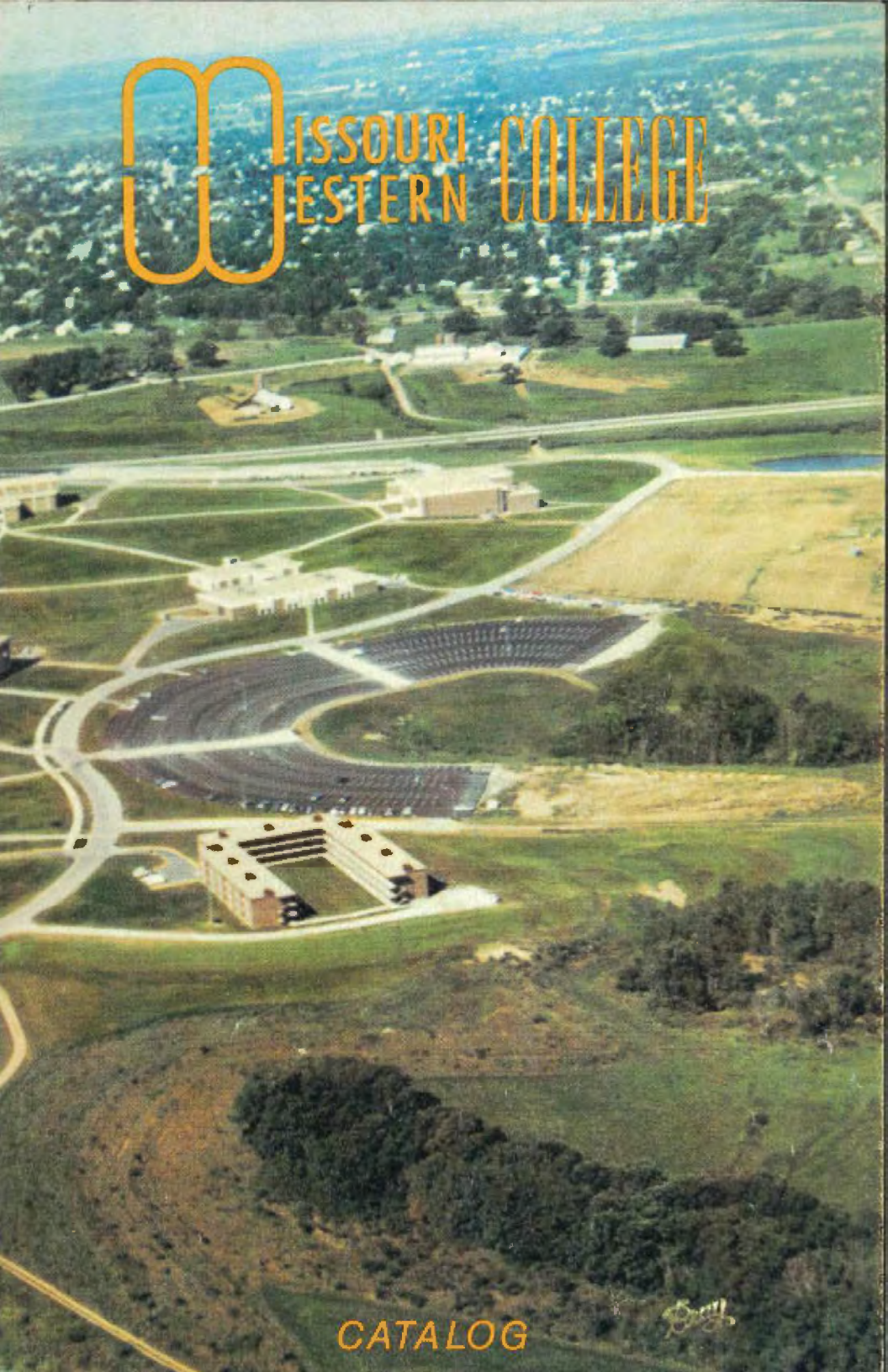




MISSOURI WESTERN COLLEGE



CATALOG



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GENERAL CATALOG
with description of courses

1972 - 1973

St. Joseph, Missouri

(816) 233-7192

Foreword . . .

The General Catalog of Missouri Western College serves as a 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, 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.

DIRECTORY OF CORRESPONDENCE

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BUILDINGS AND GROUNDS	Mr. Charles Atha, Coordinator of Buildings & Grounds
BUSINESS AFFAIRS	Mr. Kenneth Hawk, Vice President of Business Affairs
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CONTINUING AND ADULT EDUCATION	Mr. Conrad Bensyl, Dean of Continuing and Adult Education
COUNSELING CENTER	Mrs. Dorothy Graham, Coordinator
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EXECUTIVE VICE PRESIDENT AND DEAN OF FACULTIES	Dr. Lyle E. Boyles
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INSTRUCTION	Dr. Lyle E. Boyles
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OFF CAMPUS SERVICES	Mr. William R. Kuechler
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PRESIDENT	Dr. M. O. Looney
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STUDENT LIFE & ACTIVITIES	Mr. Forrest Hoff, Dean of Students
TESTING	Mr. Marvin McDonald, Counselor
TRANSCRIPTS & RECORDS	Mr. Tom Robinson, Coordinator of Admissions and Records
VETERANS AFFAIRS	Mr. George Ashworth, Director of Development

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1972

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1973

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college calendar

SUMMER SESSION 1972

April 17-20 Registration of currently enrolled students
April 17-18 (Eve.) Registration of evening and Saturday students
June 1-2 Registration of new and transfer students
June 5 Day and evening classes begin
June 14, 15, 16 Payment of fees
July 4 (Tuesday) Holiday
July 29 (Saturday) Session ends
August 1 Final grades due

FALL SEMESTER 1972-73

April 21 - May 4 Registration of currently enrolled students
April 24-27 (Eve.) Registration of evening and Saturday students
June 12 - September 1 Registration of new and transfer students
September 11 Day and evening classes begin
September 26-30 Payment of fees
October 6 Student activity plan day
November 8 Mid-term grades due
November 23 (7:00 a.m.) Thanksgiving vacation begins
November 27 Classes resume
December 15 (7:00 a.m.) Christmas vacation begins
January 2 Classes resume
January 15-20 Final examinations
January 20 Session ends
January 23 Final grades due

SPRING SEMESTER 1973

December 4-14 Registration of currently enrolled students
December 11-14 (Eve.) Registration of evening and Saturday students
January 25-26 Registration of new and transfer students
January 29 Day and evening classes begin
February 13-17 Payment of fees
March 28 Mid-term grades due
April 20 (7:00 a.m.) Spring vacation begins
April 30 Classes resume
May 4 Student activity plan day
May 14 Graduating student grades due
May 21-26 Final examinations
May 25 (Friday) Commencement
May 26 Session ends
May 29 Final grades due

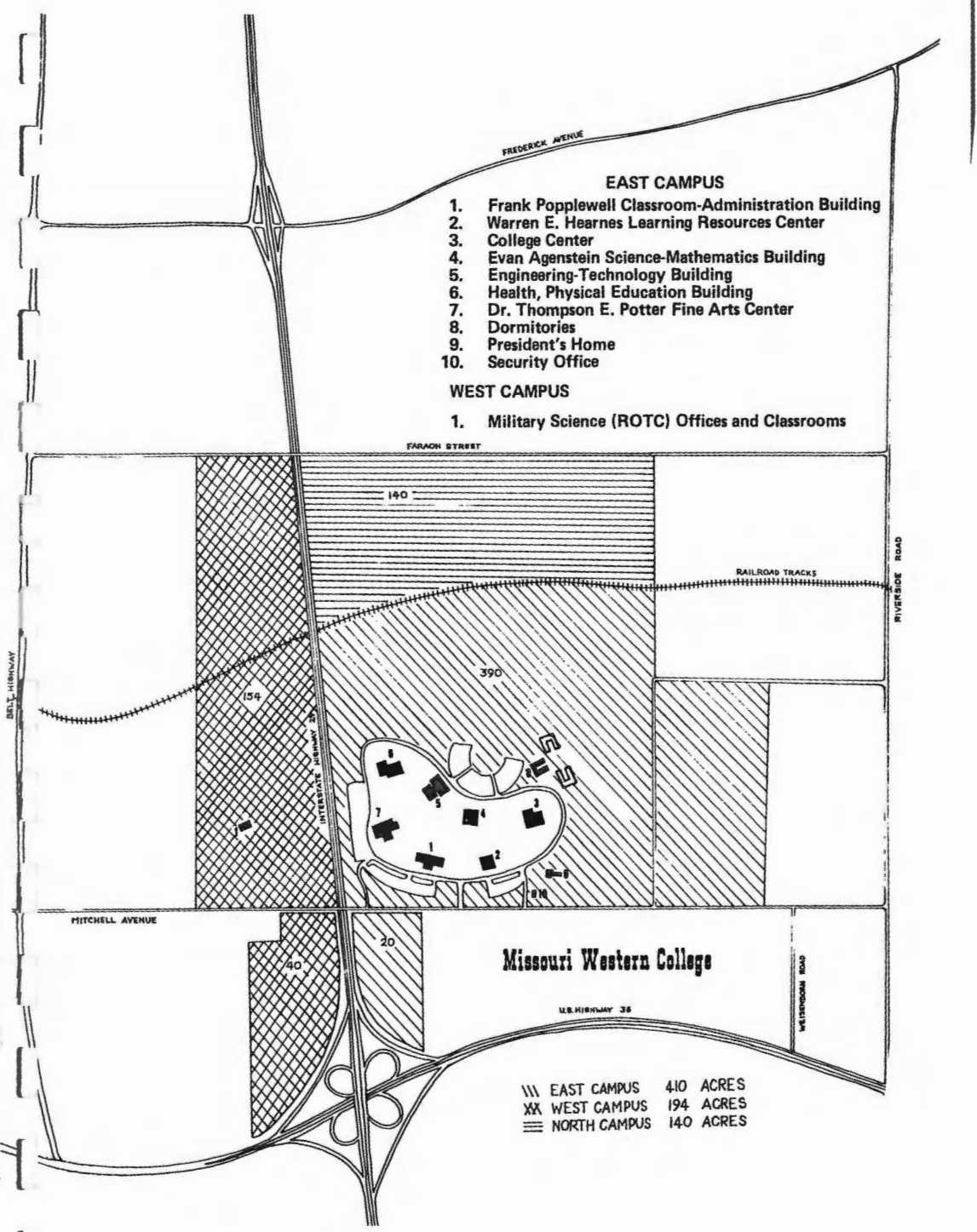
THE COLLEGE

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, Platte 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.



EAST CAMPUS

1. Frank Popplewell Classroom-Administration Building
2. Warren E. Hearnnes Learning Resources Center
3. College Center
4. Evan Agenstein Science-Mathematics Building
5. Engineering-Technology Building
6. Health, Physical Education Building
7. Dr. Thompson E. Potter Fine Arts Center
8. Dormitories
9. President's Home
10. Security Office

WEST CAMPUS

1. Military Science (ROTC) Offices and Classrooms

Missouri Western College

|||	EAST CAMPUS	410 ACRES
xx	WEST CAMPUS	194 ACRES
≡	NORTH CAMPUS	140 ACRES

ACADEMIC PROGRAMS

APPLIED SCIENCE AND TECHNOLOGY

- Agriculture
- Allied Health
- Business and Economics
- Computer Science
- Engineering
- Military Science
- 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.	.....	Agriculture
B.S.	.....	Automotive Technology
B.S.	.....	Computer Science
B.S.	.....	Economics
B.S. in Bus. Adm.	.....	Accounting
B.S. in Bus. Adm.	.....	Management
B.S. in Bus. Adm.	.....	Marketing
B.S. in Ed.	.....	Bus. Educ.-Skills (Sec.)
B.S. in Ed.	.....	Bus. Educ.-Basic Business (Sec.)
B.S. in Tech.	.....	Civil and Building Construction
B.S. in Tech.	.....	Electronic Engineering Technology
B.S. in Tech.	.....	Industrial Electronic Technology
B.S. in Tech.	.....	(Two + Two)
Pre-Professional Engineering	.....	3 Year Transfer Program
A.S.	.....	Agri-Business
A.S.	.....	Agricultural Supply Technology
A.S.	.....	Automotive Service Management
A.S.	.....	Computer Science
A.S.	.....	Executive Secretary
A.S.	.....	Patrolman's Aide (New Careers)
A.S.	.....	Law Enforcement
A.S.	.....	Mgmt./Accounting
A.S.	.....	Mgmt./Data Processing
A.S.	.....	Mgmt./Finance
A.S.	.....	Mgmt./Retailing
A.S.	.....	Nursing
A.S.	.....	Drafting and Design
A.S.	.....	Electronic Engineering Technology
A.S.	.....	Pilot Training
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.	Rhetoric and Public Address
B.A.	Social Work
B.A.	Sociology
B.A.	Speech and Theatre
B.A.	Theatre
B.S.	Biology
B.S.	Chemistry
B.S.	History
B.S.	Mathematics
B.S.	Medical Technology
B.S.	Physics
B.S.	Political Science
B.S.	Social Work
B.S.	Sociology
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-German (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.)
A.S.	Social Work Aide (New Careers)

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 ...**



APPLIED SCIENCE and TECHNOLOGY . . .

As part of all programs offered by the Division of Applied Science and Technology, specific general education courses must be completed in order to gain a degree or certificate. The general education requirements, appropriate to all academic Divisions of the College, are courses taken in addition to the major area courses required for degrees and certificates awarded by this Division. The general education requirements are listed in another section of this catalog.

THE "TWO-PLUS-TWO" PROGRAM:

One of the unique features of the Division of Applied Science and Technology is found in an academic program commonly referred to as the "Two-plus-Two" program. The program is designed to provide academic flexibility to the student who has completed an associate degree either at this college or at an accredited two-year college.

After completion of the two-year degree, a student may wish to broaden his original academic interest. In this event, he will choose, with the assistance of his academic advisor and the Dean of the Division of Applied Science and Technology, a cognate field of study and commence his third year in higher education. An academic advisor is provided to each student in the "Two-plus-Two" program. The advisor is selected from the area which represents the student's major field of study in the Associate degree program.

During the third and fourth years of study the student will (1) complete not less than fifteen (15) semester hours in the cognate field, (2) complete all general education requirements for the Bachelor's degree, and (3) complete all general college requirements for the Bachelor's degree. At this point, the student should have a minimum of 124 semester hours credit and is eligible to receive the Bachelor of Science Degree in Technology.

department of AGRICULTURE

Agriculture has changed tremendously in recent years and is continuing to do so. It is no longer simply "farming." Today's agricultural industry includes three broad areas: 1) research and education, 2) production of food and fiber, and 3) business and industry which provides goods and services in the processing and distribution of farm products. Undergraduate curricular offerings in the Department of Agriculture are designed to provide students with a broad general education and still maintain the flexibility of allowing students sufficient opportunity to select specific general and professional electives to satisfy their special needs and desires.

The Department of Agriculture offers diversified programs leading to Associate of Science or Bachelor of Science Degrees. An Associate of Science Degree is granted in Agricultural Technology and Agri-Business Technology. Areas of specialization for the Bachelor of Science Degree include Agronomy, Animal Science, and General Agriculture.

The core curriculum of the Bachelor of Science Agriculture programs is as follows:

100 Agricultural Economics	4	
120 Plant Science	4	
130 Animal Science	4	
140 Horticulture Science	4	
222 Soil Science	4	
236 Fundamentals of Animal Nutrition	4	24

Additional major requirements are:

General Agriculture

230 Breed of Livestock	4	
Agriculture electives	24	28

Agronomy

220 Forage Crops	4	
320 Soil Fertility	4	
Agriculture Economics electives	6	
Agronomy electives	10	
Animal Science electives	4	28

Animal Science

230 Breeds of Livestock	4	
Agriculture Economics electives	6	
Agronomy electives	3	
Animal Science electives	15	28 52

The core curriculum of the Associate Agriculture programs is as follows:

100 Agriculture Economics	4	
120 Plant Science	4	
130 Animal Science	4	
200 Farm Marketing	3	
222 Soil Science	4	
236 Fundamentals of Animal Nutrition	4	
320 Soil Fertility	4	27

Additional major requirements are:

Agricultural Supply Technology

112 Planting, Tillage, and Harvesting Equipment	4	
126 Grain Grading	2	
204 Grain Handling, Warehousing, and Merchandising	3	
326 Agriculture Chemicals	3	
330 Applied Animal Nutrition	4	16

Agri-Business Technology

110 Business Organization	3	
230 Elementary Accounting	3	
250 Salesmanship	3	
310 Business Law	3	
312 Principles of Management	3	
323 Principles of Finance	3	18 43 or 45

AGRICULTURE ECONOMICS

- 100 Agriculture Economics (4) i**
Economic principles underlying the organization of agriculture; problems of production and distribution and relations of governmental programs to agriculture.
- 104 Land Economics (2) i**
Analysis of the economic principles influencing land use, theories of renting, land prices, land taxes, types of tenure and transfer; and land conservation.
Prerequisite: Agriculture 100.
- 200 Farm Marketing (3) i**
Principles underlying the marketing of farm products with emphasis on cooperative marketing.
Prerequisite: Agriculture 100.
- 204 Grain Handling, Warehousing and Merchandising (3) ii**
Grain movement from producer to consumer and factors influencing these procedures.
Prerequisite: Agriculture 200.
- 206 Financing the Farm Business (3) ii**
Principles involved in financing a farm business. Sources and uses of farm credit necessary for sound financial management.
Prerequisite: Agriculture 100.
- 302 Farm Management (3) i**
A study of the principles of farm management and farm organization. Selection of farm enterprises, farm credit, leases and types of farming adapted to a given farm are included.
Prerequisite: Agriculture 100.
- 304 Farm Accounting and Business Analysis (3) ii**
Purpose and methods of keeping farm records, procedures in accounting; income and net worth statements; analysis of the farm business; and use of accounts for tax purposes.
Prerequisite: Agriculture 302.
- 306 Farm Appraisal (3) ii**
Land appraisal with emphasis on valuation procedures. Relationship of farm prices, taxes, and interest rates to value. Appraisal reports.
Prerequisite: Agriculture 104, 304.
- 308 Management of Tenant-Operated Farms (2) ii**
Business techniques; application of economic principles to the operation of rented farms and working relationships with farm tenants.
Prerequisite: Agriculture 302.
- 400 Farm Price and Policy Analysis (3) ii**
Economic and econometric principles applied to price movements and policy considerations in agriculture.
Prerequisite: Agriculture 200.
- 402 Agricultural Law (3) ii**
The legal framework impinging upon decision making by farm firms, families and individuals: liabilities, real and personal property, contracts, farm commercial code, organization of farm firms, inter-generation property transfer, water and fence laws, federal and state regulatory powers and insurance.
Prerequisite: Senior standing or consent of instructor.

AGRICULTURAL MECHANIZATION

- 110 Principles of Agricultural Mechanization (4) i**
Principles of operation, use and care of agricultural equipment. Development of basic skills in blueprint reading, farm structures and repair, rural electrification, concrete construction, machine tools, painting, refinishing and glazing.
- 112 Planting, Tillage and Harvesting Equipment (4) i**
To develop knowledge and skills necessary for assembly, field operation, adjustment, maintenance, repair, and safety of equipment.
- 210 Farm Power (3) ii**
The study of the fundamentals and system of power units. Particular attention is given to the development of power and its transmission.

AGRONOMY

- 120 Plant Science (4) i**
Principles of production and management. Importance and ecology of each crop is discussed. New practices and varieties are emphasized. Laboratory will include a study of the plant and plant parts.
- 126 Grain Grading (2) ii**
Application of the Federal standards for grading farm crops and judging of grains.
Prerequisite: Agriculture 120.
- 220 Forage Crops (4) ii**
Ecology, insects, diseases, culture, and uses of forage will be studied. Laboratory will include plant and seed identification.
Prerequisite: Agriculture 120.
- 222 Soil Science (4) i**
The origin, formation, and characteristics of different soil types; emphasis placed on soils of Missouri. Laboratory includes field trips.
Prerequisite: Chemistry 101.
- 224 Soil Genesis, Morphology and Classification (2) i**
The influence of geology, climate, plant life and other factors on soil formation will be studied. Methods of soil classification and identification. Enrollees represent the college in Intercollegiate Soil Judging. Laboratory only.
Prerequisite: Agriculture 120 and 222.
- 320 Soil Fertility (4) ii**
The use and management of lime and fertilizer on soils. Emphasis is placed on individual nutrient utilization.
Prerequisite: Agriculture 120 and 222.
- 322 Pasture Management (2) i**
Fundamentals of forage use and management. Field trips.
Prerequisite: Agriculture 220.
- 324 Diseases of Field Crops (2) ii**
Detail study of disease of field crops and forages that cause economic loss to the producer.
Prerequisite: Agriculture 220.

- 326 Agriculture Chemicals (3) i**
An introduction to the field of agricultural chemistry including herbicides, insecticides, fungicides, and nematodes. Types of materials, methods of use and safety measures to be used.
Prerequisite: Agriculture 220 and 320.
- 420 Soil Conservation and Management (4) ii**
Conservation and management of soils with respect to erosion, depletion, fertility, physical improvement and crop production. Includes farm surveying, design and layout of terrace systems, drainage and farm ponds.
Prerequisite: Agriculture 120 and 320.

ANIMAL SCIENCE

- 130 Animal Science (4) i**
An introductory course in animal science with emphasis on fundamental concepts of animal breeding, management, marketing, nutrition and physiology as they apply to the livestock industry.
- 134 Meats (3) ii**
Fundamental properties and composition of meat and its nutritive value. Carcass evaluation. Selection, grading and identification of wholesale and retail cuts of meat and their economic value.
Prerequisite: Agriculture 130.
- 138 Animal Breeding (3) ii**
The study of mating systems and application of genetic principles and practices to the improvement of domestic animals. The use and value of Performance Testing. Lecture and discussion.
Prerequisite: Agriculture 130.
- 230 Breeds of Livestock (4) ii**
Origin, development characteristics and adaptation of the different breeds of livestock. Laboratory work will consist of livestock judging.
Prerequisite: Agriculture 130.
- 232 Livestock Evaluation (3) i**
Selection of beef, horses, sheep and swine for specific uses. Comparative terminology, grading, judging and presentation of oral reasons. Enrollees represent the college in livestock judging contests.
Prerequisite: Agriculture 230.
- 234 Dairy Evaluation (2) i**
Selection of breeding animals. Comparative terminology, decision making and presentation of oral reasons. Enrollees represent the college in Inter-collegiate Dairy Judging.
Prerequisite: Agriculture 230.
- 236 Fundamentals of Animal Nutrition (4) i**
Study of various nutrients; their function, digestion and metabolism by various species of animals.
Prerequisite: Agriculture 130 and Chemistry 101.
- 330 Applied Animal Nutrition (4) ii**
Measure of the nutritive value of feeds, nutrient requirements of the various species of livestock, sources and composition of nutrients, ration formulation, preparation of feeds, feed additives and food and drug regulations.
Prerequisite: Agriculture 236.
- 332 Beef Production (3) ii**
Production, management, marketing and nutrition of commercial and pure-bred cattle.
Prerequisite: Agriculture 236.

