
- 457 History of the Theatre: Greek to Restoration (3) i**
A study of the theatre from ancient Greece through the Restoration period. Theatre and stage architecture, scene design, costuming and acting styles are discussed and their relation to dramatic literature analyzed. 3 hrs. lecture.
- 467 History of the Theatre: Restoration to the Present (3) ii**
A continuation of History of the Theatre 457, a study of the theatre from Restoration period to the present. 3 hrs. lecture.
- 469 Modern Stage Lighting (3) i**
Investigation and critical evaluation of lighting practice and aesthetics in the contemporary theatre. 3 hrs. lecture-demonstration. Production requirement.
Prerequisite: Theatre 249 and 349.
- 489 Problems in Technical Theatre (3) ii**
Problems in advanced sceno-graphic techniques including drafting for the theatre, period composition and design, translation of the design into actuality, planning and laying out the technical schedule. 2 hrs. lecture, 2 hrs. lab.
Prerequisite: Theatre 249 and 349.

department of PHYSICS and MATHEMATICS

The Department of Physics and Mathematics contributes to the liberal education of all students and, in addition, provides specialized work designed for students who need a more thorough background in these fields for jobs in government, industry, and educational institutions. Some specific positions which often demand students, both men and women, to elect a curriculum in this department are the electrical industry, radio and television, transportation, government research, and air and space programs. Students in the department work with the most modern and sophisticated instruments, methods, and materials and are well prepared to do successful graduate work in leading universities or to teach classes in physics and mathematics in the secondary schools.

BACHELOR OF ARTS

Major in Mathematics

Courses in Mathematics must total 30 credit hours; courses in Physics must total 12 credit hours. The following specific courses are required: Mathematics 107, 108, 209, 212 plus an additional 12 credit hours selected from mathematics courses numbered 300 or above, of which at least 3 credit hours are from mathematics courses numbered 400 or above; Physics 101, 201, 251.

BACHELOR OF SCIENCE

Major in Mathematics

Courses in Mathematics must total 30 credit hours; courses in Physics must total 12 credit hours; courses in Computer Science must total 9 credit hours. The following specific courses are required: Mathematics 107, 108, 209, 212; Physics 101, 201, 251; plus an additional 12 credit hours selected from Mathematics courses numbered 300 or above of which at least 3 credit hours are from Mathematics courses numbered 400 or above; Computer Science 182, 188, 284.

Major in Physics

Courses in Physics must total 30 credit hours; courses in Mathematics must total 21 credit hours; courses in Computer Science must total 6 credit hours. The following specific courses are required: Physics 101, 201, 251, 330, 340, 350, 360; plus an additional 2 credit hours selected from Physics courses numbered 300 or higher; Mathematics 107, 108, 209, 212, 325; Computer Science 182 and 188.

BACHELOR OF SCIENCE IN EDUCATION

Major in Mathematics

Courses in Mathematics must total 32 credit hours. The following specific courses are required: Mathematics 107, 108, 209, 315, 316, 465; plus an additional 9 credit hours selected from Mathematics courses numbered 300 or above, of which at least 3 credit hours are from Mathematics courses numbered 400 or above.

Major in Physics

Courses in Physics must total 25 credit hours; courses in Mathematics must total 15 credit hours; courses in Chemistry must total 8 credit hours. The following specific courses are required: Physics 101, 201, 251, 330, 340, 350, 465; Mathematics 107, 108, 209; Chemistry 111, 120.

Minor in Mathematics

Courses in Mathematics must total 21 credit hours. The following specific courses are required: Mathematics 107 and 108 plus elective courses in Mathematics numbered 200 or higher.

Minor in Physics

Courses in Physics must total 15 credit hours. The following specific courses are required: Physics 101, 201, 251. An additional 3 credit hours must be selected from Physics courses numbered 300 or higher.

MATHEMATICS

101 Fundamental Concepts of Mathematics (3) i, ii, iii

Elementary logic and application to proofs; historical development of numerals; bases other than 10; operations and mapping on sets; functions and relations; a brief systematic development of the number system.

103 Intermediate Algebra (3) i, ii, iii

Quadratic systems, exponents, radicals, ratio, proportion, variation, and binomial theorem.

Prerequisite: One unit of high school algebra, for two units of high school algebra, see department chairman.

105 College Algebra (3) i, ii, iii

Quadratic systems, exponents, radicals, ratio, proportion, variation, the binomial theorem, progressions, inequalities, permutations, and combinations.

Prerequisite: Two units of high school algebra or Mathematics 103.

106 Trigonometry (3) i, ii, iii

Circular functions, logarithms, identities.

Prerequisite: Two units of high school algebra or Mathematics 103.

107 Calculus with Analytic Geometry I (5) i, ii, iii

Plane analytic geometry, differential calculus, and integral calculus.

Prerequisite: Mathematics 105 and 106.

108 Calculus with Analytic Geometry II (5) i, ii

Selected topics from analytic geometry, calculus.

Prerequisite: Mathematics 107.

201 Elementary Statistics (3) i, ii, iii

A basic course for students in natural sciences, the behavioral sciences, and social sciences; tabulation of data, graphic representation, measures of central tendency and dispersion, probability, types of distributions, sampling, hypothesis testing, elementary aspects of correlation.

Prerequisite: Mathematics 101.

209 Calculus with Analytic Geometry III (5) i, ii

Integration, vectors, solid analytic geometry, partial differentiation, multiple integrals, infinite series, and hyperbolic functions.

Prerequisite: Mathematics 108

212 Differential Equations (3) ii

Common types of ordinary differential equations, differential operators, Laplace transforms, applications.

Prerequisite: Mathematics 209.

300 Mathematics for Elementary Teachers I (3) ii

A basic course in mathematics; emphasis on structure, meanings, relationships, and logical reasoning in elementary mathematics. 3 hrs. lecture per week.

Prerequisite: Mathematics 101.

305 Elementary Matrix Theory (3) i

Computational methods with matrices and determinants; numerical techniques for inverting matrices and solving systems of equations.

Prerequisite: Mathematics 209.

315 Topics in Geometry (3) ii

Synthetic projective geometry, collineation groups, finite geometries; abstract definitions of geometries from the algebraic viewpoint; geometry and combinatorial topology.

Prerequisite: Mathematics 108.

316 Modern Algebra (3) i

Groups, rings, fields and vector spaces; definitions and fundamental theorems; homomorphisms and isomorphisms; polynomials and field extensions.

Prerequisite: Mathematics 209.

321 Probability (3) ii

Concepts and terminology, occupancy problems limit theorems, stochastic processes.

Prerequisite: Mathematics 108.

325 Vector Analysis (3) i

Vector differential calculus; scalar, cross and dyadic products; operators; Cartesian tensors.

Prerequisite: Mathematics 209.

- 332 Mathematical Statistics (3) i**
The theory of mathematical statistics; probability, distribution theory and point estimation.
Prerequisite: Mathematics 108.
- 400 Mathematics for Elementary Teachers II (4) ii**
A continuation of Math 300. 4 lecture hours per week.
Prerequisite: Mathematics 300.
- 406 Complex Variables (3) i**
Complex numbers, Cauchy's theorem and complex differentiation and integration; analytic functions, analytic continuation, the Riemann mapping theorem.
Prerequisite: Mathematics 209.
- 417 Numerical Analysis (3) i**
Algebraic and transcendental equations; finite differences; interpolation, numerical differentiation and integration; numerical solutions of ordinary equations.
Prerequisite: Mathematics 212.
- 428 Topology (3) ii**
Elementary point set topology; homotopy groups, extensions, fiber spaces; homology groups; applications to geometry and analysis.
Prerequisite: Mathematics 316.
- 450 Independent Study in Mathematics (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.
- 465 Mathematics Teaching: Methods and Materials (2) ii**
Techniques, materials and resources used in the mathematics curriculum in secondary schools.
Prerequisite: Upper class standing; candidate for Bachelor of Science in Education Degree.

PHYSICS

- 101 Concepts and Principles of Physics (4) i, ii, iii**
A comprehensive treatment of the concepts and laws of physics using a non-mathematical approach. 4 lecture-demonstration hours per week.
Prerequisite: High School Algebra.
- 102 Principles of Physics Laboratory (1) i, ii, iii**
An introductory laboratory course which may be taken concurrently with Physics 101. 2 hours per week.
- 104 Introduction to Astronomy (3) i**
A basic course in astronomy, mostly descriptive in nature; solar system, stellar astronomy, structure of galaxy and universe. 3 lecture hours per week.
Prerequisite: A basic knowledge of high school algebra and plane geometry.
- 201 Modern College Physics (4) i, ii, iii**
Mechanics, waves, energy, electricity and magnetism, atomic physics. 3 one-hour lectures and one laboratory per week.
Prerequisite: Mathematics 105 and Physics 101.
- 251 Fundamental University Physics (4) i, ii, iii**
Calculus-based physics for engineering students and physical science majors. Three one-hour lectures and one laboratory per week.
Prerequisite: Mathematics 107 and Physics 201.
- 330 Electricity and Magnetism (5) i**
Conductors, electrostatics, circuits, magnetic fields, electromagnetic radiation. Five lecture hours per week.
Prerequisite: Physics 251.
- 340 Thermodynamics: (3) ii**
Thermodynamics, kinetic theory, and statistical mechanics. 3 lecture hours per week.
Prerequisite: Physics 251.

- 350 Optics (3) ii**
Physical and quantum optics. Three lecture hours per week.
Prerequisite: Physics 251.
- 360 Mechanics (5) i**
Motion of particles and systems. Five lecture hours per week.
Prerequisite: Physics 251 and Mathematics 212.
- 410 Modern Physics (5) ii**
Introductory quantum mechanics. Five lecture hours per week.
Prerequisite: Physics 251 and Mathematics 212.
- 412 Modern Physics Laboratory (2) ii**
Particle detection, scattering, spectroscopy, resonance. One four-hour laboratory per week.
Prerequisite: Physics 410 (concurrently)
- 430 Electrical Measurements (2) i**
Instrumentation and measurement. One four-hour laboratory per week.
Prerequisite: Physics 251.
- 450 Independent Study in Physics (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.
- 465 Physics Teaching: Methods and Materials (2) ii**
Scientific methods, techniques and skills in physics teaching; curriculum designs and structure; equipment and techniques in the laboratory.
Prerequisite: Upper class standing; candidate for Bachelor of Science in Education degree.

department of SOCIAL SCIENCE

The social sciences study human societies to understand their history, their components, their varieties, and their behavior. These sciences study the changes, organization, and disorganization of societies. In addition, they examine the varieties of people in society, their character and conduct, and the evidences of their "human nature." Students in the Department of Social Science generally prepare for careers in teaching, government, law, and social work.

