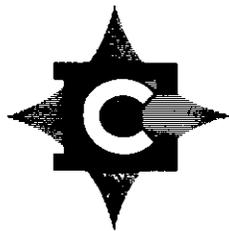


east
central
junior
college



1973-1975 Catalog

EAST CENTRAL JUNIOR COLLEGE
P. O. BOX 529 — UNION, MISSOURI 63084
TELEPHONE: 314-583-5193

THE CURRICULUM: COURSES OF INSTRUCTION

The first digit of a course number refers to academic level of the course; courses numbered 100 are designated primarily for freshmen; courses numbered 200 for sophomores.

The third digit of a course number refers to the number of semester hours credit given for that course. Thus, History 133 earns for the student three hours credit.

The College reserves the privilege of withdrawing any course for which there is not sufficient enrollment.

COURSE DESCRIPTIONS

ART

- Art 102 CRAFTS 2 hours
Course is designed to allow the student to explore a number of different craft areas such as: mosaics, basketry, printmaking, etc. Individual projects will be developed in those areas in which the student has special interests. The course is especially well suited to teachers, parents, and other non-art majors who are interested in developing creative hobbies.

Prerequisite: none
- Art 103 COMPOSITION 3 hours
Representational, abstract, non-objective drawings and paintings; space and volume relations; movement and direction of planes in development of visual units of design and their integration in the whole organization; introduction to perspective and light and shade.

Prerequisite: none
- Art 113 ART APPRECIATION I 3 hours
A general survey of the artistic activities of man from pre-historic to modern times. Slides and 16mm films are used in conjunction with the course.

Prerequisite: none
- Art 123 ART APPRECIATION II 3 hours
A survey of art history from 1900 to the present, with some studio applications. Selected art movements and techniques will be discussed.

Prerequisite: none

Art 133 INTRODUCTION TO ART 3 hours
An introduction to art through various media and techniques such as design, drawing, printmaking, color, shading, sculpture, space relationship. Media include ink, cray-pas, plaster, and watercolor. This is a survey course and not recommended for art majors.

Prerequisite: none

Art 143 SCULPTURE I 3 hours
An introduction to sculpture through the use of various media: cardboard sculpture, plastic sculpture, and wood or stone sculpture. Some drawing and research of sculptors and sculpture techniques is required.

Prerequisite: none

Art 153 DRAWING I 3 hours
An introduction to drawing as an approach to space and form through a variety of methods, both traditional and contemporary. Emphasis will be placed upon analytical seeing as well as familiarization with and control of drawing material. Introduction to perspective and light and dark shades, some texture and other methods will be used for creative drawings.

Prerequisite: Art 103 or consent of the instructor.

Art 163 DRAWING II 3 hours
Drawing of the human figure in charcoal, crayon, ink, and other media. Representational, abstract, and non-objective drawings, space and volume relations; movement and direction of planes in space; development of visual units of design and their integration in the whole organization.

Prerequisite: Art 153 or consent of the instructor.

Art 173 PAINTING I 3 hours
Introduction to the material and techniques of oil and acrylic painting. Intended to develop technical and expressive abilities. Forms, colors, line, texture, and organization of painting will be studied. Practical application of framing techniques.

Prerequisite: Art 153 or 163 or consent of the instructor.

Art 183 PAINTING II 3 hours
Theory and practice of painting using oil and acrylics. Development of form through color and appropriate emphasis.

on texture Objective appearance conditioned to meet the requirements of a controlled composition and aesthetic concept. While working with a variety of media, the student will be encouraged to emphasize individual expression.

Prerequisite: Art 173

Art 193 COMMERCIAL ART 3 hours
Exploration of the basic elements of design as related to commercial art. The application of elements is stimulated by a wide variety of projects. Projects will stress the development of ideas rather than execution of media.

Prerequisite: none

Art 213 SCULPTURE II 3 hours
Examination and analysis of traditional and contemporary sculpture. Sculptural design is related to material and techniques such as clay, wood, stone, plaster, and metal.

Prerequisite: Art 143 or consent of the instructor.



Art 223 DESIGN 3 hours
Exploration of space, line, color, shape, and texture as the basic elements in visual expression. The application of elements is stimulated by a wide variety of projects stressing creative ability.