- 333 Dairy Production (3) i**
Development of dairy cattle breeds, principle and practices of dairy cattle feeding, management and selection of breeding animals for dairy herds.
Prerequisite: Agriculture 236.
- 334 Horse Production (3) i**
Basic principles of horse breeding, color, inheritance, health, management, nutrition, and marketing of equine.
Prerequisite: Agriculture 236.
- 335 Poultry Production (3) ii**
A study of breeds, breeding, common diseases, housing and efficient management, nutrition, and marketing of eggs and poultry.
Prerequisite: Agriculture 236.
- 336 Sheep Production (3) i**
Production, management, marketing and nutrition of breeding flocks and feedlot lambs.
Prerequisite: Agriculture 236.
- 337 Swine Production (3) i**
Methods of breeding, feeding, marketing and management of purebred and commercial swine.
Prerequisite: Agriculture 236.
- 430 Seminar (1) i, ii**
Independent reading within the several disciplines in animal science, summarized and presented orally to students and staff.
Prerequisite: Junior or senior standing.
- 439 Intercollegiate Judging Training and Competition (3) i**
Specialized training in evaluating and grading live animals. Field trips to farms and livestock expositions.
Prerequisite: Permission of instructor.

HORTICULTURE

- 140 Horticulture Science (4) i**
Horticulture in daily living; plant growth, environment, propagation, cultivation, pruning, irrigation, protection, harvesting, quality control and selection; homegrounds development and maintenance.

OCCUPATIONAL EXPERIENCE

- 290 Occupational Experience (1-8) i, ii, iii**
Internship under the supervision of a college instructor. Students will be assigned according to their preparation and interests to intern in a governmental agency, agricultural loans, floriculture, herdsmanship, industrial organization, or other agriculturally oriented agency of their interest. They will work with administrative and operational personnel at several levels.
Prerequisite: Consent of department chairman.
- 490 Special Problems (1-4) i, ii, iii**
Open to junior and senior students in agriculture economics, agronomy, animal science and horticulture showing satisfactory preparation for problems chosen and with permission of instructor. Individual topic, conferences and preparation of reports. A) Agriculture Economics, B) Agronomy, C) Animal Science, and D) Horticulture.

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 licensure as a Registered Nurse (R.N.) This program is accredited by the Missouri State Board of Nursing.

ADMISSION TO THE NURSING PROGRAM

A selection committee reviews all applicants and determines those students who will be admitted to each class. In order to be eligible for possible selection for the fall class, an individual must contact the department chairman for an application form before March 1. At this time the other requirements for admission will be explained.

An Associate of Science Degree with a major in Nursing requires the completion of the following specific courses: 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 unit and a general hospital. Opportunity to observe health care and community services in a variety of settings. 4 hours lecture, 6 hours lab.

Prerequisite: Approval of department chairman. (This course substitutes for the general studies requirement in Personal and Community Health in the Associate Degree.)

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 the 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 and Mental Illness I) (10) i

The first course in Physical and Mental Illness is designed for utilization of a conceptual and developmental approach in meeting nursing care and body maintenance needs. Focus is on the physical and psychological effects of illness. Guided laboratory experience in a general hospital, psychiatric setting, and selected observation experiences. 5 hours lecture, 15 hours lab.

Prerequisite: Nursing 150, 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 and selected health agencies. 5 hours lecture, 15 hours lab.

Prerequisite: Nursing 150, 151, 250.

department of **BUSINESS and ECONOMICS**

The Department of Business and Economics offers diversified programs leading to careers in accounting, marketing, management, economics, and business education.

Students receive a background in the fundamentals of business and economics in addition to the opportunity to specialize in the areas of their interest. Programs are designed to prepare the student to become highly qualified to meet the challenge of a career in the complex world of business.

The Department, with the assistance of the Placement Office, tries to bring together employers and students.

BUSINESS AND ECONOMICS

The Department offers the degrees Bachelor of Science in Business Administration and the Bachelor of Science with a major in Economics.

The core curriculum for this degree is as follows:

	Accounting Management		Business	Basic
	Economics	Marketing	Skills	Business
Mgmt 110—Business Organization		3	3	3
Acct. 230 & 231—Elem. Accounting	6	6	6	6
Econ. 260—Prin. of Economics I	3	3	3	3
Econ. 261—Prin. of Economics II	3	3		3
Mgmt. 310—Business Law	3	3	3	3
Mgmt. 311—Business Law		3	3	3
Mgmt. 312—Principles of Management	3	3		3
Mgmt. 210—Business Statistics	3	3		3
Mrkt. 270—Principles of Marketing	3	3		3
	<hr/>	<hr/>	<hr/>	<hr/>
	24	30	18	30

Additional major requirements are:

Accounting

330 Intermediate Accounting	3
331 Intermediate Accounting	3
333 Cost Accounting	3
433 Auditing	3
438 Tax Accounting	3
Accounting Elective	3
	<hr/>
	18

Economics

360 Intermediate Aggregate Economic Theory	3
361 Price Theory	3
363 Money and Banking	3
Economics Electives	12
	<hr/>
	21

Management

315 Financial Management	3
410 Business Communications	3
412 Personnel Management	3
Selected Electives	9
	<hr/>
	18

Marketing

370 Marketing Promotion	3
372 Marketing Distribution	3
470 Marketing Management	3
471 Consumer Relations and Behavior	3
472 Sales Management	3
Marketing Electives	6
	<hr/>
	21

Business Education (skills)

141 Intermediate Typewriting	3
144 Elementary Shorthand	3*
145 Intermediate Shorthand	3**
240 Office Typing Problems	3
340 Advanced Shorthand	3
342 Model Office I	6
Accounting Elective	3
455 Methods of Teaching Business Subjects	3
Education Professional Sequence	24
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51

Business Education (basic business)

141 Intermediate Typewriting	3
240 Office Typing Problems	3
260 Principles of Economics	3
270 Principles of Marketing	3
312 Principles of Management	3
455 Methods of Teaching Business Subjects	3
Business & Economics Electives	6
Education Professional Sequence	24
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*Not open for credit to students who have had one high school credit in shorthand.

**Students testing out of course or given advanced placement must take 341 Secretarial Dictation and Transcription.

In addition to the requirements for the baccalaureate degree listed on page 128, a student majoring in the Department must have a 2.0 grade point average in his major and in courses taken in the Department, and complete a minimum of 21 hours of 300-400 level courses in his major.

If a junior college transfer fulfills a 300 level required course with an accepted transfer course, the course will not be evaluated as meeting the 21 hour 300-400 level requirement stated above.

Students majoring in baccalaureate programs in the Department must complete a mathematics course at the level of Intermediate Algebra (Mathematics 103) or above during the freshman or sophomore year.

The Department offers Associate of Science degrees in Mid-Management and Executive Secretary.

The core curriculum for this degree is as follows:

	Accounting	Data Processing	Finance	Retailing	Exec. Sec.
Mgmt. 110—Business Organization	3	3	3	3	3
Mgmt. 116—Math. of Finance					
or	3	3	3	3	3
Mgmt. 210—Business Statistics					
Acct. 230—					
Elementary Accounting I	3	3	3	3	3
Acct. 231—					
Elementary Accounting II	3	3	3	3	
Econ. 260—Prin. of Economics I	3	3	3	3	3
Econ. 261—Prin. of Economics II	3	3	3	3	
Mgmt. 312—Prin. of Management	3	3	3	3	
<hr/>					
	21	21	21	21	12

Additional major requirements are:

Accounting

330 Intermediate Accounting	3
331 Intermediate Accounting	3
333 Cost Accounting	3
Business and Economics Electives	3
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12

Data Processing	
182 Introduction to Data Processing	3
240 Introduction to RPG	3
245 Introduction to COBOL	3
310 Business Law	3
345 Advanced COBOL	3
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15

Finance	
310 Business Law	3
311 Business Law	3
315 Financial Management I	3
316 Principles of Insurance	3
415 Financial Management II	3
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Retailing	
270 Principles of Marketing	3
271 Salesmanship	3
370 Marketing Promotion	3
371 Principles of Retailing	3
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12

Executive Secretarial	
141 Intermediate Typewriting	3
144 Elementary Shorthand	3
145 Intermediate Shorthand	3
182 Introduction to Data Processing	3
240 Office Typing Problems	3
340 Advanced Shorthand	3
341 Secretarial Dictation and Transcription	3
342 Model Office I	6
343 Model Office II	6
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33-45

The Department offers a Certificate program. The core curriculum for the Certificate is as follows:

110 Business Organization	3
116 Mathematics of Finance	3
141 Intermediate Typewriting	3
240 Office Typing Problems	3
342 Model Office I	6
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Additional major requirements are:

Secretarial	
145 Intermediate Shorthand	3
340 Advanced Shorthand	3
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6

Clerical	
230 Elementary Accounting	3
Selected Elective	3
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ACCOUNTING

- 230 Elementary Accounting I (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 or consent of the department chairman.
- 231 Elementary Accounting II (3), i, ii, iii**
Principles and procedures of accounting with emphasis on partnerships, corporations, cost systems, taxes and financial statement analysis.
Prerequisite: Accounting 230.
- 330 Intermediate Accounting I (3) i**
Analysis and interpretation of fundamental processes, assets, and equity values with related revenue and expense aspects.
Prerequisite: Accounting 231.
- 331 Intermediate Accounting II (3) ii**
A continuation of the critical study of balance sheet accounts and intensive analysis of financial statements.
Prerequisite: Accounting 330
- 332 Managerial Accounting (3) ii**
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.
- 333 Cost Accounting (3) i**
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.
- 430 Advanced Accounting (3) i**
Includes joint ventures, consignments, installments, receiverships, estates and trusts, statement of affairs, and municipal and governmental accounting.
Prerequisite: Accounting 331.:
- 431 Advanced Accounting Seminar (3) ii**
Seminar in home office and branch accounts and parent and subsidiary accounting.
Prerequisite: Accounting 430.
- 432 Advanced Cost Accounting (3) ii even years**
Special problems of cost analysis such as joint product costs, standard costs, differential costs, estimated costs, budget and distribution costs.
Prerequisite: Accounting 330.
- 433 Auditing (3) ii**
Verification of records, valuation and analysis of accounts and presentation of conditions; practical audit cases.
Prerequisite: Accounting 331.
- 438 Tax Accounting (3) i**
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 department chairman.
- 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.
- 350 Seminar in Office Occupations (1) i, ii, iii**
A continuation of Seminar in Office Occupations 250.
Prerequisite: Business Education 250.
- 455 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 department chairman.

ECONOMICS

- 260 Principles of Economics I (3) i, ii, iii**
An introduction to basic economic concepts and terminology, with emphasis on analysis of unemployment, GNP, inflation, public debt. Fiscal and monetary theories and public policies are also studied.
Prerequisite: none.
- 261 Principles of Economics II (3) i, ii, iii**
A continuation of economic fundamentals, but with emphasis on supply and demand analysis, factor markets, various market structures, and international economics.
Prerequisite: Economics 260 or consent of department chairman.
- 263 Consumer Economics (3) i, even years**
The study of basic principles of personal financial management with 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.
- 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 Price Theory (3) i**
A theoretical approach to the behavior of the individual buyer and seller in the market place. Areas studied include demand theory, costs of production, and the market structures ranging from competition to monopoly.
Prerequisite: Economics 261.
- 362 Public Finance (3) ii**
A study of the principles of taxation and public expenditures, the impact of fiscal policy on economic and social activity, and recent trends in public finance at the federal, state, and local levels.
Prerequisite: Economics 261.
- 363 Money and Banking (3) i**
Monetary and banking theories of leading countries with emphasis on the monetary theories in the United States; deposit and earnings operations of individual banks, interbanks and central bank operations.
Prerequisite: Economics 260 or consent of department chairman.
- 364 Labor Economics (3) ii**
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 department chairman.

- 365 Government Regulation of Business (3) i**
Analysis of the legislative and legal control of business and its implications on the various economic components of the American economy.
Prerequisite: Economics 261.
- 366 International Economics (3) i**
Introduction to the study of the theory of international economics with emphasis on international trade, foreign exchange, financial flows, balance of payments, and world economic interdependence.
Prerequisite: Economics 261 or consent of department chairman.
- 460 Business Cycles and Forecasting (3) i**
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 department chairman.
- 462 History of Economic Thought (3) ii**
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 department chairman.
- 463 Comparative Economic Systems (3) i**
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 department chairman.
- 465 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.
- 466 Current Economic Problems (3) i, ii, iii**
Analytical study of various problems of current interest in economics.
Prerequisite: Senior standing and consent of department chairman. (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)
- 116 Mathematics of Finance (3) i**
Simple and compound interest and discount, present value and accumulated value of annuities, bonds, amortizations, sinking funds, depreciation, life annuities and life insurance.
Prerequisite: One year 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: Mathematics 103 or equivalent.

- 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, and sales.
Prerequisite: Management 110 or consent of department chairman.
- 311 Business Law II (3) i, ii, iii**
A continuation of Business Law 210, with emphasis upon negotiable instruments and security devices under the Uniform Commercial Code, Partnerships and Corporations and other related areas.
Prerequisite: Management 310 or consent of department chairman.
- 312 Principles of Management (3) i, ii, iii**
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 department chairman.
- 313 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.
- 314 Small Business Management (3) i**
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 and Management 312.
- 315 Financial Management I (3) i, ii**
An introductory survey of the issues which face the financial manager of a firm. Such pressing issues as the liquidity vs profitability decision, capital budgeting, planning needs and controlling uses of funds as well as the methods of procuring funds will be dealt with. Will serve as a foundation for Financial Management II.
Prerequisite: Accounting 231 and Mathematics 103.
- 316 Principles of Insurance (3) 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.
- 317 Administrative Management (3) i**
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 department chairman.
- 318 Purchasing (3) ii odd years**
A study of the policies for effective and efficient procurement of goods and services for today's industry with emphasis on the measurement and evaluation of purchasing performance.
Prerequisite: Management 312.
- 410 Business Communications (3) i**
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: Management 312.
- 411 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 415 or consent of department chairman.

- 412 Personnel Management (3) ii, iii**
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 department chairman.
- 413 Real Estate (3) ii**
Principles of land evaluation and development. Problems relating to the purchase, transfer, lease, financing, and management of land and buildings.
Prerequisite: Management 310 or consent of department chairman.
- 414 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 department chairman.
- 415 Financial Management II (3) ii**
An in-depth study of the practical aspects of financial management in the corporation. Will utilize both text material and cases to help develop the student's ability to think and act as a financial manager. Such topics as planning acquisition and uses of funds, managing the corporation's investment portfolio, and managing the corporation's financial structure will be emphasized.
Prerequisite: Management 315 and Accounting 231.
- 416 Production Management (3) i**
Development of scientific management; principles and methods of organization and management in manufacturing, including plant location and scheduling and production operating and information systems.
Prerequisite: Management 210 and 312.
- 417 Credits and Collections (3) ii even years**
A study of the American credit system and collection methods used today with emphasis on the significance of debit and credit information to our economic well being.
Prerequisite: Economics 260 and Financial Management 315.
- 418 Contemporary Unionism (3) ii even years**
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: Economics 364 and senior standing or consent of department chairman.

MARKETING

- 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, personal selling, product and economy aspects.
Prerequisite: Economics 260, 261 concurrently.
- 271 Salesmanship (3) i**
Education of method, principles, procedures, and policies of a professional salesman for industrial, wholesaling, and retailing commodities.
- 370 Marketing Promotion (3) i**
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 department chairman.

- 371 Principles of Retailing (3) i**
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.
- 372 Marketing Distribution (3) ii**
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.
- 375 Industrial and Wholesale Marketing (3) ii**
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 department chairman.
- 470 Marketing Management (3) i**
Analysis of marketing problems of a corporation with emphasis on the social, economy, and institutional operations. Executive problem solving on integrated activities by using marketing tools.
Prerequisite: Marketing 270, senior standing or consent of department chairman.
- 471 Consumer Relations and Behavior (3) ii**
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 relation to marketing.
Prerequisite: Marketing 270 or consent of department chairman.
- 472 Sales Management (3) ii**
Application of sales management concepts to administration, planning, training and acquisition of the sales force for a business.
Prerequisite: Marketing 270 or consent of department chairman.
- 473 Marketing Research and Development (3) i**
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.
- 474 Marketing Systems (3) ii odd years**
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 department chairman.

SECRETARIAL

- 040 Elementary Typewriting (no credit) i, ii**
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. 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**
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**
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.
- 240 Office Typing Problems (3) ii**
Office standards in typing business letters, forms, legal material, numbers, and tabulation.
Prerequisite: Secretarial 141 or equivalent.
- 340 Advanced Shorthand (3) ii**
A continuation of Intermediate Shorthand 145 with further development of dictation and transcription skills. A minimum dictation speed of 90 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**
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.
- 342 Model Office I (6) i, ii**
Simulated model office experience designed to integrate a wide range of knowledge and skill in modern office practice. Integrates traditional courses in secretarial procedures, communications, office management and machines. Replaces 148 Secretarial Procedures and 344 Office Machines. Meets in 2 hour block daily.
Prerequisite: Secretarial 141.
- 343 Model Office II (6) ii**
Continuation of Model Office I with emphasis on advanced modern office management. Replaces 149 Secretarial Communications and 314 Office Management. Meets in two hour block daily.
Prerequisite: Secretarial 342.

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 the need for personnel trained to work with these machines continues. 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 29 hours: 188, 240, 245, 284, 286, plus 12 hours from Computer Science 310, 345, 370, 388, 410, 450 or 488.

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 20 hours: Computer Science 182, 188, 240, 245, 284 and 286.

In addition to the requirements for the associate and baccalaureate degrees listed above, a student majoring in the Department must have a 2.3 grade point average in his major and in courses taken in the Department.

COMPUTER SCIENCE

- 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.)
Prerequisites: CS 182 and Mathematics 103.
- CS 240 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 245 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 284 Symbolic Assembly Language (5) 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 345 Advanced COBOL Language (3) ii**
Continuation of Introductory COBOL. The course will include methods of sequential access, random access, table handling and library text retrieval.
Prerequisite: CS 245.
- CS 370 Information Retrieval (3) ii**
Organization; hierarchies of storage, sorting, searching, and cross referencing information from files.
Prerequisite: CS 284.
- CS 388 Advanced FORTRAN Language (3) ii**
Study will include program linking, overlaying and subprogramming which will utilize disk storage and retrieval.
Prerequisite: CS 188.
- 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: CS 188 and Mathematics 107.
- CS 450 Application Projects (1-5) i, ii, iii**
This course is independent study directed by one of the members of the Computer Science faculty. It is offered by arrangement.
- CS 488 DP System Organization (3) ii**
Comprehension study of data processing systems coordination, planning, organizing, staffing, directing and controlling.
Prerequisite: Senior standing and one programming language course.

department of ENGINEERING

The Department offers a three (3) year pre-engineering program which will transfer to an accredited, professional school of engineering. The courses of study are designed to give the student a measure of versatility based upon an understanding of general engineering principles and related studies in science and mathematics.

The following courses are required in each academic program:

Pre-Engineering: Engineering 104, 106, 108, 190, 200, 204, 230, 260, 300, 301, 320, 340; Mathematics 103 or 105, 107, 108, 209, 212; Physics 101; Technology 228; Economics 260; and Chemistry 111.

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. (Each student must provide his own drawing instruments.)
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. (Each student must furnish his own slide rule.)
Prerequisite: Mathematics 103 or Technology 110 concurrent.
- 108 Descriptive Geometry (3) i, ii**
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) ii**
Vectors, force systems, friction, centroids, moments of inertia.
Prerequisite: Physics 201 and Calculus 108 or consent of instructor.
- 204 Plane Surveying I (3) ii, iii**
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, Technical Mathematics 105 and Elementary Structural Design 301.

- 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 301.
- 228 Machine Design (3) ii**
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 Intermediate Strength of Materials (3) ii**
Simple stresses and strains, combined stresses and strains, deflection and redundants, buckling.
Prerequisite: Statics 200, and concurrent with Elementary Structural Design 301.
- 235 Materials Testing Lab II (1) ii**
Includes compression, tension, shear, and flexure tests of steel, wood, plastics, and concrete. 3 hours 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) i**
Motion of a particle; kinetics of rigid bodies; work and energy; impulse and momentum; impact.
Prerequisite: Statics 200.
- 301 Elementary Structural Design (3) I**
Introduction to classical and modern methods for elastic analysis of statically indeterminate frames, trusses.
Prerequisite: Technical Mathematics I and II, consent of instructor.
- 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 soil, soil profiles and deposits, underground investigations and constructions, fills and subgrades.
Prerequisite: General Chemistry 120 technical majors; Introduction to Chemistry 101.
- 408 Surveying and Mapping (5) i**
Deals with topographical and municipal surveying and map making. 2 hours lecture and 6 hours lab.
Prerequisite: 204 Plane Surveying I.

department of MILITARY SCIENCE

The Department of Military Science administers the Reserve Officer's Training Corps (ROTC) program to those male students desiring to enroll in Army ROTC. The purpose of Army ROTC is to develop qualities of leadership and skills in college-trained men in order to provide the Army and the civil community with well-rounded leaders. The Army ROTC program is designed to provide broad leadership education rather than to develop military specialists.

The general military science curriculum at Missouri Western College provides the cadet with the general leadership, management and military skills needed to qualify him for a commission in any of the branches of the Army. This curriculum alone does not lead to a degree, but is to be utilized in conjunction with another department granting a degree.

A commission as a Second Lieutenant in the United States Army Reserve is granted to the individual who completes either the Two-Year or Four-Year Army ROTC program and obtains a baccalaureate degree from this College. Currently, a college graduate who is commissioned through ROTC is placed on active duty for either six months or two years, depending on the needs of the service at the time of his graduation.

FOUR-YEAR ROTC PROGRAM. This course of study consists of MS 100, 110, 200, 210, 300, 310, 400, and 410. In addition, a student must attend a six-week Advanced Summer Camp at Fort Riley, Kansas, normally between his junior and senior years. During this summer camp the student receives pay at the rate of \$265 per month plus travel expenses. A student incurs no service obligation for attendance in MS 100, 110, 200, or 210.

TWO-YEAR ROTC PROGRAM. This course of study is for students who were unable to enroll in ROTC during their first two academic years, and for graduate students. This program substitutes a six-week Basic Summer Camp for MS 100, 110, 200, and 210. The remainder of the course is the same as the Four-Year Program. Pay for students while attending Basic Summer Camp is \$288 per month plus travel expenses.

SCHOLARSHIPS AND MONETARY ALLOWANCES. All ROTC students are furnished texts for their military science courses and uniforms for wear to leadership laboratory. Students enrolled in the last two years of military science receive a monthly retainer of \$100 per month. In addition, those cadets attending summer camps receive travel pay to and from the camp and monthly retainer pay as previously described.

Also one, two, three, and four year scholarships are awarded each year to selected students who enroll in the Army ROTC Program. The scholarships provide payment of all tuition, fees, textbooks, and a monthly payment of \$100 for the duration of the scholarship.

- 001 Leadership Laboratory (0) i, ii**
Each semester that a student is enrolled in Military Science, he must also enroll in Leadership Lab. This lab provides the student with the practical setting in which to learn and practice leadership techniques and, in addition, is an extension of other classroom study in Management, Team Studies, Map Reading, Tactics, Communications, etc.
- 100 Development of the Defense Establishment (1) i**
An examination of the evolution of the United States military defense system and the citizen soldier concept to include the evolution of warfare and development of weapons.
- 110 The Defense Establishment in National Security (1) i, ii**
A study of the organization and functions of the defense establishment of the United States to include the interrelations between services under the Department of Defense and the relationship of the Department of Defense to constitutional civil authority.
- 200 American Military History (2) i**
A general study and application of the development of the American Military System from colonial times to the present.
- 210 Tactics, Operations and Map Analysis (2) ii**
The study of offensive and defensive combat operations, planning principles and control measures as well as map and aerial photograph orientation and analysis.
Prerequisite: MS 200 or permission of Director.
- 300 Leadership and Management I (2) i**
An investigation into studies of military leadership; organizational and individual psychology in the military environment; military leader-subordinate interaction and interrelationships; and case studies from military experiences. Practical application of the military instruction methodology and experience is examined.
Prerequisite: MS 210 or permission of Director.
- 310 Fundamentals and Dynamics of the Military Team I (2) ii**
Overview of military occupational specialties, research, technical and logistical components in relation to Army operations. Discussion and application of leadership and management principles to the tactical employment of military units.
Prerequisite: MS 300.