BACHELOR OF SCIENCE IN EDUCATION

Major in Social Science (History Emphasis)

A major in Social Science consists of 48 credit hours. A History emphasis consists of 24 credit hours. The following specific courses are required: History 100, 110, 140, 150, 200, 330 or 340; plus an additional 6 credit hours selected from History courses numbered 300 or above; Political Science 101 and 110; Geography 100; Economics 260; Sociology 110; and Social Science 465.

Major in Social Science (Political Science Emphasis)

A major in Social Science consists of 48 credit hours. A political science emphasis consists of 24 credit hours. The following specific courses are required: Political Science 101, 110, 200 or 210, 300, 310, 320, plus an additional 6 credit hours selected from political science courses numbered 300 or above; History 100 or 110, 140, 150; Geography 100; Economics 260; Sociology 110; and Social Science 465.

Major in Social Science (Sociology Emphasis)

A major in Social Science consists of 48 credit hours. A Sociology emphasis consists of 24 credit hours. The following specific courses are required: Sociology 110, 120, 130, 210, 440, plus an additional 9 credit hours selected from sociology courses numbered 300 or above; History 100, 110, 140, 150; Political Science 101 and 110; Geography 100; Economics 260 and Social Science 465.

BACHELOR OF SCIENCE

Major in Social Work

Courses in Social Work must total 24 credit hours. The following specific courses are required: Psychology 101, 220, 309; Sociology 110, 130, 330, plus an additional 3 credit hours selected from Sociology courses numbered above 200; Political Science 101, 110, 330; Economics 260 and 261; Management 412; Social Work 250, 310, 320, 410, 430, 460, 470, 490.

BACHELOR OF ARTS

Major in History

Courses in History must total 30 credit hours. The following specific courses are required: History 100, 110, 140, 150, 200, 330 or 340, plus 12 additional credit hours in History, 9 credit hours of which must be numbered 300 or higher.

Major in Sociology

Courses in Sociology must total 30 credit hours. The following specific courses are required: Sociology 110, 120, 130, 210, 440 plus 15 additional credit hours in Sociology, 9 credit hours of which must be numbered 300 or higher.

Major in Political Science

Courses in Political Science must total 30 credit hours. The following specific courses are required: Political Science 101, 110, 200, 210, 300, 310, 320. An additional 9 credit hours must be selected from Political Science courses numbered 300 or higher.

Major in Social Work

Courses in Social Work must total 18 credit hours. The following specific courses are required: Psychology 101, 220, 309; Sociology 110, 130, 330, plus an additional 3 credit hours selected from Sociology courses numbered above 200; Political Science 101, 110, 330; Economics 260 and 261; Management 412; Social Work 250, 310, 320, 410, 430, 460.

GEOGRAPHY

100 World Geography (3) i, ii, iii

The geography of the world; earth-sun relationships, weather and climate, formation of land forms, vegetation, and soils.

200 Geography of Europe (3) ii

The nations and regions of Europe west of the Soviet Union, with present economics as a result of cultural and physical differences in the environment; trends of development as affected by new political and economic factors.

Prerequisite: A course in geography, European history or consent of the instructor.

HISTORY

100 Ancient and Medieval Civilization (3) i, ii, iii

The Western World from antiquity to the fifteenth century; The emergence of civilization in the Nile and Tigris-Euphrates valleys, the political, social economic, and intellectual contributions of Greece, Rome, and Medieval Europe.

110 Modern Civilization (3) i, ii, iii

The Western World from 1500 to 1815; national states, the geographical revolution and the founding of European Empires overseas; the Reformation, the emergence of constitutional governments, the Scientific Revolution, and the American and French Revolutions.

140 American History to 1865 (3) i, ii, iii

The discovery of America to the end of Civil War; Colonial America, the Revolution, National Development, Sectionalism, and the Civil War.

150 American History Since 1865 (3) i, ii, iii

Continuation of History 140; Reconstruction, Industrialization, Urbanization, emergence as a world power, Progressivism, World War I, the New Deal, World War II, and Post-war America.

- 200 Europe 1815-1914 (3) ii, iii**
Europe from the Congress of Vienna to 1914: Reaction and Revolution, Nationalistic movements, Rise of Socialism-Communism, the diplomatic background of World War I.
- 210 English History (3) i, ii**
English history from feudal England to the present; Anglo-Saxon England, the Norman influence, development of English political, social, economic, and intellectual ideas, Tudor England, the Stuarts, the Glorious Revolution, the founding of the British Empire, and the role of England in the modern world.
- 220 History of Missouri (3) i, ii, iii**
Missouri under French and Spanish rule, the American acquisition, the role of the state in the slavery crisis and in the settlement of the West; study of the state's contributions to politics, art, literature, education, industry, and transportation.
- 230 History of the American Negro (3) ii**
Colonial origins of Negro slavery, the Old South and slavery; Negro contributions to American culture; Negro leadership from Douglass to the present; the influence of the Negro on American politics from the writing of the Constitution to the modern civil rights legislation.
- 300 American Colonial History (3) ii**
The founding of the British North American colonies; origins of American cultural, religious, and racial diversity; British colonial administration to the Revolution.
Prerequisite: Six hours of American History.
- 310 American Economic History (3) i**
English mercantilism, laissez-faire and its effect on American economic development, the emergence of the corporation and the trust, the issue of government regulation, and the role of government in the economy today.
Prerequisite: Six hours of American History.
- 320 American Social and Intellectual History (3) i, iii**
Education, religious, intellectual, and artistic development from Colonial times; Puritanism, the Enlightenment, Transcendentalism, Realism.
Prerequisite: Six hours of American History.
- 330 Recent United States History (3) ii, iii**
The United States since 1914.
Prerequisite: History 140 and 150.
- 340 Recent European History (3) ii, iii**
Europe in World War I, the rise of dictatorships, the League of Nations, new alignments, World War II and the post war period.
Prerequisite: History 200.
- 350 The Far East (3) i**
East Asia and the Pacific from antiquity to the present; Oriental religion, politics, and the economy; the impact of European and American traders and missionaries, the founding of the European Empires, Oriental resistance to Westernization, and the emergence of modern China, Japan, and Pacific nations.
Prerequisite: History 110 or 200.
- 360 The British Empire (3) ii**
The Age of Discovery and the founding of the old British Empire, the Empire after the American Revolution, the Commonwealth of Nations, and the decline of Empire after 1945.
Prerequisite: History 210.
- 370 Latin America (3) ii**
History of Central and South America and the West Indies; the Colonial era, Latin American Revolutions, relationships with the United States and Europe.
- 380 The French Revolution and Napoleon (3) ii**
The Old Regime in France, failure of the Bourbon monarchy, the Revolution, the rise of Napoleon, the Napoleonic Wars to the Congress of Vienna 1815.
Prerequisite: Six hours of European History.

- 400 Civil War and Reconstruction (3) i**
The American Civil War and Reconstruction and its effect on national politics, economy, society, and thought; its relation to the modern South and the civil rights movement.
Prerequisite: Six hours American History.
- 410 English Legal and Constitutional History (3) i**
Magna Carta to the twentieth century; the Petition of Rights, the Puritan Revolution, the Glorious Revolution, the Bill of Rights and the Act of Succession, the development of cabinet government, the Reform Bills of 1832 and 1867, the Budget Act of 1911, the Statue of Westminster.
Prerequisite: History 110 and 210.
- 420 History of Africa (3) ii**
North Africa in the ancient world, Africa during the Age of Geographical Discoveries, 19th century European imperialism, the emergence of modern African states and their problems.
Prerequisite: Six hours European history.
- 430 European Intellectual History (3) i**
Greek and Roman contributions, the Church Fathers, the Carolingian, Ottonian, and Twelfth Century Renaissance, Italian and Northern Humanism, the Age of Reason, Romanticism, and modern European thought.
Prerequisite: Six hours of European History.
- 450 Independent Study in History (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of Instructor.

POLITICAL SCIENCE

- 101 American National Government (3) i, ii, iii**
The American constitutional system; government finance, regulation of commerce, agriculture, labor, conservation of resources.
- 110 American State and Local Government (3) i, ii, iii**
State and local government and its colonial and revolutionary origins; state constitutions, legislatures, governors, courts, state services and functions, and problems in twentieth century America.
Prerequisite: Political Science 101.
- 200 International Politics (3) i, iii**
The nature of politics at the international level, the national state system, state capabilities, foreign policy objectives, formulation and execution, international organizations, alignments, and contemporary world tensions.
Prerequisite: Political Science 101.
- 210 Comparative Governments (3) ii**
The governments of selected European states.
Prerequisite: Political Science 101.
- 300 Political Parties and Pressure Groups (3) ii**
The development, organization, functions, and activities of major and minor parties and pressure groups.
Prerequisite: Six hours of Political Science.
- 310 Political Theory (3) i**
Political theories of the Ancients, Aristotle and Plato; the Church Fathers; Renaissance thought of Machiavelli and More; the Age of Enlightenment and Locke, Montesquieu, and Jefferson; the theories of Marx, Welfare State ideas of Roosevelt; the theories of Fascism and Nazism.
Prerequisite: Political Science 101.
- 320 Public Administration (3) i**
Organization, functions, and problems of public administration in the United States.
Prerequisite: Six hours of Political Science.
- 330 Municipal Government (3) i**
The growth of cities, their legal status, municipal politics and elections, forms of city government, municipal services and functions.
Prerequisite: Six hours of Political Science.