Prerequisite: Art 103 or consent of the instructor

Art 233 WATERCOLOR 3 hours
The study of watercolor painting with emphasis upon color and composition and pictorial expression; experimentation with varied methods of watercolor painting. Studies will include washes and brush control

Prerequisite: Art 103 or 133 or consent of the instructor.

Art 243 PRINTMAKING I 3 hours
Lecture and laboratory exercises dealing with history and techniques of printmaking, including the making of prints from material such as wood blocks, cardboard, and linoleum by using surface printing techniques.

Prerequisite: Art 133 or consent of the instructor

Art 263 PRINTMAKING II 3 hours
Laboratory exercises dealing with the techniques of lithography, silkscreen and dry point as a fine printing medium. Emphasis is on individual exploration with materials.

Prerequisite: Art 133, or Art 243, or consent of the instructor

Art 271 DIRECTED STUDIES (HONORS) IN ART 1 hour
The opportunity provides two alternatives. An exceptional art student may pursue (1) studying or developing independently a specifically prearranged topic or project, within the field of art, (2) develop experience in procedures, processes, and actual presentations of gallery displays.

Prerequisite: Consent of the instructor

AUTO MECHANICS

Auto 103 ELECTRICAL SYSTEMS 3 hours
An advanced study of the automobile electrical systems. Beginning with a comprehensive study of direct-current theory, the module directs itself to application of the theory to the understanding of the automobile starting, charging, and ignition systems. Lab and shop work in this module concentrates on trouble-shooting and repair of auto electrical systems and components

Prerequisite: none



work will include brake servicing and replacement procedures, disc and drum service to hydraulic master and wheel cylinder assemblies.

Prerequisite: none

Auto 191

STANDARD TRANSMISSIONS

1 hour

A study of three and four speed standard transmissions including clutches and clutch designs. Shop work will concentrate on clutch replacement, shift linkage design and adjustments, and transmissions disassembly and repair procedures. The theory of gear design and ratios will be studied in great detail.

Prerequisite: none

Auto 192

AUTOMATIC TRANSMISSIONS

2 hours

A detailed study of the theory, operation, and repair of automatic transmissions. This module will begin with a complete study of planetary gear trains and their operation, hydraulic theory as applied to fluid couplings, and clutch theory and operation. Subsequent shop work will concentrate on removal, disassembly, overhaul, and replacement of automatic transmission assemblies. Special emphasis will be placed on diagnosis of automatic transmission problems.

Prerequisite: none

Auto 201 **AUTO MECHANICS PLACEMENT** 1 hour
A course designed to assist auto mechanics students in obtaining jobs suitable to their training and interests.

Prerequisite: none

Auto 202 **ENGINES** 2 hours
A detailed study of the gasoline-powered internal-combustion engine. Emphasis will be placed on procedures for repair and replacement of engine parts and components, engine cooling systems, and valve train assemblies. Engine overhaul and machine procedures will be discussed in detail, and shop work will include the disassembly, measuring, and reassembly of engine components.

Prerequisite: Auto 103 and Auto 112

Auto 211 **AIR CONDITIONING** 1 hour
Beginning with a study of refrigeration and cooling theory, this module will concentrate on the diagnosis and repair of common automotive air-conditioning problems. Shop work will include the checking and charging of air-conditioning systems, as well as leak-detection procedures and correction of common compressor problems.

Prerequisite: none

Auto 221 **DRIVE LINES AND DIFFERENTIAL** 1 hour
A study of the transmission of power from the transmission to the wheels of the modern vehicle. Shop work will concentrate on drive shaft service, adjustment and replacement of differential bearings and parts (including limited slip differentials), and diagnosis of vibration and axle noise problems.

Prerequisite: none

BIOLOGICAL SCIENCE

Bio 102 **PERSONAL AND COMMUNITY HYGIENE** 2 hours
A general course designed to develop proper attitudes and practices which will contribute to the fine art of living. Health problems which require community action are given consideration

Prerequisite: none

Bio 235

COMPARATIVE ANATOMY

5 hours

The comparative anatomy of vertebrate animals, including both embryological development and adult structure. Dissection includes a representative from each major vertebrate class. Includes classification of vertebrates, embryology, skeleton, muscles, coelome, digestive and respiratory systems, circulatory system, uninogenital system, and nervous system. Two lectures and six hours of laboratory per week.