- 400 Fundamentals and Dynamics of the Military Team II (3) i**
Discussion and application of the principles of military organization and management. Includes comprehensive study of executive decision-making and communication; operations; training; logistics; intelligence; and seminar in internal defense and development.
Prerequisite: MS 310.
- 410 Leadership and Management II (3) ii**
A comprehensive analysis of military professionalism and development, administrative management, and a detailed consideration of the methodology of military discipline and courts martial. Includes an inter-disciplinary seminar on the military implications of world change.
Prerequisite: MS 400.

department of PUBLIC SERVICES

The Department of Public Services currently offers a program in Law Enforcement. This program is designed for those students who wish to become members of public police departments, private detective agencies, or security officers.

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.

LAW ENFORCEMENT

- 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.
- 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**
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 offers programs that lead to careers in Engineering and Industrial Technology. The programs are designed to acquaint the student with the skills and knowledge necessary to plan, produce, inspect, maintain, install, and distribute technological products and service.

The Department offers a Bachelor of Science degree with the following majors: Automotive Industrial Technology, Civil and Building Construction, Electronic Engineering Technology, and Industrial Electronic Technology. The Department offers Associate of Science degrees with the following majors: Automotive Service Management, Drafting and Design, Electronic Engineering Technology, and Pilot Training.

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

Major in Automotive Industrial Technology: Business 110, 210, 230, 260, 270, 312, 364, and 412; Engineering 104; Mathematics 110; Technology 100, 112, 140, 210, 315, 318, 330, 350, 375, 390, 450 and 455.

Major in Civil and Building Construction: Engineering 104, 106, 114, 118, 190, 204, 214, 218, 301, 404, and 408; Math. 110, 111; Technology 116, 140, 216, 224, 306, 311, 390, 406, 410, 475 and 490.

Major in Electronic Engineering Technology: Engineering 104 and 190; Mathematics 110, 111 and 210; Technology 120, 140, 220, 230, 240, 270, 300, 320, 340, 440 and 480. In addition to this 390, 470 and First Class F.C.C. License or 390, 430 and Second Class F.C.C. License.

Major in Industrial Electronic Technology: Engineering 104 and 190; Mathematics 110 and 111; Technology 120, 140, 220, 230, 240, 270, 300, 320, 340, 360, 375, 420, 475, 485 and a Second Class F.C.C. License.

The Department offers an Associate of Science Degree with a:

Major in Automotive Service Management: Business 110; Engineering 104; Mathematics 110; Technology 100, 112, 140, 210, 315, 330, 375, 390, 450 and 455.

Major in Drafting and Design: Engineering 104, 106, 108, 114, 118, 190, 204 and 214; Mathematics 110; Physics 101; Technology 116, 216, 224, 306 and 410.

Major in Electronic Engineering Technology: Engineering 104 and 190; Mathematics 110 and 111; Technology 120, 140, 230, 240, and 270; and selected electives of 8 hours in the major field of concentration.

Major in Pilot Training: Mathematics 110; Pilot Training 120, 123, 126, 129, 240, 243, 246 and 249.

APPLIED SCIENCE

- 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.
- 120 Technical Physics I (4) i**
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.
- 200 Electronic Drafting (3) i**
Drafting communication of electronic components. 2 hours lecture and 3 hours lab.
Prerequisite: Engineering Graphics 104 or consent of instructor.

APPLIED SCIENCE CONTINUED ON NEXT PAGE

APPLIED SCIENCE CONTINUED

- 220 Technical Physics II (4) ii**
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.
- 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.
- 308 Pipe Drafting (3)**
Introduction in pipe use 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.
- 314 Jigs and Fixtures (3)**
This course is an introduction to the principles of jigs 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.
- 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.
- 400 Electrical Codes (3) ii**
An analysis of local and national electrical codes.
Prerequisite: Circuit Analysis II, 240 or consent of instructor.
- 408 Tool Design (3)**
Basic principles of design and construction of cutting tools, jig and fixtures in joining operations, inspection and gauging, automated machines, and tooling systems.
Prerequisite: Machine Design 228.
- 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.

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AUTOMOTIVE INDUSTRIAL TECHNOLOGY

- 100 Automotive Engines (3) i**
Designed as an introductory course to the field of automotive industrial technology. Studied are a variety of internal combustion engines with emphasis placed on acquainting the student with the present-day, four-cycle, multiple cylinder, liquid cooled, overhead valve engine designed for vehicular use. Included is a brief history of heat engines, their development into present designs and why, engine component material considerations and manufacturing processes, principles of engine operation, engine measurements, engine construction, engine assemblies, subassemblies, functional systems, and why the present-day internal combustion engines still receive the most intensive engineering considerations.
Prerequisite: none.
- 112 Automotive Engine Analysis (3) ii**
Engine analysis is designed to broaden engine fundamentals gained in Auto Engines. Utilizing automotive lab engines and equipment, disassembly, inspection, measurements, observation, and reassembly procedures are carried out, concepts of precision machining and experiences in precision measurements are introduced, mass produced engine components and their respective manufacturing processes are studied with emphasis on how and why, a working knowledge of engine components and/or assemblies and rebuilding techniques are observed and practiced by the students. Diagnostic and service equipment is studied and a practical and workable knowledge of the equipment is gained by the "hands on" approach.
Prerequisite: Automotive Engines 100.
- 210 Automotive Suspensions and Chassis (3) i**
A course designed to acquaint the student with various automotive chassis and suspension systems and the related components which initiate braking, steering, and springing of present-day automobiles. Includes front-end geometry, how and why, front-end alignment, acquaintance of manual and power assist steering units, manual and power assist braking design and service, and front and rear suspension design and service.
Prerequisite: Auto Engines 100 and Auto Engine Analysis 112.
- 315 Automotive Electrical and Fuel Systems (3) i**
The objective of this course is to acquaint the student with automotive electrical components, fuel system components, and the diagnosing and servicing procedures of both. This objective is achieved through the combination of classroom and laboratory learning experiences. Included are design, construction, diagnosing, and servicing of ignition systems, the electrical system, batteries, starting system, accessory systems, and fuel systems encompassing carburetors and emission controls.
Prerequisite: Auto Engines 100, Auto Engine Analysis 112, and Circuit Analysis 140.
- 330 Automotive Power Transmission Mechanisms (3) ii**
A course encompassing components of the modern automotive power train mechanisms. It is designed to familiarize the student with the total automotive drive train covering components located between the engine and the drive wheels. Included are clutches, fluid couplings and torque converters, standard transmissions, overdrives, fundamentals of automatic transmissions, universal joints, drive shafts, differentials, and transaxles.
Prerequisite: Automotive Engines 100, Auto Engine Analysis 112, and Applied Hydraulics and Pneumatics 375.
- 455 Service Techniques Laboratory (5) ii**
Provides automotive laboratory experience on stationary engines and live automobiles in conjunction with related classroom material. Emphasis is placed on procedure and technical knowledge derived from preceding automotive and industrially related courses. Includes diagnostic procedures, servicing, and shop management principles. It is designed to give a student further insight into the workday and operational characteristics of an automotive service shop and to further develop mechanical skills.
Prerequisite: All lower numbered automotive classes; Service Management Seminar 450 or concurrently.

DESIGN AND DRAFTING; CIVIL AND BUILDING CONSTRUCTION

- 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 114 concurrently.
- 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 concurrently.
- 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.
- 306 Model Building (3) i**
Presents the basic techniques and standard practices of model building. The student will construct a model of his choice. 3 hours lecture.
- 311 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.
- 406 Concrete Technology (3) i**
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.
- 410 Production Drafting (4) ii**
Drafting practices and terminology peculiar to working drawings. General mechanisms, cams, glare and power transmission. Emphasis is placed on developing speed and accuracy in the production of detail and working drawing for practical application.
Prerequisite: Engineering Graphics 104.

ELECTRICITY AND ELECTRONICS

- 140 Circuit Analysis I (4) i**
Basic principles of electricity covering electrical units, Ohm's law, Kirchhoff's law, circuit solution, network solutions, magnetism, inductance, and capacitance. Three hours lecture and 3 hours lab.
Prerequisite: Concurrent with Technical Mathematics I, 110.

- 230 Introduction to Electronics (4) 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 as cathode-ray, gas-filled, and phototubes. 3 hours lecture and 3 hours lab.
Prerequisite: Circuit Analysis I, 140.
- 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 3 hours lab.
Prerequisite: Circuit Analysis I, 140 concurrent with Technical Mathematics II 160.
- 270 Electronic Amplifiers (4) II**
A detailed study of solid state amplifier design including such concepts as bias, gain and distortion.
Prerequisite: Introduction to Electronics 230.
- 300 Boolean Algebra (3) II**
The principles of symbolic logic, logical statements, and electronic circuits used for logical functions.
Prerequisite: Electronic Amplifiers 270.
- 320 Instruments and Measurements (4) I**
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 3 hours lab.
Prerequisite: Circuit Analysis II, 240, Technical Mathematics II.
- 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: Introduction to Electronics 230.
- 360 D. C. Machinery (4) II**
The study of the operation of D. C. machinery together with laboratory tests, such as, load tests of D. C. shunt, series; and compound motors; hysteresis curves, generator characteristics. 3 hours lecture and 3 hours lab.
Prerequisite: Technical Mathematics II, 160.
- 420 Automatic Control Systems (4) I**
Control systems and electronically timed operations; synchros in open-ended systems; error sensing transducers and feed-back control systems. 3 hours lecture and 3 hours lab.
Prerequisite: Introduction to Electronics 230.
- 430 Electronic Computers (4) 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 3 hours lab.
Prerequisite: Boolean Algebra 300.
- 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 3 hours lab.
Prerequisite: Communication Systems I, 340.

- 470 Microwave Systems (4) i**
 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 3 hours lab.
Prerequisite: Technical Physics II 220 and Communication Systems II 440.
- 480 Electronic Design (3) i**
 Design and construction of individual projects. Two hours lecture and 3 hours lab.
Prerequisite: Electronic Amplifiers, 270.


GENERAL TECHNOLOGY

- 318 Materials and Manufacturing Processes (3) i**
 Acquaints the student with materials and manufacturing processes used in mass production industry. Physical properties, structure and application of materials used. Common methods of manufacturing, production lines, and the various types of fabrication processes are included.
Prerequisite: none.
- 350 Fuels and Lubricants (3) ii**
 Designed as related subject matter complimenting the automotive industrial technology curriculum. Includes molecular structures and compositions of the hydrocarbons of solvents, gasolines, diesel fuels, jet fuels, oils and heavy lubricants. Emphasis on the refinery processes and compositions of gasolines and oils and their oxidation characteristics. Laboratory experiments include distillation of various fuels, viscosity experiments, specific and API gravities, pour points, cold points, fire and flash points.
Prerequisite: Auto Engines 100 and Auto Engine Analysis 112.
- 375 Applied Hydraulics and Pneumatics (3) ii**
 Provides the student with a familiarity of industrial hydraulic and pneumatic components and circuits. Identification, functions, and interchangeability of components are areas emphasized in conjunction with drawing schematics, building circuits from schematics, building circuits for specific purposes, and tracing industrial circuits.
Prerequisite: none.
- 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.
- 410 Dimensional Metrology (3) i**
 Studied are the various industrial methods of mass production precision measurement as used for quality control. Instruments covered range from micrometers and super micrometers through gage blocks, optical flats, and electronic and air systems; also inspection methods as applied to quality and production control.
Prerequisite: none.
- 450 Service Management Seminar (3) i**
 A seminar designed to compliment the automotive industrial technology curriculum by utilizing guest speakers from the automotive industry in conjunction with related classroom material. Guest speakers include automotive dealers, service advisors, service foremen or managers, new car dealers, factory service representatives, engineering staff personnel, parts store managers, auto mechanics, oil men, and other occupations related to the automotive industry. The objective is to give first hand insight into actual job experiences of personnel working in the students' chosen field. Included are the relationships of the various automotive areas to each other ranging from managerial personnel through service personnel.
Prerequisite: Principles of Management 318.


- 475 Refrigeration and Air Conditioning (4) ii**
Study of refrigeration and air conditioning principles and their application.
- 485 Electromechanical Design (3) ii**
An analysis is made of the processes required for manufacture of a selected electromechanical 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.
- 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.

PILOT TRAINING

- 120 Private Flight (3) i, ii**
Flight maneuvers leading to private pilot, single engine, Land Certificate; Math 110 must be taken concurrently. 2 hours lecture, 4 hours lab.
- 123 Private Ground (3) i, ii**
Ground training leading to a private pilot, single engine, Land Certificate. To be taken concurrently with Private Flight Course 120.
- 126 Commercial Flight I (3) i, ii**
Continuation of flight training leading to qualification for commercial license. 2 hours lecture, 4 hours lab.
Prerequisite: P.T. 120.
- 129 Commercial Ground (3) i, ii**
Advanced weights and balances, meteorology, flight computers, navigation and radio, Federal Aviation regulations, and flight maneuvers.
Prerequisite: P.T. 123 and concurrent with P.T. 126.
- 240 Commercial Flight II (3) i, ii**
Continuation of Commercial Flight I. May be taken at the convenience of the student and the flight school. 2 hours lecture, 4 hours lab.
Prerequisite: P.T. 126.
- 243 Instrument Flight (3) i, ii**
Flight maneuvers and planning by sole reference to flight instruments. 2 hours lecture, 4 hours lab.
Prerequisite: P.T. 126.
- 246 Instrument Ground (3) i, 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.T. 129 and concurrent with P.T. 243.
- 249 Instructor Flight (3) i, ii**
Flight teaching procedure. 2 hours lecture, 4 hours lab.
Prerequisite: P.T. 240 and concurrent with P.T. 243 and P.T. 246.



EDUCATION
and PSYCHOLOGY . . .





departments of ELEMENTARY and SECONDARY EDUCATION

The Departments are concerned with the total process of helping individuals become teachers. Students who wish to become elementary or secondary teachers or other educational specialists learn to utilize and understand the principles of learning, human growth and development, and inter-personal relationships. The Departments also supply the student with specialized educational 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 and Special Education offers majors in elementary education for the degree Bachelor of Science in Education. The Bachelor of Science in Education with an emphasis in secondary education is offered in conjunction with other departments. All degree programs satisfy the requirements for teacher certification as set by the State Department of Education of Missouri.

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

ELEMENTARY EDUCATION

1. The general education requirements must be satisfactorily completed.
2. 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, Education 383, Physical Education 300, and 382. Earth Science 460, Geography 100, English 300, and History 150. Some of these courses meet both general education and elementary education requirements.
3. The elementary major may also select a special teaching area or an emphasis area from one of the following: Physical Education, Music, Art, Special Education, Social Science, Science, Reading, Language Arts, Foreign Language, Mathematics, or an area approved by the Department Chairman.
4. Special Education: The student while obtaining a degree in elementary or secondary education may also take work toward dual certification in special education areas.
5. The professional sequence is as follows:

COURSE	NUMBER	SEMESTER HRS.
Participation in Teaching I	Ed. 202	3
Experience in Teaching II	Ed. 303	3
Educational Psychology		
1. Psychology in Teaching	Ed. 305	4
a. May be fulfilled by Psychology in Teaching (2 hrs.) and a specialized course in Psychology (2-3 hrs.)		
Foundations in Education	Ed. 406	3
Student Teaching III		
1. Student Teaching	Ed. 408	8
a. May be fulfilled by student teaching (5 hrs.) and 3 hrs. in a second teaching field or specialized area of Education.		
		— 21
Plus additional hours in recommended course work.		3
		—
Total		24

SECONDARY EDUCATION

1. The general education requirements must satisfactorily be completed.
2. The specific requirements in the major field are set by the departments. Secondary education majors are available in the following fields: Art, Biology, Business, Mathematics, Music, English, Chemistry, Foreign Language (German, Spanish), Physical Education, Social Science (History, Political Science, or Sociology), Speech and Theatre, Physics. Certification in a second teaching area is available in the majority of the above named fields.
3. The professional sequence is as follows:

COURSE	NUMBER	SEMESTER HRS.
Participation in Teaching I	Ed. 202	3
Experience in Teaching II Educational Psychology	Ed. 303	3
1. Psychology in Teaching	Ed. 305	4
a. May be fulfilled by Psychology in teaching (2 hrs.) and a specialized course in Psychology (2-3 hrs.)		
Foundations in Education Student Teaching III	Ed. 406	3
1. Student Teaching	Ed. 408	8
a. May be fulfilled by student teaching (5 hrs.) and 3 hrs. in a second teaching field or specialized area of Education		
		21
Plus additional hours in recommended course work.		3
	Total	24

Admission to the teacher education program requires:

1. Written application for conditional admission prior to the Participation in Teaching I 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 Experience in Teaching II.
 - 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 into Student Teaching III.
 - a. Requirements:
 1. 2.3 grade point average in major field and professional sequence courses.
 2. 2.0 overall grade point average.
 3. At least a 2.0 for each course in the professional sequence.
 4. Recommendations of college personnel and cooperating school personnel.
 5. Approval of the Departmental Admissions Committee.
4. Application for enrollment in Education 202, 304, or 408 must be completed well in advance of the semester in which the experience will be taken. The following schedule for filing applications is to be followed:
 1. For an experience (Education 202, 304, or 408) in the Fall semester—the application must be filed with the Department of Elementary and Special Education or the Department of Secondary Education by the end of the eighth week of the Spring semester.
 2. For an experience (Education 202, 304, or 408) in the Spring semester—the application must be filed with the Department of Elementary and Special Education or the Department of Secondary Education by the end of the eighth week of the Fall semester.*
 3. Summer student teaching will be arranged by individual application and arrangement with the Department Chairman and Dean by the end of the eighth week of the Spring semester.*

*The actual dates (deadlines) will be publicized by the Education Departments at the beginning of each school year.

- 010 Reading Improvement (0) i, ii**
Basic reading skills for the college student, including comprehension and vocabulary.
- 011 Career Orientation (1) i, ii**
Interdisciplinary seminar on professional opportunities and choice of academic majors.
- 101 Speed Reading (2) i, ii, iii**
The course is designed to improve the skills, speed, and comprehension of those individuals who feel a need for such improvement in school, profession, business, or recreational pursuits. The course is open to both regularly enrolled students or any interested individual.
- 202 Participation in Teaching I (3) i, ii**
The student will spend one-half of the semester in a "school experience", the other half in a class on campus in order to help him in his career decision.
Prerequisite: Approved admission to Teacher Education Program.
- 303 Experience in Teaching II (3) i, ii**
A continuation of the off-campus experiences in cooperating schools as a teacher associate. To be taken concurrently with Education 305.
Prerequisite: Approved admission to the Teacher Education Program and Education 202. (Replaces Junior Experience).
- 304 Experience in Teaching II (2) i, ii**
An extension of Ed. 303, this course is designed to supplement, extend, and enrich the actual experience of the teacher in the classroom by offering wider curricular experiences.
Prerequisite: Education 303 and by arrangement with Chairmen of Education Departments.
- 305 Psychology in Teaching (4) i, ii**
A study of psychological principles as applied to educational settings. To be taken concurrently with Education 303.
Prerequisite: Psychology 101 and Education 202.
- 306 Current Trends in Education (3) i, ii**
A study of educational innovations, new media, current teaching problems and issues.
Prerequisite: Education 303 and 305.
- 310 Teaching of Reading in the Elementary School (3) i, ii, iii**
Developmental reading, the techniques of teaching reading in the elementary grades. (Formerly Education 204).
- 311 Teaching Reading in the Secondary School (3) i, ii, iii**
Techniques of teaching upper-level reading. (Formerly Education 203).
- 320 Language Arts Methods (3) ii, iii**
A general survey course to integrate the skills of listening, writing, and speaking with the reading skills.
- 322 Language Arts Components (1-6) i, ii, iii**
A componently-sectioned course designed to give students in-depth experiences in selected sections to meet special needs and interests. A student may take as many sections as desired.
a. Creative Dramatics. b. Creative Writing. c. Puppetry. d. Listening. e. Speech Development. f. Handwriting. g. Oral Communication.
- 331 Audio-Visual Education (1-3) ii**
A componently-sectioned course designed to give students in-depth experiences in selected areas to meet special needs and interests.
a. Equipment. b. Techniques. c. Classroom Graphics.

- 342 Measurement and Evaluation in Education (3) ii, iii**
Principles and techniques of administration, application and interpretation of tests, test results, and data for education majors.
Prerequisite: Education 303 and 305.
- 345 Classroom Testing and Evaluation (1-3) i**
A componently-sectioned course designed to give students in-depth experiences in selected sections to meet special needs and interests.
a. Classroom test construction. b. Standardized Testing. c. Evaluation and Reporting.
- 350 Curriculum Seminar (2) i, ii, iii**
Exploration of specialized curriculum in the areas of (a) Social Science, (b) Mathematics, (c) Science, and (d) Foreign Language. Each area will constitute a two-hour course. Methods, contents, and basic series and programs will be considered. A student may take one or more areas. By arrangement with Chairmen of Education Departments.
- 383 Diagnostic and Corrective Reading for the Classroom Teacher (3) i, ii, iii**
Evaluation and diagnosis of basic reading problems.
Prerequisite: Education 310 or 311.
- 385 Explorations in Reading Approaches (1-6) i, ii, iii**
A componently-sectioned course designed to give students in-depth experiences in selected sections to meet special needs and interests. The refinement of teaching techniques using particular reading methods to prepare teachers for those programs which are currently used in area schools. It is recommended that a student take no more than six sections. Each section is one semester hour: a. Phonic Methods, b. Linguistic Methods, c. Eclectic Methods, d. i/t/a, e. Language-experience, f. Programmed methods, g. Basal programs, h. Individualized reading.
Prerequisite: Elementary 310 or 311.
- 405 Internship (6) i, ii**
One semester of off-campus teaching with full classroom responsibilities.
Prerequisite: Approved admission to teacher education program and Education 303, 305.
- 406 Foundations in Education (3) i, ii, iii**
A study of problems in teaching, organization and management of the school, the teacher and society, and methodology of teaching and resources. To be taken concurrently with the Internship of Student Teaching III.
Prerequisite: Approved admission to the Teacher Education Program, Education 303, 305.
- 407 Seminar in Student Teaching (2) i, ii, iii**
Designed for the further refinement of classroom skills in areas of special interest or need.
Prerequisite: Education 408 and by special arrangement with the Chairmen of the Education Departments.
- 408 Student Teaching III (8) i, ii, iii**
One semester off-campus teaching under a cooperating teacher. To be taken concurrently with Education 406.
Prerequisite: Approved admission to the Teacher Education Program, Education 303, 305.
- 409 Student Teaching III (2) i, ii, iii**
An extension of Ed. 408. Continued experiences in classroom teaching.
Prerequisite: Education 408 and special arrangement with Chairmen of Education Departments.
- 410 Special Problems in Teaching (2) i, ii, iii**
Course for certified teachers to be structured for the development of special classroom skills, procedures, or techniques.
- 413 Speech Correction for the Classroom Teacher (3) ii, iii**
Methods and techniques of speech correction applied and utilized by the classroom teacher. (Formerly Education 330).