- 410 The Legislative Process (3) ii**
The American Congress, its organization, its rules, its role in the law making; the role of interest groups, congressional investigations, and the modern Presidency in the legislative process.
Prerequisite: Six hours of Political Science.
- 420 Constitutional Law (3) i**
The role of the Supreme Court in the American system; judicial review and its significance under Marshall, Fuller, Taft, Hughes, and Warren; majority and minority opinions; the process of decision making.
Prerequisite: Six hours of political science.
- 430 The American Presidency (3) i**
The Presidency from Washington to the present; the growth of executive powers; the mode of elections and its influence on the office.
Prerequisite: Six hours of Political Science.
- 450 Independent Study in Political Science (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.

SOCIOLOGY

- 110 General Sociology (3) i, ii, iii**
Sociological concepts: social organization, human interaction with individuals and groups, population, and social change.
- 120 Cultural Anthropology (3) i, ii**
The nature of culture, language, society, and personality with emphasis on the cultural forms, processes, evolution and change.
- 130 Social Institutions (3) ii, iii**
The structure of human society; social stratification, and the familial, religious, and educational institutions.
Prerequisite: Sociology 110.
- 200 Physical Anthropology (3) i, ii**
The living races of man, the growth and differentiation of the cultures of man from their origins to the development of civilizations.
- 210 Social Deviation (3) ii, iii**
Individual and social disorganization; delinquency, alcoholism, minority groups, discrimination; and marital conflict.
Prerequisite: Sociology 110 and 130.
- 320 Urban Sociology (3) i**
The modern city and metropolitan area, ecological and demographic aspects; urban problems and programs of action.
Prerequisite: Six hours of sociology.
- 330 The Family (3) ii**
The family as a basic institution; the structure and functions of the modern family in a changing urban environment.
Prerequisite: Six hours of sociology.
- 340 Personality and Culture (3) i**
The inter-relationships of society, culture, personality.
Prerequisite: Six hours of sociology.
- 400 Ethnic and Race Relations (3) ii**
Inter-racial and inter-cultural relations in various cultures; Minority groups in the United States; conflict, accommodation, and assimilation.
Prerequisite: Six hours of sociology.
- 410 Dynamics of Population (3) ii**
National and international population characteristics, trends, and problems. Factors in birth and death rates and in migration.
Prerequisite: Six hours of sociology.

- 420 Collective Behavior (3) i**
Analysis of collective phenomena, propaganda, crowds, public opinion polls, pressure groups, and social movement.
Prerequisite: Six hours of sociology.
- 430 Criminology (3) i**
Theories of criminal behavior, legal concepts, criminal statistics, corrective treatment, and crime control.
Prerequisite: Sociology 110, 130, 210.
- 440 Seminar in Sociology (3) i**
Individual reports and group discussion on problems and current research in Sociology.
Prerequisite: Consent of instructor.
- 450 Independent Study in Sociology (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.

SOCIAL SCIENCE

- 465 Methods of Teaching the Social Studies (2)**
Principles and methods of teaching the Social Studies in the secondary school. An in-depth study of current objectives, problems, materials, and methods as applied to each discipline within the social studies curriculum. Should be taken with student teaching.

SOCIAL WORK

- 250 Social Problems and Social Change (3) i, ii, iii**
Social problems and issues; social welfare policies, programs, and institutions; their functions in society.
Prerequisite: 3 credit hours Social Science.
- 310 Social Work: A Profession (3) i**
The profession of social work, its values, and its view in approaching problems; social work methods and settings; approaches and innovations within the profession and the function of the individual social worker.
Prerequisite: Social Work 250 or consent of instructor.
- 320 Philosophy and Policy in Social Services (3) ii**
Historical significance of social legislation, its impact on the individual and society; social philosophy, social service, and social change.
Prerequisite: Social Work 310.
- 410 Social Work Methods (3) i**
Methods used by social workers in attempting to solve social problems.
Prerequisite: Social Work 320.
- 430 Practicum in Social Work (3) i**
Field experience in social work; assignment in various social agencies.
Prerequisite: 6 credit hours social work and consent of instructor.
- 450 Independent Study in Social Work (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of Instructor.
- 460 Practicum in Social Work (3) ii**
Continuation of Social Work 430.
- 470 Seminar in Social Welfare (3) i, ii**
Major trends in social welfare and policy; in depth investigation of an area of interest to the student.
Prerequisite: Consent of instructor.
- 490 Research in Social Work (3) ii**
Evaluation and utilization of social science research; research methods and experimental design.
Prerequisite: Consent of instructor.



FACILITIES

ACTIVITIES



Missouri Western College maintains an open-door admission policy and national origin, race, color, or creed are not factors used in determining the admissibility of students.

ADMISSIONS POLICIES . . .

APPLYING FOR ADMISSION

The student who wishes to be admitted to Missouri Western College must follow the following procedures:

1. Submit an application for admission provided by the Admissions and Records Office. A \$5.00 application fee must accompany the application for admission.
2. Submit test scores from the American College Testing Program (ACT). This battery may be taken on designated Saturdays at the College or at other testing centers.
3. Arrange to have a complete eight-semester high school transcript of credits sent to the Admissions and Records Office. A seven-semester transcript plus evidence of graduation will be acceptable.

NOTE: Transfer students who have earned 15 or more hours are not required to submit test scores or high school transcripts. All college transcripts must be submitted.

Upon receipt of the application for admission, application fee, and all transcript activity, the Admissions and Records Office will notify the student of his tentative acceptance or rejection and if accepted, a personal information form will be sent to the student. When this form has been completed and returned to the Admissions and Records Office, an appointment with a counselor will be made so that the student can enroll for the semester.

HIGH SCHOOL GRADUATES

As a public supported institution, Missouri Western College admits all graduates of accredited Missouri high schools who have not previously attended college. A prospective student with a high school grade average of less than 2.00 (on a 4 point scale) will be admitted; however, he may be limited to an enrollment of 12 credit hours during his first semester.

Graduates of accredited high schools from other states will be admitted to Missouri Western under the following conditions:

1. That they rank in the upper half of their graduating class.
2. That they present average, or above average, scores on the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board or the American College Test (ACT).

TRANSFERS FROM COLLEGES and UNIVERSITIES

A student who has previously attended accredited colleges or universities must present official transcripts of credit from each institution attended. No transfer student is considered officially enrolled until all college transcripts have been received and evaluated. Students presenting transcripts after final registration may be required to pay a late enrollment fee or be subject to scholastic suspension.

No prospective transfer student will be accepted unless he is eligible to return to the college last attended. A transfer student with less than a 2.00 grade point average may be required to enter under restricted enrollment. Upper division courses with a grade of D will not be accepted for credit at Missouri Western College. A prospective transfer student on scholastic probation at the college last attended may be admitted to Missouri Western College with the following restrictions:

1. That his attendance in all classes be regular and punctual.
2. That he fail no course and earn a minimum grade point average of 2.00 (on a 4 point scale) in any grade period.
3. That he carry a maximum load of 12 credit hours.

Any student who misrepresents information will be subject to immediate dismissal.

TRANSFERS FROM JUNIOR COLLEGES

Missouri Western College will accept a maximum of sixty-four semester hours of course work from junior colleges of recognized standing.

ADMISSION BY CERTIFICATION

A student may be admitted to Missouri Western College through Admission by Certification as a visiting student from another accredited college or university. The visiting student is required to present certification from authorized personnel stating that he is in good standing.

Missouri Western College may admit a high school student as a visiting student. The visiting high school student must be recommended by his high school principal. The high school principal must certify:

1. That the high school student can benefit from instruction at Missouri Western College in a specific course.
2. That the high school student is a superior student.
3. That the high school student has completed his junior year.

The visiting high school student must realize that his high school is his home school and that he cannot participate in social activities sponsored by Missouri Western College.

GENERAL EDUCATION DEVELOPMENT TESTS

A student who has received his equivalency certificate based on acceptable scores on the General Education Development Tests (GED) may be accepted as having met the requirements for admission to Missouri Western College in lieu of the high school diploma.

ADULT STUDENTS

Persons over twenty-one years of age who have not completed the stated requirements for admission and who present evidence of special preparation and attainment, may be admitted to the college as regular students.

COLLEGE CREDIT BY EXAMINATION

Missouri Western College may accept a maximum of 30 credit hours work obtained by a student in the following areas:

- a. Departmental approved testing programs. (\$15.00 fee per test)
- b. United States Armed Forces Institute and other armed services schools.
- c. Extension work from regionally accredited institutions.
- d. Correspondence work from regionally accredited institutions.

The student must apply to the Registrar for evaluation of such work prior to completion of 30 academic hours of college credit at Missouri Western College.

VETERANS

Credits earned through the United States Armed Forces Institute (USAFI) are generally recognized in accordance with the recommendation of the Commission on Accreditation of Service Experiences of the American Council of Education. Veterans must furnish copies of discharge or separation papers at the time of application for admission. No credit will be given until such papers are received.

FOREIGN STUDENTS

Foreign students are welcomed at Missouri Western College, but due to the fact that Missouri Western does not have courses designed for students whose English background may be limited, only those foreign students who can show a high degree of proficiency in English are encouraged to apply for admission. The prospective foreign student applying for admission must fulfill the following requirements:

1. Make application for admission.
2. Present proof of ranking in the upper half of his graduating class.
3. Demonstrate proficiency in the use of the English language by obtaining a minimum score of 500 on the Test of English as a Foreign Language (TOEFL).
4. Show evidence of financial responsibility.

The foreign student must pay the same non-resident fees as that paid by out-of-state students.

CLASS AUDITORS

A class auditor is a student registered for a course for no credit. Usually a student audits a course for review or prior to registering for credit.

If a student enrolls in a class for credit, he may choose to change his registration to audit if he does so prior to the end of the sixth week of the semester. A change from audit to credit must be completed by the end of the first week.

REGISTRATION PROCEDURES and FEES . . .

PRE-REGISTRATION

All first-time college students and transfer students must plan to visit the College during the summer months for pre-registration. An appointment date will be issued when the initial application requirements have been completed. Each new Missouri Western student is scheduled for an interview with a counselor who will discuss his program with him and answer questions he may have about choice of vocation, enrollment, or the College in general. Students will report at a designated time, prior to the beginning of classes, for final registration.