Prerequisite: Bio 145 or consent of the instructor.

Bio 271,
281, 291

**DIRECTED STUDIES (HONORS)
IN BIOLOGY**

1 hour

The biology internship provides two alternatives. A student may pursue: (1) investigation or studying independently a specific prearranged topic, within the field of biological science, (2) assisting primarily in the laboratory, or in lecture when peer groupings are being utilized.

Prerequisite: Consent of the instructor.

BUILDING AND SITE MAINTENANCE

B & SM 100

BUILDING AND SITE MAINTENANCE 1100 Contact Hours

The Building and Site Maintenance program at East Central Junior College is designed to train regular students and adults for positions with many agencies. The program is intended to develop the necessary skills to develop the site, maintain the building and its equipment, diagnose basic systems and equipment malfunctions, accomplish normal repairs and initiate routine alteration or modification of the building and its systems.



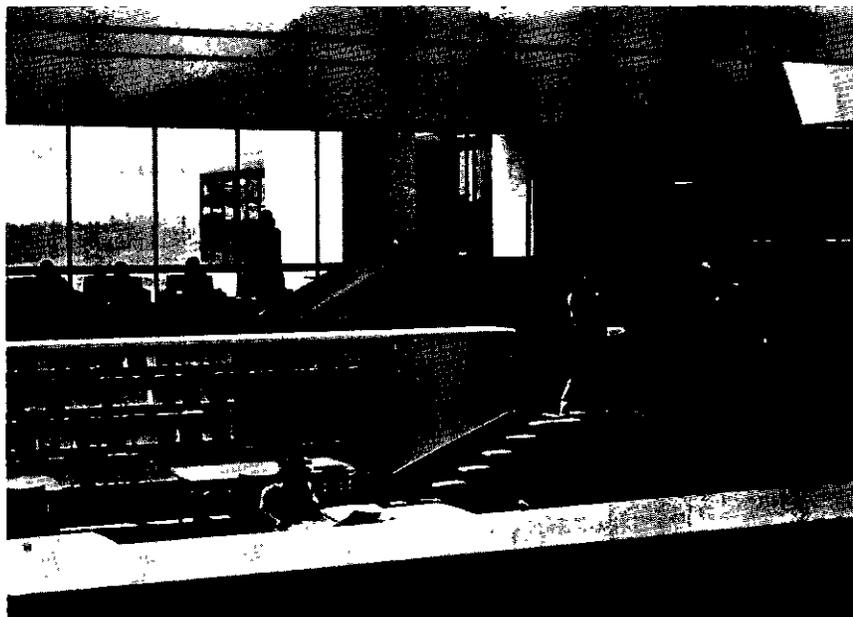
Bus M 201

BUSINESS MANAGEMENT PLACEMENT

1 hour

A course designed to assist business management students in obtaining jobs suitable to their training and interests.

Prerequisite: none



Bus M 213

PRINCIPLES OF MARKETING

3 hours

This course is designed to introduce the student to the managerial area of marketing. Although consumer and institutional behavior patterns and the overall role of marketing in the economy are covered, the major emphasis will be concerned with the types of problems confronting those involved in marketing management.

Prerequisite: none

Bus M 223

SALESMANSHIP

3 hours

A study of proper sales techniques for presenting and selling merchandise to the consumer. Methods of organization, training, and management of the sales force.

Prerequisite: none

- Bus M 233** **ADVERTISING AND DISPLAY** **3 hours**
 Aspects of advertising with emphasis on the development of a proper marketing mix, the planning of advertising strategy, the management of personnel, the control of advertising operations, advertising research, and the development of display plans. Each student will be assigned an advertising project concerned with a marketing plan, advertising strategy, and an advertising budget.
 Prerequisite: none
- Bus M 243** **PRINCIPLES OF FINANCE** **3 hours**
 Basic financial management of the business firm involving procurement, allocation, and control of funds according to objectives of profitability and liquidity. Corporate financial behavior and practice are studied relative to initial organization and structure, financial instruments and market; measurement, analysis, and interpretation of investment and profit performance
 Prerequisite: none
- Bus M 251** **DISPLAY PROJECT** **1 hour**
 A study of the types and the role of visual merchandising in the retail store including creation, color and principles of design, incorporating actual experience in preparing retail displays.
 Prerequisite: none
- Bus M 273** **PERSONNEL MANAGEMENT** **3 hours**
 An evaluation and comparison of private and public personnel practices and techniques of recruiting, selecting, transferring, promoting, classifying, and training workers.
 Prerequisite: none
- Bus M 283** **BUSINESS LAW** **3 hours**
 A study of those areas of the law which affect most businesses; sales and credit, contracts, insurance, agency and employment, commercial paper, and personal property and bailments.
 Prerequisite: none.
- Bus M 291, 292, 293** **INTERNSHIP** **1-3 hours**
 This phase of the student's business management training will include actual work experience in a retail business with periodic discussions of the problems involved in applying classroom principles to the job
 Prerequisite: Enrollment in Business Management Program and consent of the instructor