- 414 Methods of Teaching the Mentally Retarded (3) i**
Special techniques for teaching the atypical child.
Prerequisite: Education 303, 305, or approval of the Department Chairman.
- 415 Methods of Teaching the Emotionally Disturbed (3) ii**
Special techniques for teaching the emotionally disturbed child.
Prerequisite: Education 303, 305 or approval of the Department Chairman.
- 416 Methods—Learning Disabilities (3) ii, iii**
Special techniques for teaching the child with learning disabilities.
Prerequisite: Education 303, 305 or approval of the Department Chairman.
- 420 Education of the Disadvantaged (2) ii**
A course designed to aid teachers in working with disadvantaged students.
- 421 Psychology of the Disadvantaged (2) i**
A study of psychological principles as applied to disadvantaged students in educational settings.
Prerequisite: A course in Ed. Psychology or approval of the Department Chairman.
- 422 Behavior Modification in the Classroom (2) i**
A course designed to explore uses of behavior modification in classroom settings.
Prerequisite: Approval of the Chairmen of the Education Departments.
- 430 The Middle School (2) ii**
A course designed to explore the philosophy, curriculum, and techniques applicable to Middle Schools. a. Concepts. b. Core curriculum. c. Psychology of the Emerging Adolescent.
Prerequisite: Approval of the Chairmen of the Education Departments.
- 434 Micro-Teaching (2) ii**
A course designed to demonstrate and refine particular teaching skills using audio visual methods.
Prerequisite: Approval of Chairmen of Education Departments.
- 435 Special Teaching Techniques (1-3) i, ii, iii**
A componently-sectioned course designed to give students in-depth experiences in selected sections to meet special needs and interests. Course designed to further prepare teachers for specialized teaching procedures needed in today's schools. (a) Team Teaching; (b) Individualized Instruction; (c) Independent Study. Any number of sections may be elected by a student.
Prerequisite: Education 303 and 305.
- 440 Early Childhood Education (1-6) i, ii, iii**
A componently-sectioned course designed to give the student in-depth understanding of early childhood education. A student may elect one or more sections. a. Nursery School Education. b. Pre-school Education. c. Early Child Psychology. d. Child Growth and Development. e. Materials for early childhood. f. Seminar for parent education.
Prerequisite: Approval of the Education 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.
Prerequisite: Approval of the Education Department Chairman.
- 483 Practicum I (Diagnosis of Reading Difficulties) (3) i, ii, iii**
A clinical diagnosis in evaluation of reading and learning problems.
Prerequisite: Education 310, 383, and consent of the Education Department Chairman.
- 484 Practicum II (Remediation of Reading Difficulties) (3) i, ii, iii**
A clinical treatment of identified reading and learning problems.
Prerequisite: Education 483.
- 490 Workshop in Education (1-9) i, ii, iii**
Workshops will be developed in selected areas in accordance with interest and felt needs.

department of
PHYSICAL EDUCATION

Whether programming intramural competition, offering a planned sequence of exercises and sports activities to help students develop strong 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.

Every student at Missouri Western College, as a part of his general education requirement, must take a course in "Concepts of Physical Activity" from which he becomes acquainted with basic knowledges, understandings and values as they affect him physiologically, psychologically, sociologically, and emotionally. Each student, based on his self evaluation and guidance by the instructor during the concepts course, should take activity courses which will assist him in areas which he has found personal deficiency. These courses are of the physical conditioning, aquatics, sport, dance, combative, self-testing, gymnastics and adaptive types.

An activity course cannot be repeated for credit.

Adaptive Activities should be taken by students with handicaps which restrict them from the regular activity program.

Intercollegiate Sports I and II are offered as elective courses for intercollegiate team members only. These courses will not satisfy general education requirements.

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. Majors in this department must meet the requirements of general education, teacher education, and the physical education core as well as specialized requirements for men and women. 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 and Athletic Coaching Certification courses are also offered by this department for any education majors who desire teaching certification in these areas.

Major in Physical Education—Women (42 hours)

Courses in Physical Education must total 37 hours and 5 hours in Biology. The specific courses required are: Physical Education 148, 153, 191, 192, 201, 241, 242, 301, 302, 303, 382, 392, 393, and Biology 250. An additional 6 hours of electives in Physical Education must be taken from courses numbered 300 or above. There also must be no grades below "C" in Physical Education courses numbered 300 or above.

Major in Physical Education—Men (45 hours)

Courses in Physical Education must total 40 hours and 5 hours in Biology. The specific courses required are: Physical Education 148, 191, 192, 201, 241, 242, 247, 248, 301, 302, 303, 382, 385, 393, and Biology 250. An additional 6 hours of electives in Physical Education must be taken from courses numbered 300 or above. There also must be no grades below "C" in Physical Education courses numbered 300 or above.

Certification in Coaching (17 hours)

Majors in any department who receive a degree in education, may also receive athletic coaching certification. Courses must total 12 hours in Physical Education and 5 hours in Biology. The following are the specific courses required: Physical Education 201, 247, 248, 373, 385 and Biology 250.

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.

PHYSICAL EDUCATION THEORY

- 191 Foundations of Physical Education (2) i, ii**
Meaning of physical education, opportunities in the field, and evaluation of aptitudes and abilities. For freshmen. (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, advanced and instructor certification included. (One hour lecture, two hour lab.)
- 241 Activities for Physical Education Majors I (3) i**
To develop knowledge and basic skills in activities taught by professionals in physical education. For Physical Education majors only. (Ten hours lab). Uniform required.
- 242 Activities for Physical Education Majors II (3) ii**
Continuation of Activities for Physical Education Majors I. (Ten hours lab). Uniform required.
- 247 Coaching Theory I (3) i**
Theory and methods of coaching football and basketball. (Two hours lecture, two hours lab.)
- 248 Coaching Theory II (3) ii**
Theory and methods of coaching baseball and track and field. (Two hours lecture, two hours lab.)
- 300 Elementary School Health Education (2) i, ii, iii**
Emphasis on content, methods, and materials at the elementary grade levels. Designed for the elementary school classroom teacher. (Two hours lecture).
- 301 Health Teaching in the Schools (2) i, iii**
Emphasis on content, methods, and materials in health education at all levels (K through 12). (Two hours lecture).
Prerequisite: P.E. 192.
- 302 Methods of Physical Education (2) ii, iii**
Methods and materials of teaching physical education in the secondary schools. (One hour lecture, two hours lab.)
Prerequisite: P.E. 101, 241, 242.
- 303 Kinesiology (3) ii, iii**
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) i**
Basic physiology applied to physical education and the training and conditioning of athletes. (Two hours lecture).
- 373 Organization and Administration of Physical Education and Athletics (2) i, ii**
Programming, staff selection, principles of administration, public relations, budget making, purchase and care of equipment, facilities and organization of physical education and athletic programs. (Two hours lecture).
- 381 Outdoor Education (2) ii**
Development of competencies in teaching in an outdoor learning environment. (2 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) 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).
- 385 Athletic Training (2) i, iii**
Prevention and care of common athletic injuries; protective equipment, training methods. (2 hour lecture).
Prerequisite: Biology 250.
- 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. (1 hour lecture and 2 hours lab). Uniform fee required.
- 392 Sports Officiating for Women (2) i**
Rules and techniques used in officiating athletic contests. Officiating in the intramural program is desired. (One hour lecture, two hours lab). Uniform fee required.
- 393 Measurement in Physical Education (3) i, iii**
Methods in evaluation of the product and process; special emphasis on physical fitness, motor ability, posture, and specific sport skills. (Three hours lecture).
- 395 Intramural Management (2) i**
Organization and administration of intramural and extramural activities. Assistance in the intramural program is desired. (2 hours lecture).
- 450 Independent Study in Physical Education (1-5 hours) i, ii, iii**
A research-oriented involvement intended to extend the competencies of the student in a particular area of education.
Prerequisite: Approval of the Department Chairman.
- 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 153.
- 480 Practicum in Physical Education (2) i, ii, iii**
Individualized in-depth study of a subject in which the student is particularly interested.
Prerequisite: Senior classification.

DRIVER EDUCATION and SAFETY THEORY

- 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)
- 254 Developmental Traffic Education (3) i, 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) ii, iii**
Advanced course to prepare teachers of driver education. Actual experience in teaching beginning drivers in both the classroom and the car. (Two hour lecture, 2 hours lab arranged)
Prerequisite: Driver Education 254.

ACTIVITIES (CO-ED)

- 101 Concepts of Physical Activity (1) i, ii, iii**
To acquaint students with basic knowledge, understandings and values of physical activity as it relates to optimal healthful living. (1 hour lecture and 1 hour lab). Uniform required.
- 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.**
Uniform required.
- 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, knowledge, and appreciation of bowling and golf as recreational and fitness activities. Fee required. Students must furnish golf balls.
- 119 Intermediate Bowling and Golf (1) ii, iii**
Advanced activity for more skilled performer in bowling and golf. Fee required. Students must furnish golf balls.
Prerequisite: Physical Education 118 or permission of bowling and golf coordinator.
- 120 Beginning Tennis and Badminton (1) i, ii, iii**
Development of techniques, knowledge, and appreciation of tennis and badminton as recreational and fitness activities. Students must furnish tennis balls. Uniform fee required.
- 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. Uniform fee required.
- 123 Beginning Judo and Karate (1) i, ii, iii**
Development of techniques, knowledge, and appreciations of judo and karate as recreational, fitness, and self-defense activities. Gi required. Uniform fee required.
- 124 Intermediate Judo and Karate (1) ii**
Advanced activity for more skilled performer in judo and karate. Gi required. Uniform fee required.
Prerequisite: Physical Education 123 or permission of judo and karate coordinator.
- 125 Beginning Handball and Squash (1) i, ii, iii**
Development of techniques, knowledge, and appreciation of handball and squash as recreational and fitness activities. Students must furnish their own glove. Uniform fee required.
- 128 Beginning Archery and Fencing (1) i**
Development of techniques, knowledge, and appreciation of archery and fencing as recreational and fitness activities. Students must furnish arrows. In fencing a uniform fee is required.

- 130 Beginning Swimming (1) i, ii, iii**
Development of basic skills in swimming. Swim suit required.
Prerequisite: Non-swimmers only.
- 132 Intermediate Swimming (1) ii**
Development of the various strokes in swimming.
Prerequisite: Ability to swim. Swim suit required.
- 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. Swim suit required.
- 134 Life Saving (1) ii, iii**
Development of life saving techniques. Red Cross senior life saving certification.
Prerequisite: Above average ability to swim. Swim suit required.
- 135 Skin and Scuba Diving (1) i, ii, iii**
Techniques and safety precautions in skin and scuba diving.
Prerequisite: Above average ability to swim. Swim suit required.
- 136 Recreational Water Sports (1) ii, iii**
Development of techniques, knowledges and appreciation of water polo, water basketball, and water volleyball with possibly some small craft activity.
Prerequisite: Above average ability to swim. Swim suit required.
- 137 Water Safety Instructor (1) ii, iii**
Development of techniques and knowledge of water safety instruction as prescribed by the American Red Cross.
Prerequisite: Current Senior Life Saving Certificate. Swim suit required.
- 144 Beginning Recreation Games (1) i**
Development of skills, knowledge, and appreciation of shuffleboard, table tennis, horseshoe pitching, deck tennis, croquet, and other recreational games.
- 146 Beginning Social Dance (1) i**
Fundamentals of waltz, foxtrot, polka, 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, knowledge, and appreciation for creative modern dance or a recreational, fitness, and creative physical activity. Uniform fee required. Student must furnish leotard.
- 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. Uniform fee required. Student must furnish leotard.
- 156 Beginning Tap Dance (1) i, ii**
Development of skills, knowledge, and appreciation for tap dance as a recreational and fitness activity. Student must furnish tap shoes. Uniform fee required.
- 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.

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.

BACHELOR OF ARTS OR BACHELOR OF SCIENCE

Major in Psychology

A minimum of 31 credit hours in Psychology is required. Courses required are: Psychology 101, 200, 330, 400, 401, and Math 201, the latter being included in the 31 credit hours requirement. The additional 12 credit hours to meet the 31 credit hour requirement must consist of electives in Psychology.

Candidates for either degree must also comply with the appropriate Baccalaureate degree program and meet all other requirements as outlined elsewhere in this catalog. (See 30 hours upper division requirement and general education requirements.)


Minor or Emphasis in Psychology

A minimum of 22 credit hours in Psychology is required. Courses required are: Psychology 101, 200, 330, 400, and Math 201, the latter being included in the 22 credit hour requirement. The additional 6 credit hours to meet the 22 credit hour requirement must consist of electives in Psychology.

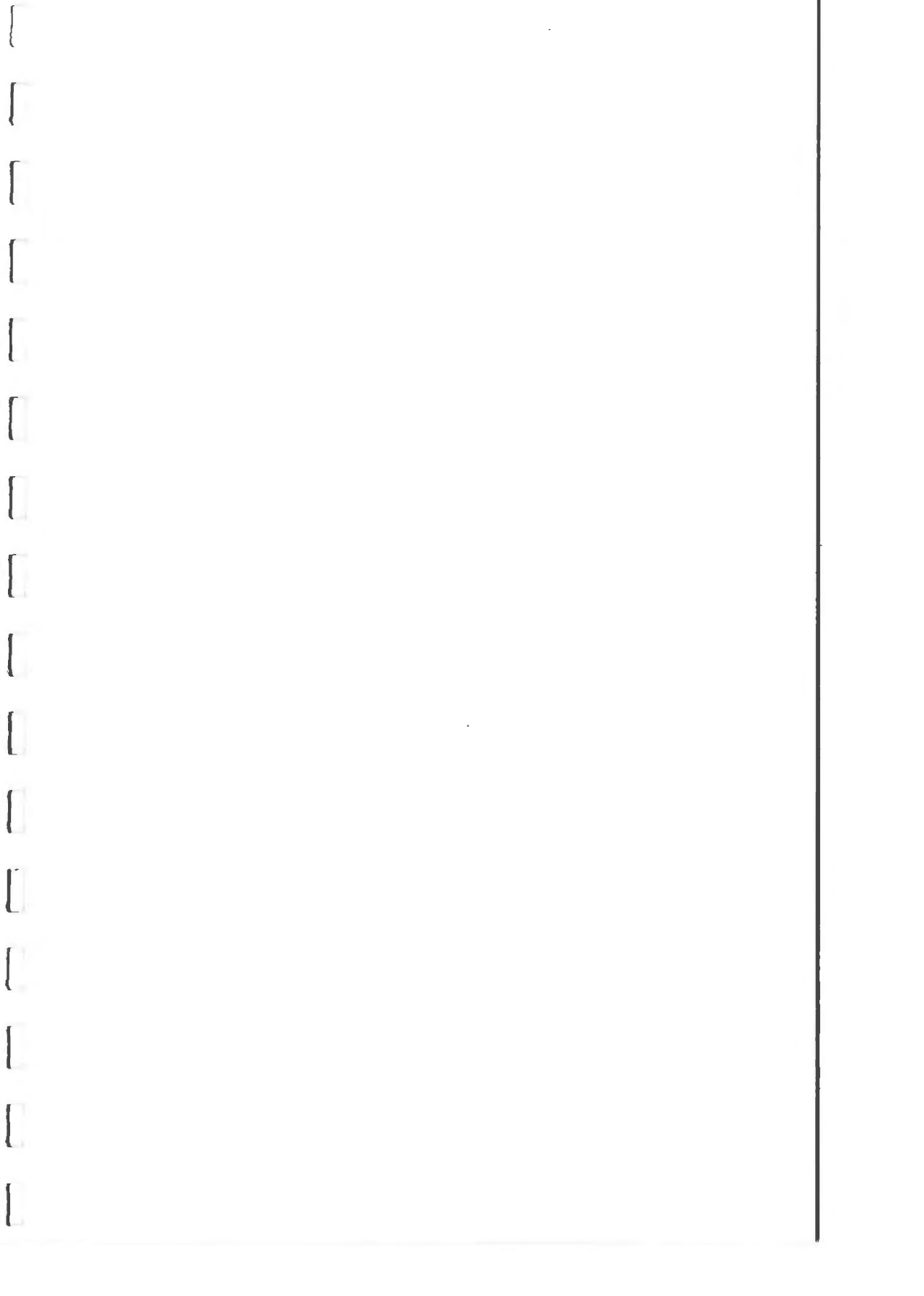
PSYCHOLOGY

- 101 General Psychology (3) i, ii, iii**
A general information course about psychology in everyday life, designed to correct misconceptions and to give the student a better understanding of himself and others.
- 200 Intermediate Psychology (3) i, ii, iii**
An introduction to scientific psychology with emphasis on methodology.
Prerequisite: Psychology 101.
- 210 Mental Hygiene (3) i, ii, iii**
Considers principles and techniques for maintaining good mental health. The approach is practical rather than descriptive.
Prerequisite: Psychology 101.
- 304 Child Psychology (3) i, ii, iii**
The psychological growth of the child from conception to puberty, emphasizing the origins and principles of normal personality development.
Prerequisites: Psychology 101, 200.
- 309 Abnormal Psychology (3) i, ii, iii**
A descriptive and explanatory consideration of abnormal behavior, with a survey of past and present theories, classifications, and therapies.
Prerequisite: Psychology 101.
- 310 Industrial Psychology (3) i, ii**
Psychology for management and employees in business and industry, with emphasis on psychological principles helpful to people working with people or serving the public.
Prerequisite: Psychology 101.
- 312 Psychology of the Exceptional Child (3) i, iii**
Considers problems and needs of children who noticeably deviate from accepted physical, psychological, and social norms.
Prerequisite: Psychology 101, 200, 304.
- 320 Adolescent Psychology (3) ii**
A descriptive and explanatory consideration of adolescence, with emphasis on motivation and frustration.
Prerequisites: Psychology 101, 200, 304.

- 325 Psychology of Personality (3) i**
Dynamics of personality development and human behavior, with emphasis on theories of personality.
Prerequisites: Psychology 101, 200, 304, 320.
- 330 Systematic Psychology (3) i, ii**
Consideration of the major ways of defining, organizing, and explaining psychological phenomena.
Prerequisites: Psychology 101, 200.
- 335 Learning Theories (3) ii**
A survey of the major theories of learning in contemporary psychology, with a brief historical introduction.
Prerequisites: Psychology 101, 200.
- 345 Comparative Psychology (3) ii**
Introduction to the comparative method in exploring and classifying psychological behavior in the Animal Kingdom.
Prerequisites: Psychology 101, 200, 330.
- 350 Physiological Psychology (3) i**
Investigates the physiological correlates of psychological behavior in man.
Prerequisites: Psychology 101, 200, 330.
- 400 Experimental Psychology (4) i, ii**
Three hours lecture and two hours lab. Provides training in the techniques and methods of scientific psychology. Emphasis is on the construction of hypotheses, experimental design, data interpretation and style of reporting research.
Prerequisites: Psychology 101, 200, 330, plus 6 additional hours from electives in psychology, and Math 201.
- 401 Social Psychology (3) i, ii**
Considers the individual in relation to his society. The course covers theoretical foundations, socialization, social cognition, group dynamics, and leadership.
Prerequisites: Psychology 101, 200.
- 405 Psychology of Communication (3) i, ii**
Analyzes the elements of interpersonal communication with emphasis on techniques of communicating thoughts and ideas, listening techniques, understanding meaning, the utilization of feedback, and reasons for failures to communicate. Designed to improve the students interpersonal relationships.
Prerequisites: Psychology 101, 200.
- 410 Psychological Measurements and Appraisals (3) ii**
Considers contemporary methods of inventorying individual differences, and the theoretical basis for criteria in constructing, standardizing, and using test instruments, with a brief historical introduction and a critique of the misuse of psychological tests.
Prerequisites: Psychology 101, 200, 325, 330, Math 201, and consent of the instructor.
- 450 Independent Study (credit hours open) i, ii, iii**
By arrangement. Open only to seniors as a means of taking a required course which is not otherwise available during their senior year.
Requires consent of the Department Chairman.



LIBERAL ARTS
and **SCIENCES . . .**



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

(Requires 12 credit hours in a Foreign Language)

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, 310, 311, 312, 313, 370; Physics 110, 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, 301, 370; Mathematics 105 and 201; Physics 110.

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, 301, 370; Mathematics 105 and 201; Physics 110.

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, 301, 370; Mathematics 105 and 201; Physics 110.

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, 301, 370; Physics 110; 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. Will substitute for Biology 111 for a student who earns a grade of "C" or better and subsequently majors in biology.
4 hours lecture, 2 hours lab.
- 111 General Biology (3) i, iii**
Phenomena associated with living organisms; primarily for biology majors.
2 hours lecture, 3 hours lab.
- 112 General Biology (3) ii, iii**
Continuation of Biology 111, 2 hours lecture, 3 hours lab.
Prerequisite: Biology 111 or equivalent, or consent of instructor.
- 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 370.

- 250 Anatomy and Physiology (5) i, ii, iii**
 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. (Student must furnish required dissecting kit and probe.)
- 305 Human Ecology (3) i, ii, iii**
 Man and his environment: ecological principles, population, pollution, resources.
Prerequisite: Biology 101.
- 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.
- 350 Plant Systematics (3) i**
 Identification, characteristics and importance of seed plants. Study of classification, techniques and literature of taxonomy. A plant collection and field trips will be required. 2 hours lecture, 2 hours lab.
Prerequisite: Biology 101 or 111.
- 380 Science Teaching: Materials and Methods (3) ii**
 Curricula, evaluation, laboratory equipment, supplies and techniques.
Prerequisite: 20 hours of science, or consent of instructor.
- 399 Microbiology (5) ii**
 Identification, characteristics and importance of common forms of microorganisms; 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 (offered odd numbered years)**
 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 (offered even numbered years)**
 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) i, ii**
 Individual reports and group discussion on problems and current research in biology. May be repeated for a maximum total of 2 credit hours. Biology majors are expected to attend during the Junior and Senior years whether or not they are enrolled for credit.
Prerequisite: Consent of instructor.
- 415 Invertebrate Zoology (3) i (offered even numbered years)**
 Comparative anatomy and biological principles of the invertebrates. 2 hours lecture, 2 hours lab.
Prerequisite: Biology 112.
- 416 Vertebrate Zoology (3) ii (offered odd numbered years)**
 Principles and evolution of vertebrate structure and function. 2 hours lecture, 2 hours lab.
Prerequisite: Biology 112.

- 420 Biology Practicum (1) i, ii, iii**
Supervised experience in the development and use of laboratory materials for biology classes. Student will serve as a resource person in beginning biology laboratories.
Prerequisite: Consent of instructor.
- 450 Independent Study in 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 ARTS

(Requires 12 credit hours in a Foreign Language)

Major in Chemistry

Courses in Chemistry must total 35 credit hours. The following specific courses are required: Chemistry 111, 120, 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 210; German 102, 112, 202, 212.

Major in Natural Science (Chemistry Emphasis)

Courses in Chemistry must total 27 credit hours. The following specific courses are required: Chemistry 111, 120, 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 110.

BACHELOR OF SCIENCE

Major in Chemistry

Courses in Chemistry must total 42 credit hours. The following specific courses are required: Chemistry 111, 120, 310, 311, 312, 313, 321, 326, 341, 431, 432, 433, 434, 495; Mathematics 107, 108, 209; Physics 210, 211, 212; German 102, 112.