RESIDENCE

It is the responsibility of each student to register under the proper residence and pay proper fees. Rules of residency are listed on the personal information form referred to on page 96. Any student claiming residency in the Missouri Western Junior College District or the State of Missouri may be required to furnish evidence in support of his claim.

The registrar will rule on all questions regarding residency, but the student has the right to appeal the decision to the Committee on Residence.

SCHEDULE OF FEES

	9 or more hours	less than 9 hours
I. Residents of the Missouri Western Junior College District		
a. Junior College Division	\$135	\$15 per credit hour
b. Senior College Division	\$170	\$20 per credit hour
II. Residents of Missouri (outside the Missouri Western Junior College Dist.)	\$170	\$20 per credit hour
III. Non-Residents (outside the State of Missouri)	\$250	\$30 per credit hour
Summer Session		
I. Residents of the Missouri Western Junior College District		
a. Junior College Division	\$ 67.50	\$15 per credit hour
b. Senior College Division	\$ 85.00	\$20 per credit hour
II. Residents of Missouri (outside the Missouri Western Junior College Dist.)	\$ 85.00	\$20 per credit hour
III. Non-Residents (outside the State of Missouri)	\$125.00	\$30 per credit hour

ALL STUDENTS WITH 55 HOURS AND ABOVE WILL BE CLASSIFIED SENIOR COLLEGE DIVISION

OTHER FEES

Application Fee	\$ 5.00	Transcript Fee	\$ 1.00
Applied Music Fee		Commencement Fee	\$10.00
(per credit hour)	\$20.00	Laboratory Breakage & Materials . .	Cost
Late Registration Fee	\$20.00		
Change of Study Fee	\$ 5.00		
College Credit by Exam (per test) . .	\$15.00	(The College reserves the right to change fees without notice)	

BACCALAUREATE DEGREE PROGRAMS

Missouri Western College offers five baccalaureate degrees with majors in various fields. Students must complete a minimum of 124 credit hours with a grade point average of 2.00 (C average) and a minimum of thirty semester hours in upper division courses (those with numbers in the 300's and 400's) to qualify for these degrees. Consult the Department Chairman for adjustments in the two plus two programs.

The baccalaureate degrees offered are:

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Science in Business Administration
- Bachelor of Science in Education
- Bachelor of Science in Technology

The Bachelor of Arts degree is broadly based in the liberal arts and sciences. It is usually pursued by students who plan, upon graduation, to enter graduate school or a professional school such as law, medicine, or dentistry and by students who plan to seek employment in the areas of the arts, languages, social work, and government service. One of the requirements for this degree is thirteen credit hours in a foreign language. This degree is available with majors in mathematics, natural science, English, history, political science, sociology, art, psychology, chemistry and social work.

The Bachelor of Science degree is based on concentrated study in one or more sciences. It is usually pursued by students who plan to apply this knowledge in the scientific areas of health, research, and industry. This degree is available with a major in medical technology, computer science, economics, psychology, chemistry, mathematics, physics and social work.

The Bachelor of Science in Business Administration degree is designed for the student who desires a broad foundation in several areas related to business principles as applied in business, industry, or government employment. This degree is available with majors in accounting, marketing, and management.

The Bachelor of Science in Education degree is designed to equip well-qualified individuals for careers in teaching or education. Upon completion of the degree requirements, the candidate will meet certificate requirements for the State of Missouri and be prepared for graduate study in education and related fields. This degree is available with majors in physical education; junior high science; elementary education in the areas of art, foreign language arts, mathematics, music, reading, science, social science, special education; and secondary education in the areas of basic business, business skills, mathematics, biology, English, speech and theatre, social science, art, music, chemistry and foreign language.

The Bachelor of Science in Technology degree is designed for the student interested in a career as a technician that requires skills and knowledge necessary to plan, produce, inspect, maintain, install and distribute technological products or services. This degree is available with majors in communication technology, electromechanical technology, engineering technology and industrial technology.

The Bachelor of Science in Technology "Two-plus Two" degree is designed for the student who has completed an associate degree program and desires the bachelor's degree with an additional emphasis in a cognate field. A student must complete the general education and general college requirements for the degree.

GENERAL EDUCATION REQUIREMENTS FOR BACCALAUREATE DEGREES

		Credit Hrs.
AREA I	Communications	
	English Composition (104 and 108)	6
	Oral Communication (104)	3
		9
AREA II	Social Sciences	
	*American Government (101) or American History (140 or 150)	3
	Ancient Civilization (100) or Modern Civilization (110)	3
	Elective (Geography, Sociology, Political Science, or American History)	3
		9
	*Required by State Law	
AREA III	Natural Sciences	
	**Mathematics (101)	3
	**Biological Science (101)	5
	**Physical Science (101)	5
		13
	**Higher level courses also satisfy this requirement	
AREA IV	Humanities	
	Art Appreciation (100) or Music Appreciation (101)	3
	Literature	3
	Elective	3
		9
AREA V	Environmental Living	
	Physical Education Activities	4
	General Psychology (101)	3
	Introduction to Data Processing (182)	3
		10
	TOTAL	50 Credit Hrs.

STATE LEGISLATION REQUIREMENT

Sections 10370, 10374, 10374a, 10374b, 10374c (SCS for SB4) of the laws of Missouri, 1947 (6th General Assembly), prescribe that all candidates for a degree issued by the colleges and universities of Missouri must have completed courses of instruction in and "satisfactorily passed an examination on the provisions and principles of the Constitution of the United States and of the State of Missouri, and in American History, including the study of American Institutions."

Students may comply with the law (1) by completing courses embracing the subject matter specified by the law and receiving credit therein, preferably before admission to senior college work, or (2) by certification of the completion of such requirements in another collegiate institution.

CHANGES OF CATALOG

The degree requirements in this catalog, 1970-71, become effective June 1, 1970.

A candidate for a degree may use as a basis for degree requirements the general catalog issued for any year following the date of his first registration in the college, so long as it is not more than six years prior to the date the degree is to be conferred. The candidate must have been enrolled during the year of the catalog selected.

TRANSFER RESIDENCE REQUIREMENT

The maximum credit that a student may transfer from a junior college toward advanced standing is 64 semester hours.

Upper division courses with a grade of D will not be accepted for credit at Missouri Western College.

Transfer students seeking a baccalaureate degree must complete the last thirty credit hours at Missouri Western College. A minimum of nine credit hours of the residence requirement must be in the major field. Education majors must also include student teaching in the residence requirement. Transfer students applying for the associate degree must complete the last fifteen credit hours at this institution. A minimum of six credit hours of the residence requirement must be in the major field.

ASSOCIATE DEGREE PROGRAMS

Missouri Western College offers two associate degrees with majors in various fields. Students must complete a minimum of 62 credit hours with a grade point average of 2.00 (C average) to qualify for these degrees.

The Associate degrees offered are:

Associate of Science

Associate of Science in Education

The Associate of Science degree is designed for the student who desires a concentrated program (usually technical in nature) in preparation for employment in business, industry, or government. The degree is available with majors in agri-business, computer science, drafting and design, electronic engineering, executive secretary, industrial electronic engineering, law enforcement, legal secretary, medical secretary, management, nursing education, professional pilot training, and radio, TV.

Note: This degree is also designed to recognize the first two years of a baccalaureate program for transfer purposes.

The Associate of Science in Education degree, which will qualify the student as a teacher aide, is available in the following areas: reading, mentally retarded, disadvantaged child, audio-visual, physically handicapped. These programs may be applied to the Bachelor of Science in Education should the student wish to continue.

GENERAL EDUCATION REQUIREMENTS FOR ASSOCIATE DEGREES

		Credit Hrs.
AREA I	Communications	
	English Composition (104)	3
	Oral Communication (104)	3 6
AREA II	Social Sciences	
	American Government (101) or American History (140 or 150)	3 3
AREA III	Humanities	
	One of the following courses: Art Appreciation (100) Music Appreciation (101) Literature	3 3
AREA IV	Physical Education	
	Physical Education Activities	2
	Personal and Community Health (192)	2 4
	TOTAL	16 Credit Hrs.

ONE-YEAR CERTIFICATE PROGRAM

Missouri Western College offers a One-year Certificate in Secretarial Training or Clerical Training designed for the student who desires a concentrated program in preparation for the secretarial field. Students must complete a minimum of 26 credit hours with a grade point average of 2.00 (C average) to qualify for this certificate.

GENERAL EDUCATION REQUIREMENTS FOR THE ONE-YEAR CERTIFICATE

		Credit Hrs.
AREA I	Communications	
	English Composition (104)	3
AREA II	Social Sciences	
	One of the following courses: American Government (101) American History (140 or 150)	3
AREA III	Physical Education	
	Physical Education Activities	1
	TOTAL	7 Credit Hrs.

TRANSFER PROGRAMS

Missouri Western College offers pre-professional programs in specialized fields in which students transfer to another college or university for the completion of their studies. Students choosing these programs should select their transfer institution early and should work closely with their academic adviser and counselor while at Missouri Western.

The following areas are those which serve most students interested in transfer programs:

Agriculture	Journalism	Pharmacy
Architecture	Law	Physical Therapy
Chemistry	*Medicine	Physics
*Dentistry	Mortuary Science	*Veterinary Medicine
**Engineering	Optometry	

*A four-year degree is desirable before applying for acceptance into the professional school of your choice. Therefore, students with aspirations in these areas are invited to consider the Bachelor of Arts degree with a major in natural science offered by Missouri Western College.

**Missouri Western offers three years of Engineering courses for transfer purposes to the University of Missouri.

ACADEMIC POLICIES and REGULATIONS . . .

NORMAL COURSE LOAD

The normal load which may be carried by a student is 15 to 17 hours per semester or 7 to 9 hours in a summer term, exclusive of required physical education activities. This includes day and evening enrollment combined.

Upon recommendation of the faculty adviser and the approval of the division dean, a student who has a 3.0 term grade point average may take additional credit the following semester.