CHEMISTRY

- Chem 105 INTRODUCTION TO CHEMISTRY 5 hours
Introduction to the basic principles of chemistry, including inorganic, analytical, physical, and organic chemistry. Environmental and practical applications are emphasized with one lab session per week being used for small group discussions of current topics. Three hours of lecture and two two-hour laboratories per week.
This course is designed for the student with no background in chemistry.
Prerequisite: none
- Chem 115 GENERAL CHEMISTRY I 5 hours
Topics of study include slide rule, atomic and molecular structure, bonding, chemical equations, gases, solutions, and an introduction to organic chemistry. Three one-hour lecture periods and two two-hour laboratory periods per week.

Prerequisite: A satisfactory score on the MMPT and either Chem 105 or high school chemistry.
- Chem 125 GENERAL CHEMISTRY II 5 hours
A continuation of Chem 115, including chemical equilibria, complexions, thermodynamics, oxidation-reduction reactions, and qualitative analysis. Three one-hour lecture and recitation periods and two two-hour laboratory periods per week.

Prerequisite: Chem 115
- Chem 234, 235 QUANTITATIVE ANALYSIS 4-5 hours
A study of the fundamental principles of quantitative analytical chemistry, including gravimetric volumetric and spectrophotometric determinations. Two hours lecture and two or three three-hour laboratory periods per week.

Prerequisite: Chem 125
- Chem 245 INTRODUCTORY ORGANIC AND BIOLOGICAL CHEMISTRY 5 hours
A survey of major topics of organic and biological chemistry, including aliphatic and aromatic hydrocarbons, carbohydrates, lipids, amino acids, the vitamins, and steroids. The course relates chemical applications to human metabolism, agriculture, home economics, and medical technology programs. Four hours lecture and three hours laboratory each week.

Prerequisite: Chem 105 or Chem 115

**DIRECTED STUDIES IN
CHEMISTRY (HONORS)**

1 hour

The student enrolled for directed studies has two alternatives:
(1) investigate a specific topic within the field of chemistry. (2)
Assist in the laboratory, stock room, or with individualized
instruction under the supervision of an instructor.

Prerequisite: Consent of the Instructor.

DRAFTING AND DESIGN TECHNOLOGY

Draft 115

**ENGINEERING DRAWING AND
DESCRIPTIVE GEOMETRY**

5 hours

This course is designed to give the student a working knowledge
of fundamental drawing practices and the geometric
relationships of points, lines and planes in space. Areas covered
include the techniques of lettering, sketching, instrumental
drawing of mechanical parts, sectional and auxiliary views and
conventional drafting practices.

Prerequisite: none

Draft 133

ARCHITECTURAL DRAWING

3 hours

This course introduces the fundamental principles of residential
design. It includes instruction on materials and methods of
construction, design standards and room arrangement. Course
emphasis will be given to the development of complete
residential plans.

Prerequisite: Draft 115

Draft 143

MACHINE DRAWING

3 hours

The student will work in problem solving situations involving
the development of drawings of castings, forgings, machinings
and sheet metal layout. Also, the methods of making working
and assembly drawings will be included, providing depth in the
area of machine drawing. Dimensioning will be of primary
importance.

Prerequisite: Draft 115

Draft 152

MODERN DRAFTING TECHNIQUES

2 hours

This is an exploratory course which has major emphasis on
photography, film processing, model building and their in-
dustrial applications. Students will participate in development
of projects utilizing the latest available industrial techniques.