Major in Medical Technology

Courses in the Sciences and Mathematics must total 50 credit hours; courses in Medical Technology must total 30 credit hours. The following specific courses are required: Chemistry 111, 120, 301 or 310 and 311, 321, 370; Biology 111, 112, 250, 399, plus 4 credit hours selected from Biology courses numbered 300 or higher; Mathematics 105; Physics 110; Medical Technology 451, 452, 453.

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, 310, 311, 321, 431, 432, 465, 495, plus an additional 5 credit hours from Chemistry courses 300 or higher; Mathematics 107, 108, 209; Physics 210, 211.

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, 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 110; Earth Science 460.

CHEMISTRY

(Student must furnish required laboratory apron and safety glasses in laboratory courses. A \$2.00 refundable laboratory deposit is also required.)

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

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, 3 hrs. lab.

Prerequisite: Two units algebra. High school chemistry is also recommended.

- 120 General Chemistry II (5) i, ii**
Continuation of Chemistry 111; thermochemistry, equilibrium, electrochemistry, radio-chemistry, coordination chemistry and a survey of the main group elements and their compounds. Laboratory includes the topics above along with the separation and identification of some of the more common anions and cations by qualitative analysis. 3 hours lecture, 6 hours laboratory.
Prerequisite: Chemistry 111 with a grade of C or better.
- 301 Survey of Organic Chemistry (4) i, ii**
Aliphatic and aromatic series; their relation to life processes. 3 hours lecture, 3 hours 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) i**
Analytical chemistry; gravimetric, volumetric, colorimetric, and electro-analytical determinations. The instrumental approach to analysis is emphasized. 2 hrs. lecture, 6 hrs. lab.
Prerequisite: Chemistry 120 with a grade of C or better.
- 326 Instrumental Analysis (4) ii**
Theories and methods in modern instrumental analysis. 2 hrs. lecture, 6 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, with a grade of C or better.
- 370 Biochemistry (4) i**
Chemistry of biological compounds, metabolism, and biochemical genetics. 3 hours lecture, 3 hours lab.
Prerequisite: Chemistry 111, and 301 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 Research in Chemistry (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, ii, iii**
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) I, ii, iii**
Continuation of Course 451.
Prerequisite: Medical Technology 451.
- 453 Medical Technology Internship (6) I, ii, iii**
Continuation of Course 452.
Prerequisite: Medical Technology 452.

department of ENGLISH

The Department of English is organized to meet the needs of all Missouri Western students. Through its participation in the general studies program, the Department offers work in composition and basic literary study; as a discipline, it embraces the areas of literature, linguistics, writing, and journalism. In its endeavors, the Department works toward a fourfold goal: the improvement of writing; the development of skill in organizing and expressing ideas and in the interpretations of ideas expressed by others; the development and refinement of habits of critical and perceptive reading; and the increase of language awareness. In all its pursuits, the Department works toward the general end of encouraging the student to grow in self-knowledge and the knowledge of others through its emphasis on the humane and liberal characteristics of its offerings.

BACHELOR OF ARTS

(Requires 12 credit hours in a Foreign Language)

Major in English

In addition to at least 9 credit hours of English included in the general studies program, a minimum of 33 credit hours of course work in English must be completed. The following specific courses are required: English 224, 332 or 434, 310 or 312 plus an additional 3 hour course in English literature; 360 or 362 plus an additional 3 hour course in American literature; English 368 and 486. An additional 9 credit hours must be selected from English courses numbered above 300. The student and his adviser must plan a program that includes some work beyond that encountered in basic survey courses in fiction, drama, and poetry, and at least one course providing a major emphasis in each of the following periods: pre-eighteenth century, eighteenth century, nineteenth century, and twentieth century. Although appropriate English-Education courses may be presented as part of a degree program, they may not be used to fulfill the requirements listed above.

Minor in English

In addition to at least 9 hours of English from the general studies program, a minimum of 21 credit hours of English must be completed. Specific requirements are 224; 310 or 312, plus an additional course in English literature; 360 or 362, plus an additional course in American literature; 368, and 3 hours elected from courses numbered above 300 (excluding courses in English-Education).

BACHELOR OF SCIENCE IN EDUCATION

Major in English

In addition to general studies requirements, a minimum of 32 hours of course work must be completed. The following specific courses are required: English 224, 234 or 434, 310 or 312, plus an additional course in English literature; 360 or 362 plus an additional course in American literature. English 368, 400, 465, 486; Education 203; Theatre 218. An additional 3 credit hours must be selected from English courses numbered above 300. Courses should be selected so that the student's program includes work in each of the major genres and significant selections from major literary periods.

Minor in English

Since the bachelor of science minor is specifically offered for the purpose of preparing the student for a second teaching field, it is structured to meet certification requirements and basic needs of teachers of English in grades seven through twelve. In addition to general studies courses, the following specific courses are required: 224; 6 hours of English literature, including 310 or 312; 6 hours of American literature, including 360 or 362; 400; 234 or 434; and Education 203. The minor must total 24 hours.

JOURNALISM

Minor in Journalism

Courses must include 15 credit hours in journalism plus 3 credit hours elected from the following related courses: 331 Audio-Visual Education; 410 Business Communications; 475 Modern Communication Theory; and 405 Psychology of Communication.

COMPOSITION AND LANGUAGE

010 Basic Written Communication Skills (3) i, ii

Remedial instruction in reading and writing open to any student, but mandatory as first course for students scoring below 14 on ACT English test. Does not fulfill the English Composition requirement for a baccalaureate degree.

- 104 Composition and Rhetoric I (3) i, ii, iii**
Instruction and practice in reading and writing, with emphasis given to expository prose.
- 108 Composition and Rhetoric II (3) i, ii, III**
Instruction in reading various literary genres and continued practice in writing.
Prerequisite: English 104.
- 112 Honors Composition and Rhetoric (3) i**
An enriched course open to students with ACT English scores above 24. This course fulfills the English communications requirement.
- 224 Advanced Composition and Literature (3) I, ii**
Required for English majors and minors, this course offers systematic instruction in writing about literature.
Prerequisite: English 108 or 112.
- 338 Creative Writing (3) i**
Intensive practice in writing poetry, fiction, or drama, in accordance with the interests of the student.
Prerequisite: English 108 or 112.
- 332 History of the English Language (3) II**
Growth and structure of the English language.
Prerequisite: Sophomore standing.
- 434 Introduction to Linguistics (3) ii**
An introduction to the study of the structure of language.
Prerequisite: English 108 or 112.

ENGLISH EDUCATION

English Education courses may not be used to fulfill any requirement for the Bachelor of Arts degree with a major in English.

- 234 Modern English Grammar (3) i**
A systematic study of traditional, structural, and transformational grammar. Designed to meet the needs of the elementary and secondary teacher.
Prerequisite: English 108 or 112.
- 300 Children's Literature (3) i, ii, iii**
Children's books; the use of literature with children. Does not fulfill any requirement for the major in English.
Prerequisite: English 108 or 112.
- 400 Literature for Adolescents (3) ii, iii**
Contemporary and traditional materials suitable for middle and secondary schools; standards of evaluation; listings and reliable reviews of appropriate books.
Prerequisite: Junior standing.
- 465 English Teaching: Methods and Materials (2) i**
Techniques, materials, and resources used in the English curriculum in the secondary schools.
Prerequisite: Junior standing.

LITERATURE

- 210 Approaches to Literature (3) i, ii, iii**
A general studies course providing practice in reading poetry, prose fiction, and drama. Various thematic approaches may be offered. Primarily for the non-English major.
Prerequisite: English 108 or 112.

- 220 Classical Backgrounds for Literature (3) i, ii**
Interdisciplinary in content, this course attempts to help the student establish a foundation for a meaningful study of English literature. Recommended for majors but open to all students.
Prerequisite: English 108 or 112, or consent of instructor.
- 248 Visual Literature (3) ii (offered odd numbered years)**
Comparative study of themes and ideas as embodied in a variety of media, including cinema; an interdisciplinary approach.
Prerequisite: English 108 or 112.
- 250 Afro-American Literature and Thought (3) i (offered even numbered years)**
Study of writings by Americans of African descent.
- 310 English Literature (3) i, iii**
Beowulf to 1785.
Prerequisite: English 108 or 112.
- 312 English Literature (3) ii, iii**
A continuation of English 310; 1785 to 1930.
Prerequisite: English 108 or 112.
- 360 American Literature to 1865 (3) i, iii**
American literature from Bradford to Lincoln.
Prerequisite: English 210 or 220, or consent of instructor.
- 362 American Literature since 1865 (3) ii, iii**
American literature from Whitman to the present.
Prerequisite: English 210 or 220, or consent of instructor.
- 368 Shakespeare (3) i**
Shakespearean drama and poetry.
Prerequisite: English 210 or 220, or consent of instructor.
- 372 Seventeenth Century English Literature (3) ii (offered odd numbered years)**
Poetry and prose of the seventeenth century.
Prerequisite: English 210 or 220, or consent of instructor.
- 374 Eighteenth Century English Literature (3) ii (offered even numbered years)**
The major literary movements and writers of the eighteenth century.
Prerequisite: English 210 or 220, or consent of instructor.
- 380 Romantic Poetry and Prose (3) i (offered even numbered years)**
Reading and criticism of representative works of the period.
Prerequisite: English 210 or 220, or consent of instructor.
- 382 Victorian Literature (3) i (offered odd numbered years)**
Reading and criticism of the works of major poets and prose writers of the period.
Prerequisite: English 210 or 220, or consent of instructor.
- 390 Modern European Literature (3) i (offered even numbered years)**
Study of translations of major works in various genres.
Prerequisite: English 210 or 220, or consent of instructor.
- 420 The American Short Story (3) ii (offered even numbered years)**
Representative selections.
Prerequisite: English 210 or 220, or consent of instructor.
- 422 The American Novel (3) ii (offered odd numbered years)**
A study of selected works of the Nineteenth and Twentieth Centuries.
Prerequisite: English 210 or 220, or consent of instructor.
- 426 Contemporary Poetry (3) ii (offered odd numbered years)**
Poetry from 1945 to the present.
Prerequisite: English 210 or 220, or consent of instructor.
- 450 Independent Study in English (1-5) i, ii, iii**
Independent research on a topic or problem which the student wishes to pursue in depth. Open to advanced juniors or seniors with the consent of the instructor and department chairman.

- 468 The English Novel: Defoe to Austen (3) i (offered odd numbered years)**
The beginnings of the English Novel in the eighteenth century, its history as a major literary genre and its development into various modes from Defoe to Austen.
Prerequisite: English 210 or 220, or consent of instructor.
- 470 The English Novel: Scott to the Present (3) i (offered even numbered years)**
Traces the development of the English novel from the Romantic period, through the Victorian Age, and to the present.
Prerequisite: English 210 or 220, or consent of instructor.
- 478 Modern Drama (3) ii**
Ibsen to the present.
Prerequisite: English 210 or 220, or consent of instructor.
- 482 Chaucer (3) i (offered odd numbered years)**
Chaucer's works and the social background of the England of his day.
Prerequisite: English 210 or 220, or consent of instructor.
- 484 Milton (3) ii (offered even numbered years)**
Life, period, and representative works of Milton.
Prerequisite: English 210 or 220, or consent of instructor.
- 486 Theory and Practice of Criticism (3) ii**
History of criticism, and practice in the application of theory.
Prerequisite: English 210 or 220, or consent of instructor.
- 488 Seminar in English (1-4) i, ii**
Study of selected topics or problems in English. Open to advanced juniors or seniors with the consent of the instructor and department chairman.

JOURNALISM

- 120 News Writing (3) i, ii**
Professional news writing standards as applied to the printed word.
Prerequisite: English 108 or 112. (May be taken concurrently).
- 122 Radio-Television News Writing (3) ii**
Basic techniques of writing news for electronic media.
Prerequisite: Journalism 120.
- 126 Journalism Laboratory (2) i, ii**
Supervised experience in the production of the campus newspaper and the yearbook. Should be taken concurrently with Journalism 120 and 122, and may be repeated for a maximum total of 6 hours credit.
- 224 News Editing (3) i**
Emphasis is given both writing and editing, with practical experience provided through work on the campus newspaper and the yearbook.
Prerequisite: Journalism 120 or 122.

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

(Requires 12 credit hours in a Foreign Language)

Major in Art

Courses in Art must total 48 credit hours. The following specific courses are required: Art 205, 206, plus an additional 6 credit hours selected from courses in art history; Art 130, 250, 260, 320 or 325, 331 (two semesters), 361, 462, 490.

BACHELOR OF SCIENCE IN EDUCATION

Major in Art

Courses in Art must total 39 credit hours. The following specific courses are required: Art 205, 206, plus an additional 3 credit hours selected from courses in art history; Art 130, 260, 300, 320 or 325, 331 (two semesters), 361, 462, 490.

Major in Elementary Music

Courses in music must total 50 credit hours. The following specific courses are required: Music 140, 141, 142, 143, 144, 145, 146, 147, 160, 161, 240, 245, 246, 247, 250, 260, 261, 330, 331, 332, 351, 462, plus 8 credit hours in applied major. Degree candidates must pass piano proficiency examination, participate on 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, 144, 145, 146, 147, 160, 161, 240, 245, 246, 247, 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, 144, 145, 146, 147, 160, 161, 240, 245, 246, 247, 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 Introduction to Art (3) i, ii, iii**
General background in the history, philosophy, principles, and techniques of the visual arts. For non-art majors.
- 205 Ancient Through Medieval Art (3) i**
History of art in western civilization: prehistoric times through the Middle Ages.
- 206 Renaissance Through Modern Art (3) ii**
History of art in western civilization: Renaissance through modern times.
- 307 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 205, 206, or consent of instructor.
- 308 Modern Painting, Architecture and Sculpture (3) i**
Art in the twentieth century.
Prerequisite: Art 205, 206, or consent of instructor.

- 411 **American Art (3) ii**
Development of Art in the United States.
Prerequisite: Art 205, 206 or consent of instructor.
- 415 **History and Technique of the Film (3)**
Film history; technical and esthetic advances since the inception of the medium.
- 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.

STUDIO ART

- 130 **Beginning Drawing (3) i, ii, iii**
Elementary drawing with the figure, still life, landscape, and perspective in various media. 6 studio hours.
- 240 **Beginning Printmaking (3) i**
Wood block, etching, engraving, serigraphy. 6 studio hours.
Prerequisite: 6 credit hours drawing.
- 250 **Beginning Sculpture (3) i**
Basic foundations in sculpture and figure anatomy: Theory, techniques, materials, processes. 6 studio hours.
Prerequisite: Art 130.
- 260 **Two-Dimensional Design (3) i**
Design in two-dimensional problems in various media. 6 studio hours.
- 300 **Art Teaching: Media and Concepts (3) i, ii**
Media and concepts in studio art for education majors.
- 310 **Beginning Ceramics (3) i**
Basic foundations in ceramics: Theory, techniques, materials, processes. 6 studio hours.
- 320 **Beginning Water Media (3) i**
Water media: color, composition, and techniques. 6 studio hours.
Prerequisite: Art 130.
- 325 **Beginning Painting (3) i**
Beginning painting: color, composition, technique; the figure and still life. 6 studio hours.
Prerequisite: 6 credit hours of drawing.
- 331 **Advanced Drawing (3) i, ii, iii**
The figure in various media, and drawing as a complete form. May be repeated for a maximum total of 12 credit hours.
Prerequisite: Art 130.
- 341 **Advanced Printmaking (3) ii**
Continuation of Beginning Printmaking. 6 studio hours. May be repeated for a maximum total of 9 credit hours.
Prerequisite: Art 240.
- 351 **Advanced Sculpture (3) ii**
Advanced techniques in various media. 6 studio hours. May be repeated for a maximum total of 9 credit hours.
Prerequisite: Art 250.
- 361 **Three-Dimensional Design (3) ii**
Form in the third dimension; design principles and elements as they relate to three dimensions. 6 studio hours.
Prerequisite: Art 260.

- 411 Advanced Ceramics (3) ii**
Advanced techniques and problems, kilnbuilding. 6 studio hours. May be repeated for a maximum total of 9 credit hours.
Prerequisite: Art 310.
- 421 Advanced Water Media (3) ii**
Continuation of Water Media. 6 studio hours. May be repeated for a maximum total of 9 credit hours.
Prerequisite: Art 320.
- 426 Advanced Painting (3) ii**
Continuation of Painting. 6 studio hours. May be repeated for a maximum total of 9 credit hours.
Prerequisite: Art 325.
- 462 Composition in Art (3) ii**
A sequel to Art 260 and 361: re-definition and sophistication of the elements of design in problem solving; examination of master works, critiques; emphasis on college techniques.
Prerequisite: Art 361 and 6 hours drawing.
- 480 Multi-Media Studio Projects (3) 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, 331, plus 6 additional credit hours in studio art.
- 490 Seminar in Art (3) i**
Topics to vary each year: relating art history, criticism, and studio problems.
Prerequisite: 9 credit hours art history and 12 credit hours studio art.

MUSIC

- 101 Perspective in Music (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.
- 120 Percussion Ensemble (1) i, ii**
Chamber music performance.
Prerequisite: Approval of the director.
- 121 Brass Ensemble (1) i, ii**
Chamber music performance.
Prerequisite: Approval of the director.
- 122 Wood 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 through 135 may be repeated for credit.)
- 140 Class Strings (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 (1) ii**
Class lessons in playing all string instruments. Continuation of Music 140. 3 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 (I) i, ii**
Introduction to the continuing evolution of the philosophical, psychological, and sociological thought which influences practices in music education.
Prerequisite: Music 160.
- 246 Class Piano III (1) i**
Continuation of Music 145. 3 hours.
Prerequisite: Music 145.
- 247 Class Piano IV (1) ii**
Continuation of Music 246. 3 hours.
Prerequisite: Music 246.
- 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 300.
- 331 Music Activities for the Elementary Teacher (2) ii (odd numbered years)**
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 300.

- 332 Supervising Elementary Teaching of Music (2) ii (even numbered years)**
 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 (even numbered years)**
 Materials and ideas in Marching Band Techniques.
Prerequisite: Music 135.
- 338 Instrument Care and Repair (2) ii (odd numbered years)**
 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.
- 348 Vocal Pedagogy (2) ii (even numbered years)**
 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.
Prerequisite: Music 261.
- 449 Vocal Literature (2) i (odd numbered years)**
 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) i**
 The elements, harmonic content, and formal structures of music; historical development.
Prerequisite: Music 250 or 261.
- 463 Instrumental Scoring (2) ii**
 Classification of instruments, transposition, and ranges; orchestrating and arranging for band and different combinations of instruments.
Prerequisite: Music 250 and 261.
- 465 Methods and Materials for Secondary Music Teachers (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 ARTS

(Requires 12 credit hours in a Foreign Language)

Major in Speech and Theatre

Courses in Speech and Theatre must total 42 credit hours. The following specific courses are required: Speech 124, 214, 224, 234 or 314, 405; Theatre 113, 218, 249, 318, 338, 457 or 467, plus an additional 8 credit hours in Speech and/or Theatre of which 6 credit hours must be numbered 300 or higher.

Major in Rhetoric and Public Address

Courses in Speech must total 42 credit hours. The following specific courses are required: Speech 124, 214, 224, 234 or 314, 405, 435, 465, 475, plus an additional 18 credit hours in Speech, of which 9 credit hours must be numbered 300 or higher.

Major in Theatre

Courses in Theatre and related areas must total 42 credit hours. The following specific courses are required: Speech 124; Theatre 113, 229, 249, 259, 318, 338, 457, 467, plus 14 credit hours in Theatre, of which 6 credit hours must be numbered 300 or higher. (The 14 credit hours of theatre electives may include 6 credit hours selected from the following courses: Art 130, English Literature 368, 478.)

Minor in Speech

Courses in speech must total 20 credit hours. The following specific courses are required: Speech 151, 124 or 218, 214 or 224, 234 or 314 and 405. Elective credit in speech or departmentally approved coursework to total 7 hours, 3 hours of which must be numbered 300 or higher.

Minor in Theatre

Courses in theatre must total 20 credit hours. The following specific courses are required: Theatre 141, 218 or 219, 249 or 259, 338, and 457 or 467. Elective credit theatre or departmentally approved coursework to total 6 hours, 3 hours of which must be numbered 300 or higher.

BACHELOR OF SCIENCE IN EDUCATION

Major in Foreign Language (French Emphasis)

Courses in Foreign Languages must total 45 credit hours. The following specific courses are required: French 102, 112, 202, 212, 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 45 credit hours. The following specific courses are required: German 102, 112, 202, 215, or 220, 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 45 credit hours. The following specific courses are required: Spanish 102, 112, 202, 212, 215, 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 18 credit hours. The following specific courses are required: French 102, 112, 202, 212, 215, and 300.

Minor in German

Courses in German must total 18 credit hours. The following specific courses are required: German 102, 112, 202, 212, 215 or 220, and 345.

Minor in Spanish

Courses in Spanish must total 18 credit hours. The following specific courses are required: Spanish 102, 112, 202, 212, 215, 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.

MODERN LANGUAGES

A student with extensive background in a language is strongly encouraged to petition for a test-out. A standard rule of thumb is 2 years of language in high school should provide background for test-out of first semester and 2-4 years should enable students to test-out of second semester language course.

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.

FRENCH

(Student must furnish 1 five-inch recording tape in laboratory courses)

102 Elementary French I (3) i, ii, iii

Basic structural patterns of the language and essential grammar; development of active proficiencies and comprehension of grammatical concepts. 3 hours lecture, 2 hours lab.

112 Elementary French II (3) i, ii, iii

Continuation of French 102. 3 hours lecture, 2 hours lab.

Prerequisite: French 102 or equivalent.

202 Intermediate French (3) i, ii, iii

Continuation of French 112: completion of essential grammar. 3 hours lecture, 2 hours lab.

Prerequisite: French 112 or equivalent.

212 French Conversation and Composition (3) i, ii, iii

Refinement of writing and speaking skills through review of structural patterns, mastery of idiomatic usages and study of vocabulary distinctions. 3 hours lecture, 2 hours lab.

Prerequisite: French 202 or equivalent.

215 French Reading and Conversation (3) ii

Short contemporary French masterpieces. 3 hrs. lecture, 1 hr. lab.

Prerequisite: French 212 or equivalent.

300 French Phonetics (3) ii (odd numbered years)

Description and analysis of the French sound system. A corrective approach involving intensive drill and practice. 3 hrs. lecture, 2 hrs. lab.

Prerequisite: French 212 or equivalent.

319 Advanced French Conversation and Composition (3) i (odd numbered years)

Advanced French grammar and syntax, less common idiomatic forms and subtle vocabulary distinctions. 3 hrs lecture, 1 hr. lab.

Prerequisite: French 215 or equivalent.

- 320 French Civilization and Culture (3) i (even numbered years)**
The cultural basis of modern France. 3 hrs lecture, 1 hr. lab.
Prerequisite: French 215 or equivalent.
- 340 Survey of French Literature I (3) i (even numbered years)**
Representative French literary works from the Middle Ages to the end of the seventeenth century.
Prerequisite: French 215 or equivalent.
- 345 Survey of French Literature II (3) ii (odd numbered years)**
Continuation of French 340. French literature from the eighteenth century to the present.
Prerequisite: French 215 or equivalent.
- 450 Independent Study in French (1-5) i, ii, iii**
Investigation of selected problems or topics on an individual conference basis.
Prerequisite: Consent of instructor.