A student cannot enroll as an auditor in excess of a normal load.

Students who find it necessary to work in order to attend Missouri Western College should adjust their course load to their work load. Students should use the following schedule as a guideline to determine their course load:

Hours Worked Per Week
15-20 hrs.
20-30 hrs.
30-35 hrs.
35-40 hrs.

Course Load
12 credit hrs.
9 credit hrs.
6 credit hrs.
3 credit hrs.

CLASS ATTENDANCE

Regular attendance is required as evidence of a student's active interest in completing the work for which he enrolled. There is no such thing as a permissible number of cuts. Irregular attendance may be sufficient cause for dropping a student from class.

RECORDS OF ACADEMIC WORK AND TRANSCRIPTS

A student may secure an unofficial student copy of his Missouri Western College record in the MWC Admissions and Records Office. Official transcripts bearing the seal of the college and the signature of the registrar are issued only to other educational institutions and employers; and, since student records are confidential, transcripts are issued only by written request or authorization from the student. No transcript is issued to or for a student who is indebted to the college until such indebtedness has been paid in full.

Each student will be issued one transcript free of charge. For each additional transcript, a fee of \$1.00 is charged.

GRADING SYSTEM

Grades used in evaluating the work of students are as follows:

Letter Grade	Level of Performance	Grade Points Earned
A	superior	4 for each credit hr.
B	good; above average	3 for each credit hr.
C	average	2 for each credit hr.
D	minimum passing; below average	1 for each credit hr.
F	failing	0 for each credit hr.
Inc.	incomplete	
W	withdrawal	
WP	withdraw passing	
WF	withdraw failing	
Aud.	audit	
Cr.	credit	

Grade point averages are used to determine an individual's class standing and eligibility for graduation, the Dean's and President's Honor Lists, and membership in honor societies.

REPEATING COURSES

A student who has made "D" or "F" in a course will be permitted to repeat the course. Grades earned in the second attempt are used in calculating grade point average.

WITHDRAWAL FROM COLLEGE

Students who, for any reason, find it necessary to withdraw from college during the course of a semester must complete the following steps:

1. Visit a counselor and secure a withdrawal form.
2. Secure the signature of the counselor, the Vice President Student Affairs, the Director of Financial Aids, the Librarian and the Registrar. The Admissions and Records office will notify each instructor of your withdrawal from his class.
3. When a student withdraws from COLLEGE after the sixth week, his status in each subject will be recorded "WP" or "WF".

CHANGE OF STUDY

All class or schedule changes must be made by petition. In order to drop or add a course, it is necessary for a student to secure a change of study form from his adviser and have him approve it. Next he must pay a fee of five dollars at the Business Office for each petition. The final step is to present the petition to the Office of Admissions and Records.

Change may be made only during the following time periods:

1. First four (4) days of semester (summer session first two (2) days)—add or drop, or change from audit to credit.
2. Fifth and sixth week (summer session third week)—drop only, or change from credit to audit. A class dropped prior to the 7th week will not appear on the transcript as an attempted class.
3. Ninth and tenth week (summer session fifth week)—drop only. Courses dropped during this period will be assigned a grade of "WP" if passing at the time of withdrawal or "WF" if failing.

A "WP" grade does not count as attempted course work and will not affect the G.P.A.

A "WF" does count as a course attempted (the same as an "F"), but may be removed by repeating and earning a higher grade.

INCOMPLETE GRADES

An incomplete grade must be removed within six weeks after the close of the semester in which it was received; otherwise, the grade will be recorded as "F". Appeals for an extension of the time limit may be made to the Academic Regulations and Standards Committee.

SCHOLASTIC PROBATION AND SUSPENSION

A student places himself on scholastic probation or scholastic suspension if his cumulative grade point average drops below the minimum requirements.

SCHOLASTIC PROBATION

Less than 55 resident hours: More than five (5) grade points below a 2.0 (C) overall or semester average.

55 or more resident hours: Less than 2.0 (C) overall or semester average.

SCHOLASTIC SUSPENSION

1. Must have completed 20 or more semester hours of resident graded course work and have been on probation the previous semester.
2. More than eighteen (18) grade points below a 2.0 (C) overall average.
3. No student with a Grade Point Average of 1.85 or above will be suspended.
4. No student with a term G.P.A. of 2.0 or above will be suspended.
5. Any student placed on Scholastic Suspension has the right to appeal his case in writing to the Academic Regulations & Standards Committee.

A student suspended from Missouri Western College who feels his case warrants special consideration may petition the Academic Regulations & Standards Committee provided such appeal is made immediately following notification of suspended status. Circumstances beyond the student's control must be presented before reinstatement will be considered. When reinstatement is granted, it will be on a probationary basis.

ACADEMIC STANDARDS

Hours Completed	Grade Points		Hours Completed	Grade Points		Hours Completed	Grade Points	
	Probation Less than	Dismissal Less than		Probation Less than	Dismissal Less than		Probation Less than	Dismissal Less than
3.....	1.....	—	43.....	81.....	68	82.....	2.0 GPA	146
4.....	3.....	—	44.....	83.....	70	83.....	"	148
5.....	5.....	—	45.....	85.....	72	84.....	"	150
6.....	7.....	—	46.....	87.....	74	85.....	"	152
7.....	9.....	—	47.....	89.....	76	86.....	"	154
8.....	11.....	—	48.....	91.....	78	87.....	"	156
9.....	13.....	—	49.....	93.....	80	88.....	"	158
10.....	15.....	—	50.....	95.....	82	89.....	"	160
11.....	17.....	—	51.....	97.....	84	90.....	"	162
12.....	19.....	—	52.....	99.....	86	91.....	"	164
13.....	21.....	—	53.....	101.....	88	92.....	"	166
14.....	23.....	—	54.....	103.....	90	93.....	"	168
15.....	25.....	—	55.....	2.0 GPA	92	94.....	"	170
16.....	27.....	—	56.....	"	92	95.....	"	172
17.....	29.....	—	57.....	"	96	96.....	"	174
18.....	31.....	—	58.....	"	98	97.....	"	176
19.....	33.....	—	59.....	"	100	98.....	"	178
20.....	35.....	22	60.....	"	102	99.....	"	180
21.....	37.....	24	61.....	"	104	100.....	"	182
22.....	39.....	26	62.....	"	106	101.....	"	184
23.....	41.....	28	63.....	"	108	102.....	"	186
24.....	43.....	30	64.....	"	110	103.....	"	188
25.....	45.....	32	65.....	"	112	104.....	"	190
26.....	47.....	34	66.....	"	114	105.....	"	192
27.....	49.....	36	67.....	"	116	106.....	"	194
28.....	51.....	38	68.....	"	118	107.....	"	196
29.....	53.....	40	69.....	"	120	108.....	"	198
30.....	55.....	42	70.....	"	122	109.....	"	200
31.....	57.....	44	71.....	"	124	110.....	"	202
32.....	59.....	46	72.....	"	126	111.....	"	204
33.....	61.....	48	73.....	"	128	112.....	"	206
34.....	63.....	50	74.....	"	130	113.....	"	208
35.....	65.....	52	75.....	"	132	114.....	"	210
36.....	67.....	54	76.....	"	134	115.....	"	212
37.....	69.....	56	77.....	"	136	116.....	"	214
38.....	71.....	58	78.....	"	138	117.....	"	216
39.....	73.....	60	79.....	"	140	118.....	"	218
40.....	75.....	62	80.....	"	142	119.....	"	220
41.....	77.....	64	81.....	"	144	120 or over	1.85 GPA	
42.....	79.....	66						

READMISSION

A student placed on scholastic suspension the first time may be readmitted after the lapse of one academic semester provided that he file a written petition for return at least four weeks prior to the beginning of the session when eligible to return. Such petition to be directed to the Registrar.

A student placed on scholastic suspension the second time after being readmitted may again be readmitted after the lapse of one academic year provided that he file a written petition for return at least eight weeks prior to beginning of the session when eligible to return. Circumstances beyond the student's control must be presented before reinstatement will be considered. When reinstatement is granted it will be on a probationary basis. Such petition to be directed to the Academic Regulations and Standards Committee.

Continued attendance in any case of readmission will be subject to the following conditions:

1. That he earns a minimum grade point average of 2.00 in any grading period.
2. That he carries a maximum load of twelve credit hours the first session after reinstatement.
3. That his attendance be regular and punctual.

DEAN'S HONOR LIST

A Dean's Honor List is published at the end of each semester. To be included on the Dean's List, a student must be carrying twelve or more credit hours of work with a grade point average of 3.00 or higher.

PRESIDENT'S HONOR LIST

A President's Honor List is published at the end of each semester. To be included on the President's List, a student must be carrying twelve or more credit hours of work with a grade point average of 4.00.

GRADUATION HONORS

Students completing degree requirements with a grade average of 3.90 or higher, will be graduated with Highest Honors (summa cum laude). Those who have earned a grade average of 3.75 or higher but below 3.90 will be graduated with High Honors (magna cum laude). Those who have earned a grade average of 3.50 or higher but below 3.75 will be graduated with Honors (cum laude).

COMMENCEMENT

A candidate for graduation is required to attend the commencement exercises. In case of an extreme emergency, a permit to graduate in absentia may be obtained from the Vice President of Academic Affairs. Candidates for graduation are charged a \$10.00 commencement fee.

Application for graduation must be made at the Registration and Records Office by October 1 of the academic year in which the student plans to graduate.

SUMMER PROGRAM

Missouri Western College summer sessions are designed for:

1. Students who wish to accelerate their progress.
2. Students who carry only a partial course load during the regular semesters.
3. June high school graduates who wish to get an advanced start in their college studies.

Missouri Western welcomes summer students from other collegiate institutions.

PROGRAM OF CONTINUING EDUCATION

Missouri Western College offers an extensive Continuing Education program with classes from all three academic divisions offered during the evening hours and Saturday mornings. In addition, specialized short-courses, workshops and seminars are made available throughout the year.