Prerequisite: Draft 115

Draft 163 **MATERIALS AND PROCESSES** 3 hours
A survey of current engineering materials and the various processes used to shape them. Materials studied include a review of ferrous and nonferrous metals, plastics, rubbers, and ceramics. Emphasis is placed on the advantages and limitations of the various casting, forging, machining, grinding, forming, molding, welding, heat treating and powder metallurgy processes used to shape materials.

Prerequisite: none

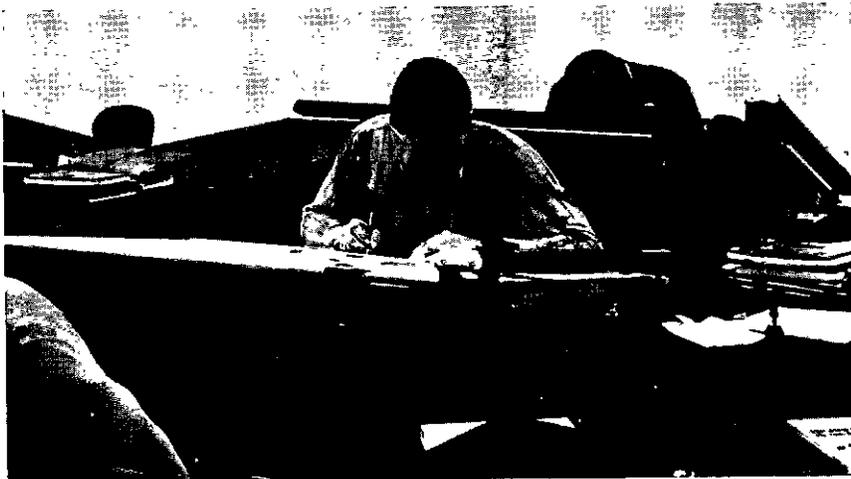
Draft 173 **PRINCIPLES OF POWER** 3 hours
Principles of hydraulics and pneumatics fundamental to fluid power design are presented. Other topics include principles of mechanical and electrical powered systems and power system schematics

Prerequisite: Math 100 or consent of the instructor.

Draft 201 **DRAFTING PLACEMENT** 1 hour
A course designed to assist drafting students in obtaining jobs suitable to their training and interests.

Prerequisite: none

Draft 202 **TECHNICAL ILLUSTRATION** 2 hours
A course to develop the understanding and skills to produce technical illustrations in the many forms required by industry. Included will be an intensive study of the pictorial forms of



Draft 271 **DIRECTED STUDIES IN
DRAFTING DESIGN** 1 hour
Investigation in depth of a specific industrial problem or actual
experience in related office practices.

Prerequisite: consent of the instructor.

Draft 273 **STRUCTURAL DRAWING** 3 hours
The course concentrates on detailing and delineating the
structural systems encountered in architectural and civil
construction. Systems included will be those based on materials
including wood, steel and concrete components. Shop drawings
and erection drawings will be covered.

Prerequisite: Draft 115 and 253

ECONOMICS

Econ 213 **PRINCIPLES OF
MACRO-ECONOMICS** 3 hours
The social control of the economic system by means of
monetary, fiscal and regulatory policies of the government and
by the market process.

Prerequisite: none

Econ 223 **PRINCIPLES OF
MICRO-ECONOMICS** 3 hours
An intensive study of the tools of economic analysis and their
application to problems of business and public policy, with an
emphasis on firms, households, and markets

Prerequisite: none

EDUCATION

Ed 101 **CAREER DECISIONS** 1 hour
A course designed to assist students in self inventory, to help the
student see and understand his interests, aspirations, needs,
personal assets and liabilities. Students will gain experience in
exploring the world of work, finding information on jobs, and
learning to use that information. Students will learn how to
make decisions regarding themselves and their relationship to
the world of work

Prerequisite: none

Ed 113 **INTRODUCTION TO EDUCATION** 3 hours
An introduction to the many facets of American education designed to give the student accurate information about education and to provide him with opportunities to determine his interest and aptitude for pursuing an educational profession.

Prerequisite: none

Ed 223 **EDUCATIONAL PSYCHOLOGY** 3 hours
A study of theories and facts concerning human behavior in such areas as motivation, learning, and social development, as applied to the educational process.