GERMAN

(Student must furnish 1 five-inch recording tape in laboratory courses)

- 102 Elementary German I (3) i, ii, iii**
Basic structural patterns of the language and essential grammar; development of active proficiencies and comprehension of grammatical concepts. 3 hours lecture, 2 hours lab.
- 112 Elementary German II (3) i, ii, iii**
Continuation of German 102. 3 hours lecture, 2 hours lab.
Prerequisite: German 102 or equivalent.
- 202 Intermediate German (3) i, ii, iii**
Continuation of German 112: completion of essential grammar. 3 hours lecture, 2 hours lab.
Prerequisite: German 112 or equivalent.
- 212 German Conversation and Composition (3) i, ii, iii**
Use of short literary works as a basis for conversation and short compositions. 3 hours lecture, 2 hours lab.
Prerequisite: German 202 or equivalent.
- 215 German Reading and Conversation (3) ii**
Short contemporary German masterpieces, newspapers and magazines as a basis for conversation.
Prerequisite: German 212 or equivalent.
- 220 German Civilization and Culture (3) i**
Study of German art, music, history and scientific heritage, and important German personalities.
Prerequisite: German 112 or equivalent.
- 260 Scientific German (3) (on demand)**
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 (even numbered years)**
Literary development in Germany from its beginning to the end of the nineteenth century.
Prerequisite: German 215, 220 or equivalent.
- 345 Survey of German Literature II (3) ii (odd numbered years)**
Continuation of German 340. German literature from the nineteenth century to the present.
Prerequisite: German 215, 220 or equivalent.

- 440 Novelle (3) ii (even numbered years)**
Reading and discussion of Novellen, with stress on 19th Century.
Prerequisite: 215, 220 or equivalent.
- 445 German Short Story (3) i (odd numbered years)**
Reading short stories of 10-25 page length and discussion in German.
Prerequisite: 215, 220 or equivalent.
- 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

(Student must furnish 1 five-inch recording tape in laboratory courses)

- 102 Elementary Spanish I (3) i, ii, iii**
Basic structural patterns of the language and essential grammar; development of active proficiencies and comprehension of grammatical concepts. 3 hours lecture, 2 hours lab.
- 112 Elementary Spanish II (3) i, ii, iii**
Continuation of Spanish 102. 3 hours lecture, 2 hours lab.
Prerequisite: Spanish 102 or equivalent.
- 202 Intermediate Spanish (3) i, ii, iii**
Continuation of Spanish 112; completion of essential grammar. 3 hours lecture, 2 hours lab.
Prerequisite: Spanish 112 or equivalent.
- 212 Spanish Conversation and Composition (3) i, ii, iii**
Conversations and written compositions based on textual material as well as contemporary topics. 3 hours lecture, 2 hours lab.
Prerequisite: Spanish 202 or equivalent.
- 215 Spanish Conversation and Reading (3) i**
Continuation of oral skills with emphasis on the reading skills. An introduction to literature. 3 hours lecture, 1 hour lab.
Prerequisite: Spanish 212 or equivalent.
- 320 Hispanic Civilization and Culture (3) ii**
Historical and cultural heritage of the Spanish speaking peoples.
Prerequisite: Spanish 215 or equivalent.
- 340 Survey of Spanish Literature I (3) i (even numbered years)**
Literary development in Spain from its beginning to through 17th century. 3 hours lecture.
Prerequisite: Spanish 215 or equivalent.
- 345 Survey of Spanish Literature II (3) i, ii (odd numbered years)**
Literary development in Spain from 1800 to the present. 3 hours lecture.
Prerequisite: Spanish 215 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.

PHILOSOPHY

- 203 Humanities I (3) i, ii**
Study in the social and intellectual history of man as reflected by the literature, art, music, drama and discourse of man from classical period to Renaissance.

- 205 Humanities II (3) i, ii**
Study in social and intellectual history of man as reflected by the literature, art, music, drama and discourse of man from Renaissance to present.
- 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.
- 105 Professional Speech (3) i, ii, iii**
Principles of speech directly applicable to the professions and business. Orientation toward formal presentations of speeches of various types, the conference, and interview techniques as forms of oral communications. Recommended for business and professional students.
- 110 Current Topics Forum (3) i, ii, iii**
Study of basic communication skills by application to political, social and moral problems. Multi-dimensional approach from communication standpoint allowing opportunity to use variety of formats.
- 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, 105, 110 or 234.
- 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, ii**
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, 105, 110 or 234.
- 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, 105, 110 or 234.

- 315 General Semantics (3) ii (even numbered years)**
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, 105, 110, or 234.
- 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 (2) i, ii**
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 (odd numbered years)**
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 (odd numbered years)**
Philosophies of rhetorical criticism and their application to public address.
Prerequisite: Speech 214, 405, or consent of instructor.
- 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) i (on demand)**
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, or consent of instructor.
- 475 Modern Communication Theory (3) ii (on demand)**
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, iii**
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, ii**
Oral reading and analysis of prose, poetry, and drama.
- 229 Stage Makeup (2) ii**
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.
(Student must furnish required assorted makeup accessories)
- 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. (Student must furnish required assorted drawing equipment)
- 338 Directing I (3) i**
Principles of play direction: selection, casting, blocking, staging a production.
Prerequisite: Theatre 249.
- 348 Directing II (3) ii**
Adaptation and application of directing principles to various genres and styles of production. Student is expected to direct a one-act play.
Prerequisite: Theatre 338.
- 349 Scene Design (3) i (odd numbered years)**
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. (Student must furnish required drafting tools, brushes and paints)
- 358 Readers' Theatre (3) ii**
Principles and techniques involved in readers' theatre.
Prerequisite: Theatre 218 or consent of instructor.
- 368 Summer Theatre Workshop (3) iii**
Practical experience in designing, staging, acting and producing the play or plays with individual assignments designated by the instructor.
Prerequisite: Consent of instructor.
- 429 Problems in Costume Construction (3) ii**
Practical experience in drafting patterns and building the more difficult period costume pieces—garments, headdresses, shoes, etc. Lecture 2 hours, lab. 2 hours.
Prerequisite: Theatre 329.
- 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) i**
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 (even numbered years)**
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 (odd numbered years)**
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) ii (on demand)**
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 (on demand)**
Problems in advanced scenographic 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. (Student must furnish required drafting tools)
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

(Requires 12 credit hours in a Foreign Language)

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, 312 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 210, 211, 212.

BACHELOR OF SCIENCE

Major in Mathematics

Courses in Mathematics must total 33 credit hours; courses in Physics must total 12 credit hours; courses in Computer Science must total 6 credit hours. The following specific courses are required: Mathematics 107, 108, 209, 312; Physics 210, 211, 212 plus an additional 15 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.

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 210, 211, 212, 330, 340, 350, 360; plus an additional 2 credit hours selected from Physics courses numbered 300 or higher; Mathematics 107, 108, 209, 312, 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 210, 211, 212, 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 210, 211, 212. 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.

- 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.
- 110 Technical Mathematics I (5) i**
 Principles and practice in the solution of practical problems using college algebra and trigonometry.
Prerequisite: Consent of instructor.
- 111 Technical Mathematics II (5) ii**
 Solution of technical problems using applied calculus.
Prerequisite: Technical Mathematics I, or consent of instructor.
- 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.
- 210 Technical Mathematics III (3) i**
 Solution of second order linear differential equations with constant coefficients, with specific applications to circuit analysis.
Prerequisite: Technical Mathematics II, or consent of instructor.
- 300 Mathematics for Elementary Teachers I (3) i, 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**
 Matrix operations; special matrices; determinants; the inverse matrix; elementary matrix transformations; systems of linear equations; linear programming.
Prerequisite: Mathematics 209.
- 212 Differential Equations (3) ii**
 Common types of ordinary differential equations, differential operators, Laplace transforms, applications.
Prerequisite: Mathematics 209.
- 315 Topics in Geometry (3) i**
 Synthetic projective geometry, collineation groups, finite geometrics, abstract definitions of geometrics from the algebraic viewpoint; geometry and combinatorial topology.
Prerequisite: Mathematics 108.

- 316 Modern Algebra (3) ii**
Groups, rings, fields and vector spaces; definitions and fundamental theorems; homomorphisms and isomorphisms; polynomials and field extensions.
Prerequisite: Mathematics 209.
- 321 Probability (3) i**
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) ii**
The theory of mathematical statistics; probability, distribution theory and point estimation.
Prerequisite: Mathematics 108.
- 400 Mathematics for Elementary Teachers II (4) i, ii**
A continuation of Math 300. 4 lecture hours per week.
Prerequisite: Mathematics 300.
- 406 Complex Variables (3) ii**
Complex numbers; functions of a complex variable, limits, continuity, differentiation; analytic functions, harmonic functions; mapping by elementary functions; complex integration; power series; residues and poles.
Prerequisite: Mathematics 209.
- 417 Numerical Analysis (3) i**
Algebraic and transcendental equations; finite differences; interpolation, numerical differentiation and integration; numerical solutions of ordinary differential equations.
Prerequisite: Mathematics 212.
- 428 Topology (3) ii**
Topological spaces, Cartesian products, connectedness, separation axioms, covering axioms, metric spaces, compactness.
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.
- 470 Seminar in Mathematics (1) i, ii**
Investigation and discussion of selected mathematical topics.
Prerequisite: Mathematics 209.

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. 3 hours lecture-demonstration, 2 hours laboratory.
- 110 College Physics I (5) i**
Classical treatment of mechanics, waves, energy, electricity and magnetism. 4 hours lecture, 3 hours laboratory.
Prerequisite: High School Algebra.

- 111 College Physics II (3) ii**
Relativity, atomic physics and nuclear physics. 3 hours lecture.
Prerequisite: Physics 110.
- 210 University Physics I (5) ii**
Calculus level mechanics, heat, and wave motion. 4 hours lecture, 3 hours laboratory.
Prerequisite: High School Physics and Calculus I (concurrently).
- 211 University Physics II (4) i**
Calculus level electricity, magnetism and optics. 3 hours lecture; 3 hours laboratory.
Prerequisite: Physics 210.
- 212 University Physics III (3) ii**
Calculus level modern physics. 3 hours lecture.
Prerequisite: Physics 211.
- 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.

ASTRONOMY and EARTH SCIENCE

- 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.
- 204 Introduction to Geology (4) i, ii**
Survey of physical and historical geology. 3 hrs. lecture, 2 hrs. lab.
- 304 Environmental Earth Science (4) i, ii**
General survey of geology, meteorology, astronomy and oceanography. 3 hrs. lecture, 2 hrs. lab.
Prerequisite: 5 credit hours of Physical Science.

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 ARTS

(Requires 12 credit hours in a Foreign Language)

Major in History

Courses in History must total 30 credit hours, with an additional 24 credit hours required in supporting areas. 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; Political Science 101, 110, plus 3 additional credit hours in Political Science; Sociology 110 plus 3 additional credit hours in Sociology; Geography 100; Economics 260; Social Science (other than history) 3 credit hours.

Major in Political Science

Courses in Political Science must total 30 credit hours, with an additional 24 credit hours required in supporting areas. The following specific courses are required: Political Science 101, 110, 200, 210, 300, 310, 320 plus 9 additional credit hours in Political Science courses numbered 300 or higher; History 100, 110, 140, 150; Sociology 110 plus 3 additional credit hours in Sociology, Geography 100, Economics 260.

Major in Sociology

Courses in Sociology must total 30 credit hours, with an additional 24 credit hours required in supporting areas. The following specific courses are required: Sociology 110, 120, 230, 310, 440 plus 15 additional credit hours in Sociology, 9 credit hours of which must be numbered 300 or higher; History 100 or 110, 140 and 150; Political Science 101, 110, 320 or 330; Geography 100, Economics 260.

Major in Social Work

Courses in Social Work must total 21 credit hours. The following specific courses are required: Psychology 101, 309, 325, Sociology 110, 230, 330, plus an additional 3 credit hours selected from Sociology courses numbered above 300; Political Science 101, 110, 330; Economics 260 and 261; Management 412; Social Work 250, 310, 320, 330, 410, 430, 460.

BACHELOR OF SCIENCE

Major in History

The requirements for the BS are the same as the requirements for the BA except that the foreign language requirement is replaced by an 18 credit hour minor. The course work for this minor area should be worked out with the student's major advisor.

Major in Political Science

The requirements for the BS are the same as the requirements for the BA except that the foreign language requirement is replaced by an 18 credit hour minor. The course work for this minor area should be worked out with the student's major advisor.

Major in Sociology

The requirements for the BS are the same as the requirements for the BA except that the foreign language requirement is replaced by an 18 credit hour minor. The course work for this minor area should be worked out with the student's major advisor.

Major in Social Work

Courses in Social Work must total 27 credit hours. The following specific courses are required: Psychology 101, 309, 325; Sociology 110, 230, 330, plus an additional 3 credit hours selected from Sociology courses numbered above 300; Political Science 101, 110, 330; Economics 260 and 261; Management 412; Social Work 250, 310, 320, 330, 410, 430, 460, 470, 490.

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, 230, 310, 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.

GEOGRAPHY

- 100 World Geography (3) i, ii, iii**
An introductory course which emphasizes the interrelationships between man and the natural environment.
- 210 Geography of the United States and Canada (3) i**
A regional study of the physical, cultural, and economic geography of the United States and Canada.
Prerequisite: A course in geography.
- 320 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 or European history.

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) i**
Europe from the Congress of Vienna to 1914; Reaction and Revolution, Nationalistic movements, Rise of Socialism-Communism, the diplomatic background of World War I.
- 220 History of Missouri (3) 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.
- 305 The American Frontier (3) ii**
Westward expansion of the United States over three centuries: colonial frontier, trans-Appalachian frontier, trans-Mississippi frontier; significance of the frontier in American history.
Prerequisite: Six hours of American History.
- 310 English History I (3) i**
Anglo-Saxon England, the Norman influence, development of English political, social, economic, and intellectual ideas, Tudor England, the Stuarts, the Glorious Revolution, 1688.
- 320 English History II (3) ii**
The founding of the British Empire, and the role of England in the modern world.
- 330 Recent United States History (3) i, ii**
The United States since World War I, with emphasis on current problems.
Prerequisite: History 140 and 150 or consent of instructor.
- 340 Recent European History (3) ii**
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 History of the Far East (3) i**
East Asia and the Pacific from antiquity to the present; Oriental religion, politics, and the economy; 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) i**
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 310 or 320.
- 370 History of Latin America (3) ii**
A survey course including Indian cultures, colonial period, independence movements, national developments, relations with the United States and Europe.
- 380 The French Revolution and Napoleon (3) iii**
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**
Sectionalism in anti-bellum America; developing sectional crisis and coming of the Civil War; effects of the war and reconstruction on the nation.
Prerequisite: Six hours American History.
- 410 English Legal and Constitutional History (3) ii**
(offered even numbered years)
Magna Carta to the twentieth century; the Petition of Rights, the Puritan Revolution, the Glorious Revolution, the Bill of Rights and the Act of Secession, 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 310.
- 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 (offered odd numbered years)**
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.
- 460 American Economic History (3) i (offered even numbered years)**
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 of today.
Prerequisite: Six hours of American History.
- 470 American Social and Intellectual History (3) ii**
(offered odd numbered years)
Education, religious, intellectual, and artistic development from Colonial times; Puritanism, the Enlightenment, Transcendentalism, Realism.
Prerequisite: Six hours of American History.

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, ii, 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 Political Systems (3) i, ii**
The internal politics of foreign political systems: structural-functional analysis, General Systems Theory; third world systems compared and contrasted with model European systems.
Prerequisite: Political Science 101.

- 300 Political Parties and Interest Groups (3) i**
 Historical development, organization, and activities of foreign and domestic political interest groups and parties; group theories of Arthur Bentley, David Truman, others.
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) ii**
 Organization, functions, and problems of public administration in the United States.
Prerequisite: Six hours of political science.
- 330 Municipal Government (3) i, ii**
 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.
- 400 American Foreign Policy (3) i**
 Policy-making, the role of the public in decisions, formulation and implementation of national policy, U.S. policy goals in various areas of the world, decision-making in crisis situations.
Prerequisite: Political Science 101 and 200.
- 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) ii**
 Presidents and the presidency from Washington to the present; Richard Neustadts concepts of authority and power; foreign presidential systems.
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, iii**
 The nature of culture, language, society, and personality with emphasis on the cultural forms, processes, evolution and change.
- 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.
- 230 Social Institutions (3) i, ii, iii**
 The structure of human society; social stratification, and the familial, religious, and educational institutions.
Prerequisite: Sociology 110.

- 310 Social Deviation (3) i, ii**
Individual and social disorganization; delinquency, alcoholism, minority groups, discrimination; and marital conflict.
Prerequisite: Sociology 110 and 230.
- 320 Urban Sociology (3) ii**
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) i, ii, iii**
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: Sociology 110, 120.
- 400 Ethnic and Race Relations (3) i**
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) ii**
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, 230, 310.
- 440 Sociological Theory (3) ii**
Historical and empirical treatment of the development, structure, and functioning of human social systems.
Prerequisite: Twelve hours of sociology.
- 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) i, ii**
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.

- 290 Occupational Experience Training in Social Work (2) i, ii, iii**
 Job experience in social work for associate degree candidates. May be repeated for a maximum of 8 credit hours.
Prerequisite: Approval of program coordinator.
- 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.
- 330 Human Growth and Development (3) i**
 Social work concepts of human growth and development in all stages of the life cycle from conception to death: normal physical and emotional growth patterns; assisting people with problems in growth and development.
- 410 Tools of Social Intervention (3) i**
 Methods used by social workers in attempting to solve social problems.
Prerequisite: Social Work 320.
- 430 Practicum in Social Work (3) i, ii, iii**
 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) i, ii, iii**
 Continuation of Social Work 430.
- 470 Seminar in Social Welfare (3) ii**
 Major trends in social welfare and policy; in depth investigation of an area of interest to the student especially relative to tools of social intervention.
Prerequisite: Social Work 410.
- 490 Research in Social Work (3) ii**
 Evaluation and utilization of social science research; research methods and experimental design.
Prerequisite: Consent of instructor.



**CONTINUING and
ADULT EDUCATION**



Through the Division of Continuing and Adult Education, Missouri Western College offers an extensive program of specialized short courses, workshops and seminars throughout the year.

The Division also contains the Department of Off Campus Services which is concerned with Placement and other services related to the presentation of the academic phase of the College to its public.

Purpose:

The Continuing and Adult Education program serves the following purposes:

1. Offers opportunity to the adult community to pursue educational experiences which:
 - a. lead to re-training for new or up-dated careers in vocational or technological fields
 - b. promote improvement of professional competencies
 - c. enable the individual to broaden his cultural knowledge
 - d. enhance the pursuit of new avocational interests
2. Provides service to the community by organizing, sponsoring or co-sponsoring specialized short courses, workshops, and seminars designed to be of value to identifiable groups or organizations and to the public at large.

Fees:

The fees for various offerings in the Division will be determined by the nature of the educational experience. The Dean of the Division makes known the fee for each offering at the time that the offering is organized for the adult community. Further inquiry regarding various fees for Continuing and Adult Education should be made in the Office of the Dean of the Division in A121.

Admissions Standards and Procedures:

Admission to the Continuing and Adult Education program of Missouri Western College is open to all individuals eighteen (18) years of age or older. The following apply to admissions:

1. Completion of an application for Continuing and Adult Education.
2. Transcripts of previous academic activity not required.
3. Matriculation fee not required.

An individual who first enters Missouri Western College as a Continuing Education student and who subsequently decides to pursue regular academic courses will be required to comply with regular procedures and standards as stated on page 122 of this catalog.

Institutional Records:

Transcript records for Continuing and Adult Education courses will reflect the following:

050 Basic Astronomy** 1 CR 1

The Dean of Continuing and Adult Education keeps records of participant rosters, course descriptions, and program evaluations. The Registrar's Office serves as the official repository of student records for all noncredit courses.

**Denotes Continuing and Adult Education credit. Applicability of this credit toward regular academic programs must be determined by the student's major department and academic division at Missouri Western College.

EVENING AND SATURDAY ACADEMIC COURSES

Missouri Western College offers a number of regular academic courses in the evening and on Saturday mornings. These courses are provided in order to create an opportunity for the working adult to pursue academic work which will lead to certain Associate or Baccalaureate degrees. Most services provided to daytime students at the College are available to those who pursue their education in this manner.

For further information concerning the academic courses offered at this time, contact the Office of the Co-ordinator of Evening and Saturday Academic Courses in A123.

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.



AROUND THE
CAMPUS





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 by submitting to the Admissions Office an/a:

1. Application for admission provided by the Admissions Office. A \$5.00 application fee must accompany the application.
2. Set of 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. Complete eight-semester high school transcript or a seven semester transcript plus official confirmation of high school graduation.
4. Medical examination form must be submitted by all students with the exception of those enrolled in night or continuing education classes only.

Upon receipt of the application for admission, application fee, and transcript activity, the Admissions 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 Office, an appointment with a counselor or an academic advisor will be made so that the student can enroll for the semester.

TRANSFER STUDENTS who have earned 12 or more hours are not required to submit test scores or high school transcripts. All college transcripts must be submitted. The academic standards of the institution (see page 140) are used for evaluating all transfer students who are seeking admission to the College. Upper division courses with a grade of D will not be accepted for credit at Missouri Western College.

ANY STUDENT WHO MISREPRESENTS INFORMATION WILL BE SUBJECT TO IMMEDIATE DISMISSAL.

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 same policies as in-state students. In the event that instructional space would have to be provided on a priority basis, in-state students will be given first priority.

Students who graduate from high school at mid-term may enroll as full time students at Missouri Western by securing a letter from the high school principal stating that the student has fulfilled the requirements for graduation and will be graduated during the following spring exercises.

TRANSFERS FROM JUNIOR COLLEGES

Missouri Western College will accept a maximum of sixty-four semester hours of courses 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.

VISITING HIGH SCHOOL STUDENTS

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 has completed his junior year.
2. That the student is academically capable of pursuing collegiate level course work.

Upon graduation from high school, the student will be granted full college credit for any courses satisfactorily completed. 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.

SPECIAL STUDENTS

Persons 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 special 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.
- e. CLEP General Examinations:
 1. The student must attain a minimum scaled score of 500.
 2. The CLEP general examinations seem to be designed primarily for students who have accumulated no college credit in the specific area tested and very little college level credit in any area. Currently, their use at Missouri Western College is primarily to this end.
 3. Students must not have acquired credit in the subject area, or be enrolled in a course for which the exam is attempted.
- f. CLEP Subject Examinations (subject to review and acceptance by the academic department involved).

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. Students who have completed a minimum of one year of active military service or have received an honorable discharge may be granted 4 hours of physical education credit and 2 hours of hygiene credit. The general education credit will be granted upon presentation of the DD214 or NGB55 form to the Admissions Office at the time of admission or to the Registrar's Office if the student has registered for courses.

FOREIGN STUDENTS

Foreign students are welcomed at Missouri Western College, but due to the fact that the college 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. All late registration must be completed prior to the first meeting of the second week of a particular class.

RESIDENCE

It is the responsibility of each student to register under the proper residence and pay proper fees. Rules of residency are available in the Admissions Office. 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 Admissions Office will rule on all questions regarding residency, but the student has the right to appeal the decision to the Admissions and Graduation Committee.

If, after enrollment at Missouri Western College, the student is eligible for a difference residency classification, a petition form for this purpose is available in the Admissions Office.