The Continuing Education program serves the following purposes:

1. Service to the adult community by offering courses which
 - a. lead to the Associate or Baccalaureate Degree
 - b. promote improvement of professional competencies
 - c. enable the individual to broaden his cultural knowledge
2. Provides flexibility in scheduling for regular college students

All services offered by Missouri Western are available to those adults who pursue their education in the Continuing Education program. While some offices are open on a limited basis, the Registrar's office is open at all times when classes are in session.

The admission requirements and fees are the same as for regular day classes except as they may be modified for specialized short-courses, workshops and seminars.

MISSOURI ACADEMIC CONTRACT

As a teacher education institution, Missouri Western College may enter into the Academic Contract with the State Department of Education and eligible persons. This contract qualifies teachers for a two-year certificate, leading to a permanent certificate.

Eligible persons include degree teachers new to Missouri who do not have at least 5 semester hours earned credit in student teaching, and degree teachers having more than 8 semester hours of deficiencies for the life certificate.

Interested persons should consult the Chairmen of the Departments of Education.

STUDENT ACTIVITIES, ORGANIZATIONS, and SERVICES . . .

Extracurricular activities are planned because of the significant contribution they make to the education of the student. The objectives of general education are not complete unless some provision is made for student participation, actual governmental and judicial experience, the opportunity for cultural and social growth, and a chance to pursue and develop an avocation.

The student activities program is a necessary part of the educational philosophy at Missouri Western College. While it is readily recognized that the information gained in the academic classroom is important in shaping the future of the student, it is becoming more and more apparent on today's college campus, that the information and experience gained in participating as a citizen in an academic community is equally important.

The Vice-President, Student Affairs, is charged with the administration and supervision of student organizations and social activities, on and off campus housing, student aids, awards and scholarships, student conduct and discipline, and other non-academic activities concerned with the general welfare of the student.

STUDENT CONDUCT

Missouri Western College expects each student, as a condition to remaining in the college, to conduct himself so as to maintain an effective environment for learning: to act responsibly in accordance with good taste, to observe college regulations and the city, state and federal laws, and to respect fully the rights of others. The Student Handbook contains more specific information concerning student conduct and related disciplinary action which may include dismissal in case of serious infraction.

STUDENT ACTIVITIES

Student Government The Student Government Assembly (SGA) is the primary student governing body on the Missouri Western College campus and is composed of elected representatives from the student body. Because it represents the students, all student committees, activities, regulations and student oriented decisions in general are to be formed or acted upon by the Student Government Assembly.

The Student Activities Committee is an important committee under the Student Government Assembly. It has the responsibility of planning all student activities such as dances, convocations, commencement exercises, films, etc. Membership is voluntary and application for one of the various sub-committees is to be made through the chairman of the Student Activities Committee.

Social Life The Social life at Missouri Western changes from year to year in an effort to meet the current needs and interests of the student body, and the college community. Some of the traditional events are: the Icebreaker Dance at the beginning of the year, the Homecoming Dance, the Sweetheart Dance, and the Spring Formal. Additional social events are developed and sponsored by the various organizations and interest groups on the campus.

Dramatics At least two major productions, sponsored by the Department of Humanities are scheduled each year. Reader's theater, oral interpretation, and debate activities are also available to interested students.

Music Music activities include participation in the college band, various instrumental ensembles, the college chorus, and vocal ensembles. Although these activities are sponsored by the Department of Fine Arts, any student may be eligible for participation.

INTRAMURALS

A full intramural sports program is offered to college personnel. The program of activities includes individual, dual, and team sports for the enjoyment and competitive need of Missouri Western College students and faculty members.

The intramural program encourages the development of mental, physical, emotional, and social instruction. Through the intramural program the college hopes to help the student maintain better health through exercise. In general, Missouri Western provides the opportunity for every individual, regardless of his ability, to realize the fun of participation in his favorite sport against good competition.

ATHLETICS

Missouri Western has an athletic program of intercollegiate competition including football, basketball, baseball, golf, and tennis. Competition will begin in other sports as they can be staffed and facilities are provided.

An athletic program is an important unifying factor in campus life. Student organizations, the general student body and the staff of the college are vital supporters of the college athletic program. Only through their interest will the athletic program grow and continue to provide exciting activities enjoyed on campuses today. The Missouri Western Athletic Department urges each student to BACK THE GRIFFONS!

The "MW" Club is for varsity intercollegiate award winners. The purpose of this group is to foster the sportsmanship, citizenship, and general wholesomeness acquired in intercollegiate athletics. This club is governed by elected officers under the supervision of the athletic department.

STUDENT PUBLICATIONS

The college newspaper, **The Griffon News**, is published bi-monthly during the school year. Student opinion, campus news and current national collegiate problems are gathered and edited by students.

Yearbook Student life for the academic year is depicted in **The Griffon**. The entire staff is voluntary and any interested student may participate in its publication. Cost of the yearbook is paid by the registration fee and a copy of the yearbook is mailed to each two-semester student who pays the full-time fee. One semester full-time students may obtain a copy by paying an additional fee of \$2.50. The yearbook is delivered during the summer.

STUDENT ORGANIZATIONS

The following organizations are currently active on the Missouri Western campus and additional clubs are being formed as enrollment increases and new four-year activities are deemed necessary and national affiliation is sought. More detailed information regarding all campus organizations listed below will be found in the current issue of the Student Handbook, and the office of the Vice-President, Student Affairs, will assist in answering questions in this area.

DEPARTMENTAL CLUBS

ALPHA DELTA KAPPA—Social Science Fraternity

BAND

STAGEBAND

CHOIR

DELTA PSI OMEGA—Drama Society

EL CLUB DE ESPANOL—Spanish Club

ENGINEERS CLUB

LE CERCLE FRANCAIS—French Club

MISSOURI STUDENT TEACHERS ASSOCIATION—Missouri Western College Chapter

MISSOURI WESTERN JUDO CLUB

PHI BETA LAMBDA—Business Club

PSYCHOLOGY CLUB

VEBLEN POLITICO—Economic Society—for students interested in Economics

SOCIAL WORK CLUB—a club interested in community affairs

HONORARY

MACE—an honorary organization founded in 1926.

RELIGIOUS

BAPTIST STUDENT UNION

NEWMAN FELLOWSHIP

EPSILON CHI

SOCIAL

Sororities

DELTA ZETA

PHI MU

Fraternities

BETA PHI OMEGA

LAMBDA CHI ALPHA

PHI SIGMA EPSILON

TAU KAPPA EPSILON

SERVICE

ALPHA PHI OMEGA—An active group of men students dedicated to service to Missouri Western College and the community.

MISCELLANEOUS

CHEERLEADERS—Eight regular and two alternates are selected by tryouts.

FELLOWSHIP OF RECONCILIATION

GRIFFONETTES—Girls dance and drill group

SCHACH SPIELEN KLUB—Chess Club

VETERANS CLUB—All veterans are invited to join this active group.

YOUNG AMERICANS FOR FREEDOM

YOUNG DEMOCRATS

YOUNG REPUBLICANS

STUDENT SERVICES

STUDENT CENTER

The Student Center is open from 8:00 a.m. until 9:30 p.m. and is maintained for the purpose of providing all students with a place for fellowship and relaxation. Food service is available, as well as a bookstore and recreation facilities.

HEALTH SERVICE

The Student Health Center is currently located in the LRC Building and provides a registered nurse and limited dispensary service. It will be located in the Student Center when that building has been completed.

LIBRARY

In the pleasant atmosphere of the Hearn Learning Resources Center students may study and relax. The building houses 40,000 volumes, periodicals for research and recreation, microprint material, films, records, filmstrips, tapes, and a variety of other print and non-print materials, making information available in the most suitable media. Open stacks give students easy access to all of the materials. Individual study carrels allow for private study, while the student lounge offers respite from the books. Students have a typing room and seminar rooms for group study available to them. One of the most attractive buildings on campus, the LRC offers aesthetics while being functional.

BOOKSTORE

A well-stocked bookstore carries textbooks as well as a full line of college accessories. The bookstore is open as a service to the students the following hours:
7:45 A.M. to 4:00 P.M., Monday through Friday
6:30 P.M. to 8:30 P.M., Monday through Thursday
8:30 A.M. to 12:30 P.M., Saturday

PLACEMENT OFFICE SERVICES

The Placement Service is maintained to assist present and former students of the College in finding employment.

It assists students and alumni by making available information concerning job openings, by compiling credentials of registrants and by arranging for interviews with prospective employers.

It assists employers by notifying them of qualified applicants by furnishing credentials and by arranging for interviews.

Students are urged to avail themselves of the service by registering with the Placement Service in their senior year or prior to leaving college. Alumni are urged to keep their records up-to-date.

FIELD SERVICES

The Field Services Office assists the various departments of the college with: (1) presentation of the college programs to high school students of the area; (2) presentation of college information and related programs to various organizations and groups; (3) coordination of the employer needs of business and industry with currently enrolled students and alumni.

ALUMNI ASSOCIATION

Missouri Western College has an active Alumni Association which maintains up-to-date information on present and former students. All graduates or former students are con-

sidered alumni and are eligible for membership in the association. At the present time a charter membership, which will include all former St. Joseph Junior College and Missouri Western College students, is being formed.

HOUSING

The Office of Vice President, Student Affairs maintains a list of approved off-campus housing. The college does not make individual rental agreements. It would be wise for the student to arrive in St. Joseph prior to the beginning of the session to locate suitable housing.

A new residence hall, housing 192 men and women students will be available for occupancy approximately September 1971. For additional information, contact Vice President, Student Affairs.

COUNSELING

The counseling center is located in the Administration Building and provides facilities for testing and counseling students to assist them in making wise choices in their studies and in solving academic personal problems.

Students are assigned an academic adviser at the beginning of their freshman year. Usually this adviser is a member of the faculty who has particular interest or training in the student's proposed area of concentration. Although the student himself is responsible for meeting graduation requirements and requirements for transfer to other colleges or universities, he is given opportunity for academic counseling.

The counselor-adviser system attempts to (1) help the student reach a state of self-reliance through a clearer understanding of his own capacities and habits, (2) assist him in analyzing and handling any difficulties he may have in his program of study, (3) provide him with information about the occupational world.