SCHEDULE OF FEES

I. Residents of the Missouri Western Junior College District	9 or more hours	less than 9 hours
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)	\$360	\$40 per credit hour
Summer Session		
I. Residents of the Missouri Western Junior College District	5 or more hours	less than 5 hours
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)	\$180.00	\$40 per credit hour

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

OTHER FEES

Dormitory Security Deposit	\$ 40.00	Change of Study Fee	\$ 5.00
Dormitory Fee (Room & Board)		College Credit by Exam	
per semester	\$425.00	(per test)	\$ 15.00
Application Fee	\$ 5.00	Transcript Fee	\$ 1.00
Applied Music Fee		Graduation Fee	\$ 15.00
(per credit hour)	\$ 20.00	Laboratory Breakage	
Late Registration Fee	\$ 20.00	& Materials	Cost
Charge for Late Payment		(The College reserves the right to	
of Fees	\$ 5.00	change fees without notice.)	
Physical Education Uniform	\$ 2.00		
Student Activity Fee	\$ 5.00		

Application Fee—This is a non-refundable fee paid at the time of application for initial admission.

Late Enrollment Fee—A fee of \$20.00 will be assessed if a student enrolls after the regular enrollment schedule. Dates for regular enrollment periods will be found in the class schedule.

Applied Music Fee—All students participating in applied music are required to pay this fee for private lessons and consultation.

Transcript Fee—A student is entitled to one transcript free of charge. Each additional transcript request must be accompanied by a \$1.00 payment.

Graduation Fee—A fee to defray the cost of diploma, rental of cap and gown, and other graduation activities is charged all degree candidates.

Laboratory Breakage and Materials—There is no charge for the use of laboratory equipment. However, students will be expected to pay for materials used in individual projects and for excessive breakage or loss of materials and equipment due to negligence.

Audit Fee—Auditors will pay the regular fee.

Physical Education Uniform—A fee of \$2 per semester for those activities where uniform is required.

Student Activity Fee—\$5 per semester for all students.

Dormitory Security Deposit—This is a fee to cover any damage or breakage and subject to refund when the student moves from the dormitory.

PAYMENT OF FEES

Fees will be payable according to a fee payment schedule and registration will not be considered complete unless all fees have been paid. Refer to the class schedule for fee payment dates.

Students not paying until the second scheduled fee period will pay a late fee payment charge of \$5.00.

REFUND OF FEES

Refunds are given only to students who drop out of college entirely; no refund is given to students who drop individual classes or make schedule changes that result in reduced semester hour class load.

Withdrawal during 3rd week of classes 50% of Fee

Withdrawal after 3rd week of classes No Refund

DEGREES AND REQUIREMENTS FOR GRADUATION . . .

Graduation marks the end of the efforts of the body and mind over a period of years. Missouri Western offers a variety of completion programs . . . one-year certificate . . . two-year Associate Degrees and four-year Bachelor Degrees. Basic requirements are included in this section.

BACCALAUREATE DEGREE PROGRAMS

Missouri Western College offers five baccalaureate degrees with majors in various fields. In order to earn one of these degrees, students must complete the general degree requirements as listed below and the specific major and (where required) minor requirements as listed under each department.

General Degree Requirements

- (1) General Education Requirements
- (2) Minimum of 124 credit hours
- (3) Cumulative grade point average of 2.00 (C average)
- (4) Minimum of 30 semester hours in upper division courses (numbers in the 300's and 400's with adjustments in the two plus two programs)
- (5) Take the Graduate Record Examination during the last semester as a senior. (Test dates are January 20, and April 28, 1973)

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 twelve credit hours in a foreign language. This degree is available with majors in biology, mathematics, natural science, English, history, political science, sociology, art, psychology, chemistry, social work, theatre, speech and theatre, rhetoric and public address.

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, biology, chemistry, mathematics, physics, social work, history, political science, sociology, and agriculture.

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, 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, foreign language and physics.

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 electronic engineering technology, industrial electronic technology, civil and building construction and automotive 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 STUDIES PROGRAM

Basic Guidelines for the General Studies Program:

1. Besides the courses listed, a student may be allowed to substitute another course in the same academic area provided the department in which the course is taught can determine that the student meets the prerequisite for that course.
2. A student may elect a maximum of six (6) semester hours of pass-fail credit in the General Studies program. A student must designate the pass-fail credit during the fourth (4) week after the first day of classes.
3. A student may attempt a test-out in most of the General Studies credit.

Category One 9 credit hours

English Composition	6 credit hours
104 and 108 or credit by examination and 112	
Speech—one course from the following:	3 credit hours
104 Oral Communications	
105 Professional Speaking	
234 Argumentation and Debate	
110 Current Topics Forum	

Category Two

- A. For majors in the departments which provide academic work in Liberal Arts and Sciences, Psychology and Teacher Education12 credit hours
- One course from the following: 3 credit hours
(Test-out strongly encouraged)
History 140 American History
History 150 American History
Pol. Science 101 American Nat. Gov't.
- Two courses from the following: 6 credit hours
Economics 260 Principles of Economics
Geography 100 World Geography
History 100 Ancient and Medieval Civ.
History 110 Modern Civilization
Psychology 101 General Psychology
Sociology 110 General Sociology
Sociology 120 Cultural Anthropology
Social Work 250 Social Prob. & Soc. Change
(The Defense Establishment in National Security 110)
(American Military History 200)
(Both courses must be taken to total 3 credit hours.
These are classified as Political Science and History courses.)
- Elective from any of the subject matter areas listed above, 3 credit hours
- B. For majors in the departments which provide academic work in Career Studies* 9 credit hours
- One course from the following: 3 credit hours
(Test-out strongly encouraged)
History 140 American History
History 150 American History
Pol. Science 101 American Nat. Gov't.

*Departments providing academic work for majors in Career Studies are Technology, Computer Science, Agriculture, Allied Health, Public Service, and Business and Economics excluding the major in Business Education.

Two courses from the following: 6 credit hours
 Geography 100 World Geography
 History 100 Ancient & Medieval Civ.
 History 110 Modern Civilization
 Sociology 110 General Sociology
 Sociology 120 Cultural Anthropology
 Social Work 250 Social Problems & Soc. Change
 (The Defense Establishment in National Security 110)
 (American Military History 200)

(Both courses must be taken to total 3 credit hours.
 These are classified as Political Science and History Courses.)

Category Three 9 credit hours

Option 1

Literature 3 credit hours
 210 Approaches to Literature
 or
 a Foreign Language Lit. course

Electives from the following: 6 credit hours

- (a) Philosophy
- (b) Foreign Language
- (c) Art
- (d) Music
- (e) Theatre
- (f) Literature
- (g) Three semesters in the following:
 126 Journalism Laboratory
 140 Production Participation (Theatre)
 151 Laboratory Forensics (Speech)
 110 Chorus
 112 Vocal Ensemble
 124 Symphony Orchestra
 131 Symphonic Winds
 133 Stage Band
 135 Marching Band

Option 2

Humanities I - 203 6 credit hours
 Humanities II - 205

Electives from the following: 3 credit hours

- (a) Philosophy
- (b) Foreign Language
- (c) Art
- (d) Music
- (e) Theatre
- (f) Literature
- (g) Three semesters in the following:
 126 Journalism Laboratory
 140 Production Participation (Theatre)
 151 Laboratory Forensics (Speech)
 110 Chorus
 112 Vocal Ensemble
 124 Symphony Orchestra
 131 Symphonic Winds
 133 Stage Band
 135 Marching Band

Category Four

- A. For majors in the departments which provide academic work in Liberal Arts and Sciences, Psychology and Teacher Education12 credit hours

Natural Science	9 credit hours
Minimum of 9 credit hours selected from the following:	
101 Principles of Biology	5 credit hours
101 Introductory Chemistry	5 credit hours
101 Concepts and Principles of Physics	4 credit hours
204 Introduction to Geology	4 credit hours
Mathematics	3 credit hours

Any college level math course selected from those math courses listed under the Dept. of Physics and Math and numbered 101 or higher.

B. For majors in the departments which provide academic work in career studies*

Natural Science	10-13 credit hours
101 Principles of Biology	5 credit hours
101 Introductory Chemistry	5 credit hours
101 Concepts & Principles of Physics	4 credit hours
204 Introduction to Geology	4 credit hours
104 Introduction to Astronomy	3 credit hours
Mathematics	3 credit hours

Any college level math courses selected from those math courses listed under the Department of Physics and Math and numbered 101 or higher.

Category Five

A. For majors in the departments which provide academic work in Liberal Arts and Sciences, Psychology and Teacher Education

101 Physical Education Concepts	7 credit hours
Activities (To be determined by concepts course)	1 credit hour
Free elective from outside of the major or professional field	3 credit hours

B. For majors in the departments which provide academic work in Career Studies*

101 Physical Education Concepts	10 credit hours
Physical Education Activities	1 credit hour
One course from the following:	3 credit hours

- Economics 260 Principles of Economics
 - Management 110 Business Organization
 - Economics 263 Consumer Economics
 - Management 312 Principles of Management
 - Psychology 101 General Psychology
 - Computer Science 182 Introduction of Data Processing
- Free Elective from outside of the major field 3 credit hours

*Departments providing academic work for majors in Career Studies are Technology, Computer Science, Agriculture, Allied Health, Public Service, and Business and Economics excluding the major in Business Education.

ASSOCIATE DEGREE PROGRAMS

Missouri Western College offers two associate degrees with majors in various fields. In order to earn one of these degrees, students must complete the general degree requirements as listed below and the specific major and (where required) minor requirements as listed under each department.

General Degree Requirements

- (1) General Education Requirements
- (2) Minimum of 62 credit hours
- (3) Cumulative grade point average of 2.00 (C average)

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 agribusiness, agricultural supply technology, automotive service management, computer science, drafting and design, electronic engineering, executive secretary, law enforcement patrolman's aide (new careers), management, nursing, social work (new careers), and pilot training.

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:	
Introduction to Art (100)	
Perspectives in Music (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 a 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:

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

* 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.

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.

DEGREE EVALUATION

When a baccalaureate degree candidate has earned 80 semester hours or during the semester prior to his classification as a senior, he will complete a Baccalaureate Degree Evaluation form. The student, along with his major adviser, division dean and the Registrar, evaluates his progress toward his degree and projects the courses needed to fulfill the requirements for this degree.

Associate degree candidates will complete this form when 25 hours have been earned or during the semester prior to his classification as a sophomore.

MULTIPLE DEGREE AND DOUBLE MAJORS

Missouri Western College will confer multiple degrees provided that different majors are completed. Within a division, the departments involved will coordinate their efforts to resolve any possible problem with the Division Dean. In the case of a double major involving two divisions of the college, the departments involved will coordinate their efforts to resolve any possible problems with the Executive Vice-President and Dean of Faculties. Courses which may count toward both majors will be allowed to do so. A \$5.00 fee is to be paid for a second diploma. If the additional degree is not earned during the same semester as the first degree, an additional 15 semester hours of residency are required.

GRADUATE HONORS

Students completing degree requirements with a cumulative grade point 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

Commencement exercises are held at the end of the spring semester.

Candidates for degrees, who will complete all requirements for the degree during the summer session, may elect to attend spring commencement. Names will appear on the commencement program and the candidates will be recognized. The degree will not be awarded until the close of the summer session.

Application for graduation and payment of the \$15.00 graduation fee must be made during registration prior to the semester in which all degree requirements will be completed.

CHANGES OF CATALOG

The degree requirements in this catalog, 1972-73, become effective September 1, 1972. 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.

The academic standards of this institution are used for evaluating all transfer students who are seeking admission to Missouri Western College.

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	Course Load
15-20 hrs.	12 credit hrs.
20-30 hrs.	9 credit hrs.
30-35 hrs.	6 credit hrs.
35-40 hrs.	3 credit hrs.

CLASS ATTENDANCE

Regular class attendance is considered an essential part of the student's educational experience, and a requirement for an adequate evaluation of student academic progress.

Each instructor will determine and make known to the class his requirement for attendance.

RECORDS OF ACADEMIC WORK AND TRANSCRIPTS

Unofficial copies of transcripts may be prepared for campus use only if requested by a member of the faculty or administration. Official MWC transcripts bearing the seal of the college and the signature of the Registrar are issued only by written request or authorization from the student.

Each student may receive one official transcript free of charge; for each additional transcript a fee of \$1.00 is charged. Official transcripts will not be issued to or for a student who is indebted to the college until such indebtedness has been paid in full.

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 last 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 are required to notify the Registrar and Records Office. Since honorable withdrawal is ordinarily required for transfer from one college to another, a student should not discontinue his college work without formal withdrawal. Students who do not withdraw officially will have "failing" recorded in all subjects. Students withdrawing must complete the following steps:

1. Visit or contact the Records Office and obtain a withdrawal form.
2. Secure the signature of the counselor, the Dean of Students, the Director of Financial Aids, the Librarian and the Business Office. The Records Office will notify each instructor of the student's withdrawal from his class.
3. When a student withdraws from COLLEGE during a regular semester, his status in each subject will be recorded "WP" or "WF" after the tenth week. When a student withdraws from college during summer session, his status in each subject will be "WP" or "WF" after the fifth week.

CHANGE OF SCHEDULE

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 after the second week of classes. The final step is to present the petition to the Records Office. Change may be made during the following time periods:

REGULAR SEMESTER

1. **Add or Drop**—Prior to the first meeting of the class during the second week or with consent of the instructor during the second week.
2. **Drop Only**—Third through the tenth week.
 - a. Courses dropped through the tenth week will not appear on the transcript as an attempted class and will show a "W."
 - b. Courses dropped after the tenth week will be assigned a grade of "WP" if passing or "WF" if failing.

SUMMER SESSION

1. **Add or Drop**—Prior to the first meeting of the class during the second week or with consent of the instructor during the second week.
2. **Drop Only**—Second through the fifth week.
 - a. Courses dropped through the fifth week will not appear on the transcript as an attempted class and will show a "W."
 - b. Courses dropped after the fifth week will be assigned a grade of "WP" if passing 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 (same as "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 may be made to the department chairman and appropriate division dean.

SCHOLASTIC PROBATION

A student places himself on scholastic probation if his cumulative grade point average drops below the following minimum requirements:

1. If the total hours attempted are less than 55 semester hours and his cumulative grade point average is more than 5 grade points below a 2.0 (C) average.
2. If the total credit hours attempted are 55 or more and his cumulative grade point average is less than a 2.0 (C) average. (Refer to Table of Academic Standards.)

SCHOLASTIC SUSPENSION

A student places himself on scholastic suspension if his cumulative grade point average drops below the following minimum requirements:

1. Must have completed 20 or more semester hours of course work and have been on probation the previous semester.
2. More than eighteen (18) grade points below a 2.0 (C) cumulative grade point average.
3. No student with a cumulative 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. If reinstatement is granted, it will be on a probationary basis. (Refer to Table of Academic Standards.)

TABLE OF ACADEMIC STANDARDS

Cumulative Grade Points			Cumulative Grade Points			Cumulative Grade Points		
Hours At- tempted	Proba- tion Less than	Suspen- sion Less than	Hours At- tempted	Proba- tion Less than	Suspen- sion Less than	Hours At- tempted	Proba- tion Less than	Suspen- sion 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	"	94	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 should be directed to the Director of Admissions. 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. Such petition should be directed to the Academic Regulations and Standards Committee and submitted to the Registrar.

Reinstatement after any type of suspension will be granted on a probationary basis.

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.

MISSOURI ACADEMIC CONTRACT

As an institution offering a teacher education program, Missouri Western College may enter into an Academic Contract with the State Department of Education and an eligible prospective teacher. The contract will qualify an individual for a two-year teaching certificate which will lead 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 Dean of the Division of Education and Psychology.



**STUDENT ACTIVITIES,
ORGANIZATIONS
and SERVICES . . .**





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.

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.

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 Christmas Classic Dance, Ugly Man on Campus 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, tennis, track, and swimming. 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. The club is governed by elected officers under the supervision of the Athletic Department.

STUDENT ORGANIZATIONS

The following organizations are currently active on the Missouri Western campus. More detailed information regarding all campus organizations listed below will be found in the current issue of the Student Handbook. The office of the Dean of Students will assist in answering questions in this area.

DEPARTMENTAL CLUBS

AGRICULTURE CLUB
BAND
BIOLOGY CLUB
COMPUTER SCIENCE CLUB
JUS DELIBERANDI SOCIETY—for students interested in law
LETTERMEN'S CLUB
MISSOURI STUDENT TEACHERS ASSOCIATION
MISSOURI WESTERN JUDO CLUB
MISSOURI WESTERN GYMNASTICS CLUB
MODERN DANCE CLUB
PARA-MEDICAL CLUB
PHI BETA LAMBDA—Business Club
PHYSICAL EDUCATION MAJORS AND MINORS CLUB
PSYCHOLOGY CLUB
SPORTS CLUB FOR WOMEN
SOCIAL WORK CLUB—a club interested in community affairs
VEBLEN POLITICO ECONOMIC SOCIETY—for students interested in Economics

RELIGIOUS

BAPTIST STUDENT UNION (JOURNEY INN)
FELLOWSHIP OF CHRISTIAN ATHLETES
FISHERS OF MEN

SOCIAL

Sororities

DELTA ZETA
PHI MU
SIGMA KAPPA
PANHELLENIC COUNCIL—coordinating body for sororities

Fraternities

LAMBDA CHI ALPHA
PHI SIGMA EPSILON
TAU KAPPA EPSILON
INTERFRATERNITY COUNCIL—coordinating body for men

MISCELLANEOUS

AFRO-AMERICAN SOCIETY
CAMPUS SCOUTS
CHEERLEADERS
FELLOWSHIP OF RECONCILIATION
GRIFFONETTES—girls dance and drill group
INTERNATIONAL STUDENTS CLUB
RODEO CLUB
SING OUT MISSOURI WESTERN
SCHACH SPIELEN KLUB—Chess Club
VETERANS CLUB

STUDENT SERVICES

ACADEMIC ADVISEMENT

Academic advisement is an important function of the counseling center and the college faculty.

All students without a declared field of study are advised by counselors. When a student declares a major field of study, he is then assigned to a professor, in the department in which he is majoring, for all future academic advisement.

The student is responsible for the requirements of his educational program and must work closely with his adviser.

COLLEGE CENTER

The College Center is the center of student activities. It houses the bookstore, cafeteria, snack bar and health services. Among the offices are the Dean of Students, Student Government Association and College Center Board. Recreation rooms are also available.

HEALTH SERVICE

The Student Health Center is located on the second floor of the new College Center. A registered nurse is on duty from 8:00 A.M. to 9:30 P.M. each day except Saturday and Sunday. A physician is available during office hours Monday through Friday.

LIBRARY

In the pleasant atmosphere of the Hearnes Learning Resources Center students may study and relax. The building houses 60,000 volumes, periodicals for research and recreation, micoprint material, films, records, filmstrips, tapes and a variety of other print and non-print materials, making information available in the most suitable media.

Professional librarians are available at all hours of library access to give guidance and suggestions in locating research materials. 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 seminar rooms for group study available to them. One of the most attractive buildings on campus, the LRC offers aesthetics while being functional.

BOOKSTORE

The college bookstore is located on the first floor of the new College Center. It supplies all college textbooks and supplies as well as a full line of college accessories.

PLACEMENT OFFICE SERVICES

The Placement Service is maintained to assist present and former graduates 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 the first semester of their senior year. Alumni are urged to keep their records up-to-date.

ALUMNI ASSOCIATION

The Alumni office of Missouri Western College serves as liaison between the college and former students. Through its bulletin it keeps alumni abreast of Missouri Western College's academic and physical progress. It also encourages interest among the former students.

The Association elects a President, Vice President, Secretary, and Treasurer annually. Also, a twenty-four membership board of directors serves the Association, of which eight are elected annually for a period of three years.

HOUSING

a. **Off-Campus.** The Dean of Students maintains a list of approved off-campus housing. The college does not make individual rental agreements. It is advisable for the students to arrive in St. Joseph prior to the beginning of the academic year in order to locate suitable housing.

b. **Dormitory.** This structure is contemporary in design. Each suite includes a large living room with two adjoining bedrooms on either side so that a total of eight students may occupy a suite. Each suite also has its own outside entrance, a patio and self contained air-conditioning and heating units. Two additional dormitories are expected to be completed by the 72-73 school year. For additional information concerning occupancy, contact the Coordinator of Auxiliary Services.

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 and personal problems.

The counselors attempt to (1) help the student reach a state of self-reliance through a clearer understanding of his own capabilities 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.

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 Interest 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 Counseling Center 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 ASSISTANCE

Selective Service Board Certificates (Form SSS-109) are completed at the beginning of each Fall semester by all male students who are registered with the Selective Service and who have not completed their military obligation. (WITH THE EXCEPTION ON INCOMING FRESHMEN).

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

VETERANS ASSISTANCE

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.

REGENTS AND TRUSTEES HONOR SCHOLARSHIPS: Regents and Trustees Honor Scholarships are given by Missouri Western College to all Missouri students who rank in the top 10% of their graduating high school class and who score 85 or above on the Ohio Psychological Test or 25 composite score on the ACT test. This award is a waiver of all tuition and fees for one semester except for approximately forty-five dollars. This award is renewable for each semester if the student achieves a 2.5 grade point average the first semester and a 3.0 grade point average thereafter.

REGENTS AND TRUSTEES AWARDS: Regents and Trustees Awards are given to high school graduates of Missouri schools who rank in the top 20% of their graduating class and who score 75 percentile or above on the Ohio Psychological Test or 23 composite score on the ACT test. Financial need must be established each year for a student to receive the award. The award may be renewed each semester if the student maintains a grade point average of 2.5 the first semester and a 3.0 thereafter.

HONOR SCHOLARSHIP: One scholarship each year to each high school in Missouri. High school selects student from top 20% of class. This scholarship is a waiver of all tuition and fees except \$45 per semester and is renewable if student maintains a 3.0 grade point average.

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.

THE CULVER-GETTYS MEMORIAL SCHOLARSHIP: 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.

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 fees. 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 College students enrolled in a nurses training program. Application should be made to the Missouri Western College Scholarship Committee.

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 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.

J. C. BENSYL MEMORIAL FUND SCHOLARSHIP: The family of J. C. Bensyl established this fund in memory of J. C. Bensyl. The interest on contributions made by relatives and friends is used to provide assistance to a young man or woman pursuing a degree in education. To be eligible, the student must have completed a minimum of 28 college hours, show evidence of financial need and be in good academic standing.

GENERAL WILLIAM McCASKEY AND COLONEL DOUGLAS McCASKEY SCHOLARSHIP: This scholarship has been established by General William McCaskey and Colonel Douglas McCaskey to be given to the son or daughter of a career military person or actual person making service a career, or to retired military person. Recipient must be enrolled full-time and attaining "satisfactory" academic progress. Application is made through the Missouri Western College Scholarship Committee.

TOWNSEND TRUST: These funds are distributed to the college to be used as provided in the Last Will and Testament of R. E. Townsend as follows:

To aid needy and deserving . . . young men and women between the minimum school age and the age of 22 years who are residents of Buchanan

County, Missouri, Andrew County, Missouri, or Doniphan County, Kansas . . . to acquire instruction and training in useful and gainful trades and vocations where skill in the use of the hands is required, (Agri-Business, Data Processing, Computer Science, Law Enforcement, Drafting and Design, Electronic Technology, Radio, TV Technology, Clerical, and Secretarial, etc.) Young women between the age of 16 years and 22 years may be aided in education and training required to fit them for the avocation of teaching in grade schools and high schools.

Applications should be made to scholarship committee, Missouri Western College.

MARIE MOREHEAD MEMORIAL SCHOLARSHIP: This scholarship is given by the Mental Health Association of St. Joseph in memory of Mrs. Morehead and is for \$300 per calendar year. It is awarded to a student enrolled in a course of instruction leading to a degree in Social Work. Students may apply to the scholarship committee, Missouri Western College.