The Testing Center is located adjacent to the Counseling Offices. Missouri Western College is a testing center for the American College Test. Other tests are available to the student on an individual basis upon request in the Counseling Center. Many students have found it helpful to complete the Strong Vocational Blank, Mooney Problem Check List and others. The General Educational Development (GED) Test is administered on a monthly basis.

INTERNATIONAL STUDENT ADVISER

A member of the staff of the Office of Student Affairs serves as a special adviser to students from abroad who are attending Missouri Western College. He assists with personal problems and with adjustments to the customs and procedures of American educational systems.

SELECTIVE SERVICE

College Student Certificates (Form SSS 109) are completed at the time of registration by all male students who are registered with the Selective Service and who have not completed their military obligation.

It is the **responsibility** of the **student** to see that his draft board is informed of his status as a full-time student.

VETERANS

The college is approved by the Veterans Administration to offer programs for veterans and for those attending under the War Orphans Act. Veteran's application forms and general information are available at the Financial Aids Office.

SCHOLARSHIPS and STUDENT AID . . .

SCHOLARSHIPS

Scholarships and financial aid are available to Missouri Western College students who qualify.

HIGH SCHOOL SCHOLARSHIPS: Missouri Western College offers scholarships to honor graduates of high schools in the College District. One scholarship is offered each year in each high school. Such scholarships cover the cost of the incidental fee.

To be eligible a student must:

1. Rank in the upper ten percent of his graduating class.
2. Rank higher than the seventy-fifth percentile on the Ohio Psychological Senior Test.
2. Be recommended by his high school principal.
4. Not be the recipient of another college scholarship.

The scholarship may be renewed for each semester if the student maintains a grade point average of 2.50 or better the first semester, and 3.0 thereafter.

FINE ARTS SCHOLARSHIPS: The Governing Boards offer a number of scholarships each year in the amount of incidental fees to students who show particular ability in art or music. Selections are made by the Scholarship Committee with recommendations from the Fine Arts faculty.

SPEECH AND/OR THEATRE SCHOLARSHIPS: The Governing Boards offer a number of scholarships each year in the amount of incidental fees to students who actively participate in the Speech and/or Theatre programs. Recipients of this scholarship must maintain a 2.0 grade point average as freshmen and 2.5 thereafter. Selections are made by the Missouri Western College Scholarship Committee with recommendations from the Speech and Theatre faculty.

ATHLETIC SCHOLARSHIPS: The Governing Boards have agreed to give a number of athletic scholarships to male students who plan to participate in athletics. These athletic scholarships are awarded at the recommendation of the Director of Athletics and with the approval of the Scholarship Committee. The scholarship is a waiver of all or part of the fees incurred at Missouri Western College.

DR. WAYNE TOOTHAKER SCHOLARSHIP: By the will of the late Dr. Wayne Toothaker, a sum of \$5,000 was invested, the interest from which is to be awarded to a student who expects to enter the medical profession and is taking the pre-medical course at Missouri Western College. Application is made to the Scholarship Committee.

ANNE LOWELL WELLS FUND: This fund was created by the International Relations Club and furthered by the Cheshire Cheese Club in memory of Miss Anne Lowell Wells, a deceased member of the faculty. The interest from this fund is available to a deserving student who is attending Missouri Western College.

HARRY MONSON MEMORIAL FUND: The Harry Monson estate, through the Downtown Rotary Club of St. Joseph, donated \$2,500 to be used for scholarship purposes. Two thousand dollars of this total is invested and the earnings are used to grant some young person a scholarship in the name of Harry Monson.

A. J. EINBENDER MEMORIAL SCHOLARSHIPS: This fund was created by Sylvia, Lester, Alvin, Edwin, and Larry Einbender in memory of A. J. Einbender, founder of the A. J. Einbender firm. Two scholarships of \$175 each will be granted to Missouri Western College students. Application is made through the Scholarship Committee.

THE CULVER-GETTYS MEMORIAL SCHOLARSHIPS: This Scholarship is given in memory of Lt. Col. Charles M. Culver and Captain Hugh M. Gettys. The scholarship is awarded to a young man or woman who has completed a minimum of 28 college hours. The student must have a cumulative grade point average of 2.75 or better and show evidence of need of financial assistance. The scholarship shall be in the amount of the incidental fees for the first semester; and, if the student continues to achieve a cumulative grade point average of 2.75, it may be continued for the second semester. Preferably, the student should be planning to go into education.

THE MR. AND MRS. CLARK C. GLAZE SCHOLARSHIP: A \$7,500 scholarship fund has been established by Mr. and Mrs. Clark C. Glaze, the interest from which is to be awarded to

students at Missouri Western College. If used by a student taking a pre-medical course, the scholarship is to be known as the Emily B. Glaze Scholarship. If used by a student taking pre-engineering, the scholarship will be known as the Clark C. Glaze Scholarship. Application is to be made to the Scholarship Committee.

FIRST NATIONAL BANK MERIT SCHOLARSHIPS: These scholarships were established in 1961 by the First National Bank of St. Joseph as an expression of its interest in the importance of higher education and in appreciation of the contribution Missouri Western College is making for the betterment of St. Joseph and the surrounding area. Two scholarships are available each year, one to a graduate of a St. Joseph high school, and one to a graduate of any high school in the district. The scholarships cover fees and the cost of necessary textbooks. Ordinarily, the scholarships are for one year only and new recipients are named each year. However, should conditions warrant, a student may be awarded the scholarship for a second year. Application is made to the Scholarship Committee. From the applicants the Committee selects the two students who are best qualified from the standpoint of scholarship and financial need.

NATIONAL ASSOCIATION OF POWER ENGINEERS, MISSOURI CHAPTER NO. 1, ST. JOSEPH SCHOLARSHIP: This organization has made a scholarship available to a pre-engineering student who is in his freshman year and who expects to complete his second year at Missouri Western College. Application blanks are obtained from instructors who teach pre-engineering subjects. A committee made up of members of the Society makes the final selection.

C. R. BRAY ANNUAL ARTS AWARD: Established in 1959 by the Bray Studio, this award is an expression of interest in the future leadership of our community and country. The aim of this award is to encourage interest in higher education among students participating on high school and college annual staffs. Several awards are presented each year in the amount of \$50 or \$100 to worthy students in recognition of their outstanding achievements and services. Applications should be submitted to the Scholarship Committee.

THE ADA LYON CREATIVE WRITING AWARD: The St. Joseph Women's Press Club offers an award of \$25 each year to the Missouri Western College student who submits the best example of creative writing. Members of the organization are the judges for this award.

B'NAI B'RITH WOMEN'S DIVISION AWARD: Selection is made from a list of eligible students by a committee from the organization. Two are selected. It usually amounts to one-half of the incidental fee. This award has been made for many years.

AMERICAN BUSINESS WOMEN'S ASSOCIATION AWARD: Officers of the organization select the recipient. It ordinarily amounts to the incidental fee. These awards are made on the basis of scholastic achievement and financial need. Information concerning applicants is forwarded to officers of the organizations who make the final selection and inform the student well in advance of the time for final registration at the college.

CAROLYN B. ULLMAN TEACHER EDUCATION SCHOLARSHIP: The Missouri Congress of Parents and Teachers, aware of the shortage of teachers in the elementary field, offers a scholarship to students wishing to prepare to teach in the public elementary schools of the State of Missouri. The awards are based on (1) character, (2) scholastic record, (3) aptitude for teaching, (4) sound health. Application forms may be secured from the Financial Aids office.

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN, ST. JOSEPH BRANCH SCHOLARSHIP: The St. Joseph Branch of the A.A.U.W. offers a scholarship to a high ranking sophomore girl at Missouri Western College. Application for this scholarship is made through the Student Financial Aids office.

MISSOURI SOCIETY OF PROFESSIONAL ENGINEERING: Northwest Chapter Award: Sophomore pre-engineering students at Missouri Western College are invited to apply for this award. Application is made through the Scholarship Committee, with final selection being made by a committee of members of the Society.

FEENEY CONSTRUCTION COMPANY SCHOLARSHIP: This scholarship was established in November 1961, and first awarded to a member of the 1962 graduating class. It is expected to be made available to former graduates of one of the five St. Joseph high schools, in accordance with provisions established by the donor. Students may apply to the Scholarship Committee.

THE NEWS-PRESS-GAZETTE ENGLISH SCHOLARSHIP: The News-Press-Gazette Corporation offers each year an award of \$100 to the student completing the sophomore year with the best record in English courses at Missouri Western College. The recipient of this award is chosen by an evaluating committee from the English Department.

BUCHANAN COUNTY MEDICAL SOCIETY NURSING SCHOLARSHIP: A \$6,000 scholarship endowment fund was established by the Buchanan County Medical Society to provide one or more scholarships for Missouri Western students enrolled in a nurses training program. Application should be made to the Missouri Western College Scholarship Committee.

DR. W. L. LANDFATHER SCHOLARSHIP: Established in 1969 by Dr. and Mrs. W. L. Landfather. The funds provide scholarships for five Missouri Western College students. The scholarships are awarded by the Missouri Western College Scholarship Committee to freshmen, sophomores, juniors or seniors, whose major field of study is Science or Mathematics. Only students graduating from high schools in the Missouri Western College district are eligible to receive this scholarship. The scholarship may be renewed each semester provided the recipient makes satisfactory academic progress.

MIDLAND-MOOREHEAD SCHOLARSHIP: The Midland-Moorehead Company established a trust fund with Missouri Western College in 1967. The interest from the investment of the fund is awarded each year by the Missouri Western College Scholarship Committee to a student whose major area of study is Engineering or Technology.

FIRST TRUST BANK SCHOLARSHIP: This scholarship was established in 1969 by the First Trust Bank of St. Joseph to express recognition for the contribution Missouri Western College is making to Northwest Missouri. The scholarship is awarded by the Missouri Western College Scholarship Committee to the applicant best qualified and who has financial need.