PARK BANK SCHOLARSHIPS: The Park Bank Scholarships were established in 1969 to assist students showing exceptional financial need while attending Missouri Western College, desiring that these students contribute to the betterment of St. Joseph and surrounding community, as well as to the College. Students may apply through the Office of the Superintendent of the St. Joseph Public School District.

JAYCEE WIVES: Applications for the Jaycee Wives Scholarship are distributed in the St. Joseph High Schools early in the second semester of each year. The recipient may receive up to \$100 per semester during their freshman year.

EAST SIDE ROTARY CLUB SCHOLARSHIP: The East Side Rotary Club has established two scholarships of \$150 per semester. Once awarded, these scholarships may be retained as long as the student remains in good standing with the college. Application may be obtained through Mr. Dale Maudlin, Vice-President, First National Bank, St. Joseph, Missouri.

ARMY ROTC SCHOLARSHIPS: The U.S. Army offers a number of one, two, three, and four-year scholarships each year which pay all tuition, textbooks, laboratory fees, and other purely educational expenses. In addition, the student receives a tax-free stipend of \$100 per month for the duration of the scholarship. Scholarships are awarded on a competitive basis, the criteria being SAT or ACT scores, high school and college academic records, participation in extracurricular and athletic activities, and personal interviews. Any male citizen who can meet certain criteria may apply. Although no obligation is incurred through application, acceptance of the scholarship obligates the recipient to enroll in ROTC, obtain a bachelor's degree, and serve at least four years on active duty. Application forms may be obtained from the Military Science Department, Missouri Western College.

ROTC SUBSISTENCE: Students enrolled in the junior and senior Military Science courses automatically receive a tax-free stipend of \$100 per month for the duration of the course.

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.

FEDERALLY INSURED STUDENT LOANS: Missouri Western College participates in the Federally Insured Student Loan 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.

DR. WILLIAM L. AND MILDRED T. LANDFATHER LOAN: Landfather funds provide interest free loans for 5 Missouri Western College students each semester. The loans are awarded by the Student Financial Aid Office to freshmen, sophomores, juniors or seniors, whose major field is Science or Mathematics. Only students graduating from high schools in the Missouri Western College district are eligible to receive a loan. The loan may be renewed each semester, provided the recipient makes satisfactory academic progress. Repayment of loan after graduation is arranged for the convenience of the student.

NURSING STUDENT SCHOLARSHIP PROGRAM: The purpose of the program is to assist students of exceptional financial need to undertake courses of study leading to careers in nursing.

NURSING STUDENT LOAN PROGRAM: This program is intended to assist full-time students to achieve careers in nursing by providing long-term low interest loans to help meet costs of education.

LAW ENFORCEMENT EDUCATION PROGRAM (LEEP): The Law Enforcement Education Program (LEEP) began operation in the spring of 1969, following passage of the Omnibus Crime Control and Safe Streets Act of 1968. LEEP is a program intended to develop professional law enforcement officers through higher education. LEEP provides educational opportunity through financial aid and is directed to students having the ability and desire to provide professional performance in the criminal justice system. Both loans and grants may be obtained through this program.

ROTC SUBSISTENCE: Students enrolled in the junior and senior Military Science courses automatically receive a tax-free stipend of \$100 per month for the duration of the course.

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 exceptional financial need may apply for an Educational Opportunity Grant, made available under Title IV of the Higher Education Act of 1965. These grants may range from \$200 to \$1000. Grants must be matched by an equal amount from some other qualifying source such as College Work-Study, National Defense Student Loans, etc.

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 Year		
Incidental Fee	\$140	\$175	\$365	\$ 280	\$ 350	\$ 730
Room and Board	\$425			\$ 850		
Books	\$ 50			\$ 75		
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	\$615	\$650	\$840	\$1205	\$1275	\$1655

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. Payments on automobiles are not normally considered as legitimate educational expenses.

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

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M.Ed.—University of Arkansas
Ed.D.—University of Arkansas
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B.A.—William Jewell College
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Ed.D.—University of Missouri
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M.Ed.—University of Arkansas
Ed.D.—University of Arkansas
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M.S.—Fort Hays Kansas State College
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B.A.—Iowa State Teachers College
M.A.—Northeast Missouri State College
Ed.D.—North Texas State University
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B.S.—University of Missouri
M.A.—Washington University
Ed.D.—University of Missouri
- GRAINGER, Don L. Dean, Applied Science and Technology
B.S.—Central Missouri State College
M.A.—Central Missouri State College
Graduate Study—Texas Tech University
- BENSYL, Conrad N. Dean, Continuing and Adult Education
B.S.—Northwest Missouri State College
M.S.—Kansas State Teachers College
Graduate Study—University of Missouri
- HOFF, Forrest Dean of Students
B.S.—Northwest Missouri State College
M.Ed.—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
- CLARK, Lowell W. Director of Institutional Research
B.S.—Kansas State University
M.S.—Kansas State University
Graduate Study—University of Colorado
- SHARP, Sam H. Director of Alumni and Placement
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 Computer Center
B.S.—University of Denver
- ROBINSON, Thomas J. Coordinator of Admissions and Records
B.S.—Northwestern Oklahoma State College
M.S.—Oklahoma State University
Graduate Study—Oklahoma State University, University of Illinois
- GRAHAM, Dorothy B. Coordinator of Counseling Center
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
- McKIBBEN, Diana Counselor
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M.A.—Central Missouri State College
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M.L.S.—University of Illinois
- LIBEL, Marie S. Assistant Librarian
B.A.—Maryville College
M.A.—University of Wisconsin
..... Reference Librarian
- MACKEY, Robert Coordinator of Audio Visual
B.A.—William Jewell College
M.A.—Central Missouri State
- ROBERTS, Dr. Phyllis Coordinator of Health Services
and College Physician
B.A.—Douglass College
D.M.—Kansas University Medical School
Pediatric Residence—Washington University

FACULTY

- ADAMS, Charles E. Assistant Professor of Physics and Math
B.S.—Peru State College
M.A.—University of Missouri
- ANDERSON, Claudia Instructor of Nursing
B.S.—University of Kansas
Graduate Study—University of Missouri, Kansas City
- ANDRESEN, William Assistant Professor of Biology
B.A.—Wayne State Teachers College
M.S.—University of Nebraska
Ph.D.—University of Nebraska
- ARCHER, Leonard (on leave) Instructor of Chemistry
B.S.—Northwest Missouri State College
Graduate Study—University of Nebraska

- ASCHERMANN, Jerry** Instructor of Secondary Education
 B.A.—University of Colorado
 M.S.—Utah State University
- BENNETT, James** Assistant Professor of Humanities
 B.S.—Northwest Missouri State College
 M.A.—Kansas University
 Graduate Study—University of Kansas
- BENSYL, Conrad** Associate Professor, Dean of Continuing and
 Adult Education
 B.S.—Northwest Missouri State College
 M.S.—Kansas State Teachers College
 Graduate Study—University of Missouri
- BISHOP, George** Assistant Professor of Computer Science
 B.S.—Northwest Missouri State College
 M.Ed.—Kansas State Teachers College
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 B.S.—University of Nebraska
 M.S.—University of Nebraska
 Graduate Study—University of Nebraska
- BRUCE, Jim R. II** Assistant Professor of English
 B.A.—Southeast Missouri State College
 M.A.—Southeast Missouri State College
- BURRI, Charles** 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
- CAGLE, Harold** Assistant Professor of Physical Education
 and Head Football Coach
 B.S.—Northeastern Oklahoma State College
 M.A.—Northeastern Oklahoma State College
- CARROLL, Stephen** Assistant Professor of Social Science
 B.J.—University of Missouri
 M.A.—Drake University
 Ph.D.—University of Colorado
- CHELLINE, Warren H.** Assistant Professor of English
 B.A.—University of Missouri, Kansas City
 M.A.—University of Missouri, Kansas City
 Graduate Study—University of Kansas
- CLARDY, Colonel Lawrence** Director of Military Science
 B.S.—University of Colorado
 M.A.—University of Oklahoma
 Graduate Study—University of the Americas
- COFFMAN, Cloyce** Assistant Professor of Agriculture
 B.S.—University of Missouri
 M.S.—University of Missouri
- COYNE, Charles C.** 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
- CRUMLEY, Richard** Assistant Professor of Biology
 B.S.—Kansas State College
 M.S.—Kansas State College
 D.A.—University of Northern Colorado

- CRUMP, Shirley Assistant Professor of Elementary and Special Education
 B.S.Ed.—Northwest Missouri State College
 M.S.Ed.—University of Missouri
- CURTIS, Carrie Instructor of Humanities
 B.A.—Lynchburg College
 M.A.—Catholic University
- DAVIS, Larry Associate Professor of Agriculture
 Chairman, Department of Agriculture
 B.S.—Iowa State University
 M.S.—Iowa State University
 Ph.D.—University of Minnesota
- DOBBINS, Larry Assistant Professor of Humanities
 B.S.—University of Nebraska
 M.A.—University of Nebraska
 Ph.D.—University of Iowa
- DONALDSON, Ruth Ann Instructor of Social Science
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 M.A.—University of Arkansas
- DONNELLY, Vernon Instructor of Technology
 B.A.—Kansas State Teachers College
- DURHAM, Lu M. Assistant Professor of Humanities
 B.A.—University of Iowa
 M.A.—University of Missouri
 Graduate Study—University of Kansas
- DUVALL, Oren R. Assistant Professor of Fine Arts
 Chairman, Department of Fine Arts
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 M.A.—Colorado State College
 Ed.D.—Colorado State College
- ERICKSON, Charles Associate Professor of Physical Education
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 M.S.—Kansas State College
 Graduate Study—University of Kansas
- EVANS, John R. Instructor of Technology
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 M.S.—Kansas State College
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 B.S.Ed.—University of Missouri
 Graduate Study—University of Missouri
- FLANAGAN, Frances Professor of English
 Chairman, Department of English
 A.B.—Mount St. Scholastica
 M.A.—University of Iowa
 Ph.D.—University of Iowa
- FORCE, Harry Associate Professor of Biology
 Chairman, Department of Biology
 B.S.—Alabama State Teachers College
 M.A.—George Peabody College
 Graduate Study—Kansas State Teachers College

- GALLOWAY, Leo Assistant Professor of Biology
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 M.S.—University of Oklahoma
 Ph.D.—Texas Tech University
- GETTYS, Helen Associate Professor of Elementary and Special Education
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 M.Ed.—University of Missouri
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 M.M.—University of Missouri
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 M.A.—Central Missouri State College
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 M.A.—Northwestern University
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 Graduate Study—University of Missouri
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 Ph.D.—University of Iowa
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 Chairman, Department of Humanities
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 M.A.—Southern Illinois University
 Ph.D.—Southern Illinois University
- HALVORSEN, Betty M. Assistant Professor of Physical Education
 B.S.—Kansas State College
 M.S.—Kansas State College
- HANSEN, Tom C. Assistant Professor of Secondary Education
 B.A.Ed.—Wayne State
 M.A.—Creighton University
 Ed.S.—University of Alabama
- HAYNES, S. Earl Associate Professor of Secondary Education and
 Chairman, Department of Secondary Education
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 M.S.—Central Missouri State College
 Ed.D.—University of Kansas
- HAZELRIGG, Gary Instructor of Physical Education
 B.S.—Northwest Missouri State College
 M.S.—Northwest Missouri State College
 Graduate Study—University of Kansas

- HECKEL, Achsah M. Assistant Professor of Chemistry
 B.S.—Kansas State University
 Graduate Study—Northwest Missouri State College
- HINRICHS, Susan Instructor of Computer Science
 B.S.—Central Missouri State College
 B.A.—Central Missouri State College
 M.A.—Central Missouri State College
 Graduate Study—Central Missouri State College
- HOFFMANN, Rosemary L. Assistant Professor of Humanities
 B.S.—Northwest Missouri State College
 M.A.—Middlebury College
 Graduate Study—Institut D'Etudes Francaises D'Avignon
- HOLMAN, Richard W. (on leave) Assistant Professor of Technology
 Chairman, Department of Technology
 B.S.—Northwest Missouri State College
 M.A.—State College of Iowa
 Graduate Study—University of Missouri
- HOPPE, Albert D. Instructor of Criminology
 B.A.—Texas A & I University
 J.D.—Law School of Southern Methodist University
- HOYT, Daniel R. Assistant Professor of Economics and
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 M.B.A.—Memphis State University
- HUGHES, John T. Assistant Professor of Fine Arts
 B.F.A.—Kansas City Art Institute
 M.F.A.—University of Nebraska
- HUSTON, Bill Associate Professor of Physics and Math
 B.A.—Tarkio College
 M.A.—Duke University
 Graduate Study—University of Missouri
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 B.S.—Northwest Missouri State College
 M.A.—Colorado State College
 Graduate Study—Colorado State College
- JENSEN, Harold Assistant Professor of Business and Economics
 B.S.—University of Utah
 M.S.—University of Alabama
 Graduate Study—University of Alabama
- JOHN, David Instructor of Physics and Math
 B.A.—University of Iowa
 B.S.—University of Iowa
 M.S.—University of Iowa
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 B.A.—Georgia Tech
 M.E.—Georgia Tech
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 B.S.—University of Missouri at Rolla
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Graduate Study—Northwestern University, University of Missouri
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M.A.—Southwest Missouri State College
- KESSLER, Francis Assistant Professor of Social Science
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- KLOSE, Karl R. Assistant Professor of Physics and Math,
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B.S.—Bucknell University
M.S.—University of Alabama
M.A.—University of Alabama
Ph.D.—University of Alabama
- KOST, Robert Assistant Professor of Technology
Acting Chairman, Department of Technology
B.A.—William Jewell
M.S.—University of Missouri
Ph.D.—University of Missouri
- LAMBING, Larry Assistant Professor of Chemistry
B.S.—Kansas State College
M.S.—Kansas State College
Graduate Study—University of Arkansas
Kansas State University
- LEMSER, Theodore (on leave) Instructor of Marketing
B.B.A.—University of Arkansas
M.S.B.Ed.—Kansas State University
Graduate Study—University of Arkansas
- LEPO, Joe (on leave) Assistant Professor of Biology
B.S.—Kansas State University
M.S.—Kansas State University
Graduate Study—Kansas State University
- LONG, James Assistant Professor of Physical Education
B.S.—Southwest Missouri State College
M.Ed.—University of Missouri
- McCANN, Willis Professor of Psychology and
Chairman, Department of Psychology
A.B.—University of Missouri
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Ph.D.—Indiana University
J.D.—University of Missouri
- McCAY, Christa Associate Professor of English
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M.A.—University of Wisconsin
- McINTOSH, Michael Instructor of English
B.A.—Iowa Wesleyan
M.A.—University of Iowa

- MAGOON, Michael Instructor of Humanities
 B.A.—Drury College
 M.A.—University of Missouri
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 M.A.—North Texas State
 D.Ed.—Oklahoma State University
- MANN, Susan Associate Director of Nursing
 B.S.—University of Iowa College of Nursing
 Graduate Study—Kansas University Medical Center
- MARABLE, Darwin Instructor of Fine Arts
 B.A.—University of California
 M.A.—San Francisco State College
- MARION, Glenn E. Associate Professor of Engineering
 Chairman, Department of Engineering
 B.S.—Northwest Missouri State College
 M.S.—Oregon State College
 Graduate Study—University of Missouri, Colorado A & M
- MARTIN, Captain John Instructor of Military Science
 B.A.—Wichita State
 Graduate Study—Northwest Missouri State
- MILLER, Richard Associate Professor of English
 B.S.—Northeast Missouri State College
 M.A.—Northeast Missouri State College
- MINNIS, Douglas Assistant Professor of Physical Education
 Head Baseball Coach
 B.S.Ed.—Kansas State Teachers College
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- MITCHELL, John B. Assistant Professor of Business and Economics
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 J.D.—University of Kansas School of Law
- MITCHELL, Marian Assistant Professor of Business and Economics
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 M.S.—Central Missouri State College
- MOGG, Jerry Assistant Professor of Business and Economics
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 M.S.—University of Kansas
- MONK, Gordon Assistant Professor of Social Science
 B.A.—Western Michigan University
 M.S.W.—Western Michigan University
 A.C.S.W.—University of Pennsylvania
- NELSON, Jane (on leave) Assistant Professor of Fine Arts
 B.A.—Scripps College
 M.F.A.—University of Kansas
- NEW, Larry Scott Instructor of Physical Education
 Assistant Football Coach
 B.S.—Wheaton College
 M.S.—Northern Illinois University
- NIX, Jimmie R. Assistant Professor of Public Services
 B.S.—Northwest Missouri State College
 M.S.—Kansas State College
 Graduate Study—University of Oklahoma

- OWNBEY, Jane Assistant Professor of Business and Economics
 B.S.—Northeast Missouri State College
 M.A.—Northeast Missouri State College
- PARMELEE, Louis Instructor of Physics and Math
 B.A.—University of Colorado
 M.A.—University of Northern Colorado
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 Graduate Study
- PETTIJOHN, James B. Instructor of Business and Economics
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 M.B.A.—Drury College
- PHELAN, Elizabeth Associate Professor of Social Science
 B.S.—St. Mary's College
 M.S.—Creighton University
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 M.A.—University of Northern Colorado
- RACHOW, Thomas E. Instructor of Biology
 B.S.—University of Iowa
 M.A.—Southern Illinois University
 Graduate Study—University of Tennessee
- RAJPUT, Mohammad Assistant Professor of Sociology
 B.S.—Punjab University
 M.A.—Punjab University
 M.A.—Indiana University
 Ph.D.—University of Minnesota
- REDMOND, Ann Assistant Professor of English
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 M.A.—Kansas State Teachers College
- REDMOND, John Associate Professor of Chemistry
 B.S.—University of Missouri
 M.S.—University of Missouri
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- RICHMOND, George Associate Professor of Elementary Education and
 Chairman, Department of Elementary and Special Education
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 M.S.Ed.—Milikin University
 Ed.D.—Illinois State University
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 A.B.—Park College
 M.M.—Northwestern University
 Graduate Study—The Kansas City Conservatory of Music
- RIPPLE, Joseph Assistant Professor of Social Science
 B.S.—University of Southern California
 M.A.—University of Northern Colorado
 Ph.D.—University of Colorado
- ROBBINS, Donald J. Assistant Professor of Biology
 B.S.—Kansas State College
 M.S.—Kansas State College
 Graduate Study—University of Oklahoma
- ROBERTS, Raymond Associate Professor of Education
 B.S.—Maryville State College
 M.A.—Northwestern University

- ROGERS, Alfred Assistant Professor of Social Science
 B.A.—Kansas State Teachers College
 M.S.—Kansas State
 M.A.—University of Missouri
 Ph.D.—University of Missouri
- RUFFINO, Arthur Assistant Professor of Humanities
 B.S.—Central Missouri State College
 M.A.—Central Missouri State College
 Ph.D.—Southern Illinois University
- SANDSTAD, Neil Assistant Professor of Fine Arts
 B.A.—Carleton College
 M.A.—University of Iowa
- SCHMITZ, Leo Associate Professor of Physics & Math
 B.S.—University of Missouri
 M.Ed.—University of Missouri
 M.A.—University of Illinois
- SCHILLING, James Assistant Professor of Social Science
 B.S.Ed.—Northwest Missouri State College
 M.A.—University of Missouri
- SCOTT, Bob R. Professor and Dean of Liberal Arts and Sciences
 B.S.—University of Missouri
 M.A.—Washington University
 Ed.D.—University of Missouri
- SEGEBARTH, Geoffrey Instructor of Business and Economics
 B.A.—American University
 M.A.—Syracuse University
- SHAIN, Virginia Instructor of Elementary Education
 B.S.—Northwest Missouri State College
 M.Ed.—University of Missouri
 Ed.D.—University of Kansas
- SHELL, Robert L. Associate Professor of Humanities
 B.A.—University of Illinois
 Graduate Study—University of Illinois
- SHROUT, Ethel Associate Professor of Business and Economics
 B.S.—Northwest Missouri State College
 M.S.—University of Missouri
 Ed.D.—Oklahoma State University
- SHUTTS, Ellis L. Associate Professor of Psychology
 B.A.—Nebraska Wesleyan University
 M.A.—University of Omaha
 Ph.D.—University of Missouri
- SIRENO, Peter (on leave) Assistant Professor of Business and Economics
 B.S.—Northeast Missouri State College
 B.S.Ed.—Northeast Missouri State College
 M.A.—Northeast Missouri State College
 Graduate Study—University of Missouri
- SMITH, Russell Associate Professor of Chemistry
 Chairman, Department of Chemistry
 B.S.—Wisconsin State University
 Ph.D.—University of Iowa
- SNIDER, Carl L. Instructor of Biology
 B.S.—Bethany Nazarene
 M.A.—University of Missouri

- SPARKS, Isabel L. (on leave) Associate Professor of English
 B.A.—University of Kansas
 M.A.—University of Missouri, Kansas City
 M.Ph.—University of Kansas
 Graduate Study—University of Kansas
- SPAULDING, Robert S. Instructor of Business and Economics
 B.A.—Macalester College
 M.S.—Arizona State University
- SPICER, Clyde Assistant Professor of Humanities
 B.S.—Hardin-Simmons University
 M.S.—North Texas State University
- STEINICHE, David Assistant Professor of Social Science
 B.A.—Grinnell College
 M.A.—University of Wisconsin
 Ph.D.—University of Nebraska
- TAYLOR, Richard Associate Professor of English
 B.S.—Northeast Missouri State College
 B.J.—University of Missouri
 M.A.—University of Missouri
- TAYLOR, Major Robert Instructor of Military Science
 B.S.—University of Illinois
- THOMAS, Frank Instructor of Fine Arts
 B.M.E.—Wichita State University
 M.M.E.—Wichita State University
- TOLO, Norma Instructor of Nursing
 B.A.—Concordia College
 R.N.—State Board of Nursing, Minnesota
- TOMLINSON, Veva Associate Professor of English
 B.S.—Central Missouri State College
 M.A.—Duke University
 Graduate Study—University of Missouri
- VEHLOW, Charles Assistant Professor of Social Science
 B.A.—Culver-Stockton
 M.S.S.W.—University of Missouri
- VEHLOW, Paula Assistant Professor of English
 B.S.—Northwest Missouri State College
 M.A.—University of Missouri
- WEISENBORN, Merle Instructor of Business and Economics
 B.S.—University of Missouri
 M.B.A.—Arizona State University
- WILKERSON, Jerry Associate 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 Computer Center
 Chairman, Department of Computer Science
 B.S.—University of Denver
- ZWEERINK, Gerald Assistant Professor of Chemistry
 B.A.—Southwest Missouri State College
 Ph.D.—University of Missouri, Rolla

PROFESSORS EMERITI

AGENSTEIN, Evan R. Professor Emeritus of Physics and Math
B.S.—Northwest Missouri State College
M.A.—University of Missouri
Graduate Study—University of Missouri

DOHERTY, Mary Lee Professor Emeritus of English
A.B.—William Jewell College
M.A.—University of Colorado

HARVEY, Marian V. Professor Emeritus of Social Science
A.B.—Northwestern University
M.A.—University of Chicago
Graduate Study—University of Wisconsin

MEYER, Myron M. Professor Emeritus of Humanities
B.A.—University of Cincinnati
B.H.L.—Hebrew Union College
D.D.—Hebrew Union College
Post Graduate Study—New York School of Hebrew Union College
University of Missouri

POPPLEWELL, Frank S. Professor Emeritus of Social Science
B.S.—Kansas State College
M.S.—Kansas State College
M.A.—University of Missouri
Graduate Study—University of Missouri

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