DR. THOMPSON E. POTTER MEMORIAL SCHOLARSHIP: Friends and relatives of Dr. Thompson E. Potter have established a trust fund to be used for scholarship purposes. Dr. Potter served as President of both the Board of Regents and Board of Trustees of Missouri Western College. The earnings from the trust fund are used each year to award a student of Missouri Western College a scholarship in the name of Thompson E. Potter. Application is made through the Missouri Western College Scholarship Committee.

SERGEANT E. L. TRICE LAW ENFORCEMENT SCHOLARSHIP: This scholarship was created to honor forty years of diligent police service by Sergeant E. L. Trice, St. Joseph Police Department. Awarded to an active police officer enrolled in a course of instruction leading to a degree in the field of Law Enforcement. Application is made through the Chairman, Scholarship Committee. The scholarship will be for \$50.00 per semester.

Applicants must be active police officers working toward a degree in law enforcement. Only applicants who have completed fifteen semester hours with a GPA of 2.5 or better will be considered for this scholarship.

STUDENT AID

INSTITUTIONAL LOAN: Missouri Western College has various student loan funds available to its students and prospective students. These funds are used to loan worthy and needy individuals the money necessary for their enrollment at this institution. The interest charge for the use of these funds is nominal. Liberal repayment schedules are available. Any interested individual is encouraged to visit or write the Financial Aids Office.

UNITED STUDENT AID FUND: Missouri Western College participates in the United Student Aid Funds program. This is a loan program whereby students are loaned necessary funds from their local banks. Applicants should contact their local bank or the Office of Student Financial Aids for more information.

NATIONAL DEFENSE STUDENT LOANS: The National Defense Loan Program, established under Title II of the National Defense Education Act of 1958, is a long-term program from which eligible and deserving students may be granted substantial loans to supplement other income for educational purposes.

EDUCATIONAL OPPORTUNITY GRANTS: Students who qualify on the basis of need may apply for an Educational Opportunity Grant, made available under Title IV of the Higher Education Act of 1965. College officials recommend students making application for a government grant, loan, or employment, arrange a personal interview with the Financial Aids Officer.

COLLEGE WORK-STUDY PROGRAM: Under Title I, Part C, of the Economic Opportunity Act of 1964, a student may be employed part-time while attending college. Part-time employment means working a maximum of 15 hours per week while classes are in session. Prospective students who qualify under the guidelines of the College Work-Study Program may be employed 40 hours per week in the summer months preceding the academic year.

PART-TIME EMPLOYMENT: Each year there are opportunities for students to find part-time employment on the campus or in the community. Information concerning job opportunities may be secured from the Financial Aids Office.

ESTIMATED COST OF ATTENDING MISSOURI WESTERN COLLEGE

	Per Semester	Per School Yr
Incidental Fee	\$110-\$145	\$220-\$290
Room and Board	\$400	\$800
Books	\$ 50	\$ 75
	<hr/>	<hr/>
	\$560-\$595	\$1095-\$1165

Each individual should make allowances for cost of clothes, laundry, travel, insurance, recreation, and miscellaneous personal expenses. The average cost of these items is \$500 per year.

The College incidental fee and room and board rates are subject to revision by the governing boards.

ADMINISTRATIVE OFFICERS and FACULTY . . .

BOARD OF REGENTS

President	Douglas A Merrifield Term Expires October, 1973
Vice-President	Robert E. Douglas Term expires October, 1974
Secretary	Mrs. Georgie Goldsberry
Treasurer	Jerry Reser
Members	William F. Enright, Jr. Term Expires October, 1970 Loren W. Schneider Term Expires, October, 1971 Thomas V. Teare Term Expires, October, 1972

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ADMINISTRATION

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 B.S.—Southwestern Missouri State College
 M.Ed.—University of Arkansas
 Ed.D.—University of Arkansas

Executive Vice President

MORRISON, Nolen B. Vice President for Academic Affairs
 B.S.—Southwest Missouri State College
 M.Ed.—University of Arkansas
 Ed.D.—University of Arkansas

CLARK, Lowell B. Vice President for Student Affairs
 B.S.—Kansas State University
 M.S.—Kansas State University
 Graduate Study—University of Colorado

HAWK, Kenneth L. Vice President for Business Affairs
 B.A.—Fort Hays Kansas State College
 M.S.—Fort Hays Kansas State College

OATES, Harvey B. Dean, Applied Science and Technology
 B.A. & B.S.—West Virginia Institute of Technology
 M.A.—University of Kentucky
 Ed.D.—West Virginia University

COYNE, Charles E. Dean, Education and Psychology
 B.A.—Iowa State Teachers College
 M.A.—Northeast Missouri State College
 Ed.D.—North Texas State University

SCOTT, Bob R. Dean, Liberal Arts and Sciences
 B.S.—University of Missouri
 M.A.—Washington University
 Ed.D.—University of Missouri

ASHWORTH, George M. Director of Development
 B.S.—Northwest Missouri State College
 M.Ed.—University of Missouri
 Graduate Study—University of Missouri

BURRI, Charles R. Director of Athletics
 B.S.—Northwest Missouri State College
 M.Ed.—University of Missouri
 Graduate Study—University of Missouri

SHARP, Sam H. Director of Field and Special Services
 B.S.—University of Alabama
 M.S.—Alabama Polytechnic Institute

SMITH, Frank R. Director of Publications and Public Relations
 B.J.—University of Missouri

WOOD, William A. Director of Research and Computer Center
 B.S.—University of Denver

ROBINSON, Thomas J. Coordinator of Admissions and Registrar
 B.S.—Northwest State College
 M.S.—Oklahoma State University

BENSYL, Conrad N. Assistant to Vice President for Academic Affairs
 B.S.—Northwest Missouri State College
 M.S.—Kansas State Teachers College
 Graduate Study—University of Missouri

GRAHAM, Dorothy B. Coordinator of Counseling
 B.A.—University of Iowa
 M.A.—San Diego State College
 Graduate Study—University of Colorado

McDONALD, Marvin Counselor
 B.S.—Northwest Missouri State College
 M.A.—Western Colorado State

RUNQUIST, Richard Counselor
 B.A.—Kansas University
 M.Ed.—Wichita State

ROLLINS, Paul C. Counselor
 B.S.A.—University of Arkansas
 M.Ed.—University of Missouri

WIGERSMA, Helen C. Librarian
 B.A.—University of Missouri
 M.L.S.—University of Illinois

LABEL, Marie S. Assistant Librarian
 B.A.—Maryville College
 M.A.—University of Wisconsin

GREENGARD, Cynthia Reference Librarian
 B.S.Ed.—Ball State University
 M.L.S.—Indiana University

MACKEY, Robert Audio Visual Coordinator
 B.A.—William Jewell College
 M.A.—Central Missouri State

FACULTY

ADAMS, Charles E. Instructor of Physics and Math
 B.S.—Peru State College
 M.A.—University of Missouri

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 Chairman, Department of Physics and Math
 B.S.—Northwest Missouri State College
 M.A.—University of Missouri
 Graduate Study—University of Missouri

ALBERTS, Florence A. Instructor of Social Science
 B.A.—University of Denver
 M.A.—University of Missouri
 Graduate Study—University of Missouri

ARCHER, Leonard J. Instructor of Chemistry
 B.S.—Northwest Missouri State College

BENSYL, Conrad Associate Professor of Chemistry
 B.S.—Northwest Missouri State College
 M.S.—Kansas State Teachers College
 Graduate Study—University of Missouri

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 B.S.—Northwest Missouri State College
 M.Ed.—Kansas State Teachers College

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 B.A.—Kansas State Teachers College
 M.A.—Kansas State Teachers College

BRUCE, Jim R., II Instructor of English
 B.A.—Southeast Missouri State College
 M.A.—Southeast Missouri State College

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 B.S.—University of Arkansas
 M.A.—University of Montana

BURRI, Charles R. Assistant Professor of Physical Education
 and Director of Athletics
 B.S.—Northwest Missouri State College
 M.Ed.—University of Missouri
 Graduate Study—University of Missouri

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 and Head Football Coach
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 B.S.—University of Missouri
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COYNE, Charles E. Professor and Dean of Education and Psychology
 B.A.—Iowa State Teachers College
 M.A.—Northeast Missouri State College
 Ed.D.—North Texas State University

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 B.S.—Kansas State College
 M.S.—Kansas State College
 Graduate Study—Colorado State College

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 B.S.—Panhandle State College
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 Ph.D.—Kansas State University

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 M.A.—University of Missouri
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 Graduate Study—University of Colorado
 University of Iowa

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 Graduate Study—University of Oklahoma

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 Graduate Study—University of Kansas

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 Graduate Study—Institut D'Etudes Francaises D'Avignon

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 Ph.D.—University of Missouri

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SMITH, Russell Assistant Professor of Chemistry
 Chairman, Department of Chemistry
 B.S.—Wisconsin State University
 Ph.D.—University of Iowa

SPARKS, Isabel L. Assistant Professor of English
 Chairman, Department of English
 B.A.—University of Kansas
 M.A.—University of Kansas City
 M.Ph.—University of Kansas
 Graduate Study—University of Kansas

SPICER, Clyde Instructor of Humanities
 B.S.—Hardin-Simmons University
 M.S.—North Texas State University

TAYLOR, Richard B. Associate Professor of English
 B.S.—Northeast Missouri State College
 B.J.—University of Missouri
 M.A.—University of Missouri

TOMLINSON, Veva B. Associate Professor of English
 B.S.—Central Missouri State College
 M.A.—Duke University
 Graduate Study—University of Missouri

VARGAS, Eduardo E. Assistant Professor of Humanities
 B.A.—Westminster College
 M.A.T.—University of Missouri
 Graduate Study—University of Wisconsin

VEHLOW, Paula Assistant Professor of English
 B.S.—Northwest Missouri State College
 M.A.—University of Missouri

WIESE, W. Roland Assistant Professor of Biology
 B.S.—University of Arizona
 M.S.—Arizona State University
 Graduate Study—University of Kansas

WILKERSON, Jerry M. Assistant Professor of Physics and Math
 B.S.—Central Missouri State College
 M.S.—Central Missouri State College
 Graduate Study—University of Missouri

WOOD, William Assistant Professor of Computer Science
 Director of Research & Computer Center
 B.S.—University of Denver

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