Prerequisite: Psychology 113 or consent of the instructor.

ENGINEERING

Engr 113 **ENGINEERING DRAWING AND
DESCRIPTIVE GEOMETRY** 3 hours
A course in orthographic projections (multiview, sections, auxiliaries), isometric and oblique drawing and simple dimensioning. Emphasis is given to interpretation of drawings, technique of sketching, care and use of drafting instruments, and preparation and interpretation of graphs and charts.

Prerequisite: Satisfactory score on pre-test.

Engr 203 **ENGINEERING MECHANICS—STATICS** 3 hours
Application of the principles of mechanics to engineering problems of equilibrium. Topics include resultants, equilibrium, friction, trusses, center of gravity, and moment of inertia.

Prerequisite: Phys 215
Corequisite: Math 225

ENGLISH

Eng 103 **BASIC FUNDAMENTALS OF ENGLISH** 3 hours
A course dealing with the fundamentals of grammar and language usage. This course will partially fulfill the English requirement for the technical education student or may prepare a student to enter English 123, but does not carry credit applicable toward the Associate of Arts degree.

Prerequisite: none

Eng 123

ENGLISH COMPOSITION I

3 hours

A course dealing with the principles of composition including rhetoric, grammar, and usage. The course emphasizes the adequate development of ideas through the use of various rhetorical patterns. Research techniques are taught.

Prerequisite: Eng 103 or demonstrated proficiency on the MCET and on a writing sample.



Eng 123H

ENGLISH COMPOSITION (HONORS)

3-6 hours

An intensified composition course open to freshmen who qualify as evidenced by their high school ranks, placement test scores, and a writing sample. The student who receives a grade of A or B will not be required to take English 133. This student will receive six hours credit in composition but will be required to take a literature course to fulfill the English graduation requirement.

Prerequisite: Demonstrated high proficiency on the MCET and on a writing sample.

Eng 133

ENGLISH COMPOSITION II

3 hours

A continuation of the study of English composition which provides practice in writing longer units of exposition including argumentation and critical papers.

Prerequisite: Eng 123

Eng 143 TECHNICAL WRITING 3 hours
Introduction to the practical aspects of preparing reports. The emphasis is on the techniques of collecting and presenting scientific data by means of formal and informal reports. Also included are other elements of communication concerning science and industry.

Prerequisite: One previous English course.

Eng 163 FICTION 3 hours
A study of literature concentrating on the forms and themes of prose fiction. The course includes the study of novels as well as short stories.

Prerequisite: Eng 103 or Eng 123

Eng 173 POETRY AND DRAMA 3 hours
A study of literature concentrating on the forms and themes of poetry and drama. The course emphasizes the study and analysis of poems and plays.

Prerequisite: Eng 103 or Eng 123

Corequisite: Eng 123

Eng 183 FILM 3 hours
Film is a humanities course which will deal with the motion picture as a serious art form and social force in society. Selected films will be analyzed with respect to aesthetics, production methods and social significance.

Prerequisite: Eng 103 or Eng 123 or consent of the instructor.

Eng 193 CHILDREN'S LITERATURE 3 hours
A study of children's literature from pre-school to sixth grade to acquaint the students with the best forms of literature for children and to develop standards of judgment in the selection of reading materials for children.

Recommended for elementary education majors.

Prerequisite: Eng 123

Eng 213 ENGLISH LIFE AND LITERATURE I 3 hours
A survey of English literature from the Anglo-Saxon period through the Age of Reason.

Prerequisite: Eng 123 and sophomore standing, or consent of the instructor.

Eng 223 ENGLISH LIFE AND LITERATURE II 3 hours
A survey of English literature from the Romantic Period to the
Twentieth Century.

Prerequisite: Eng 123 and sophomore standing, or consent of the
instructor.

Eng 233 AMERICAN LITERATURE I 3 hours
A survey of American Literature from the colonial period up to
the Civil War.

Prerequisite: Eng 123 and sophomore standing, or consent of the
instructor.

Eng 243 AMERICAN LITERATURE II 3 hours
A survey of American Literature from the Civil War to the
present.

Prerequisite: Eng 123 and sophomore standing, or consent of the
instructor.

Eng 271 DIRECTED STUDIES IN LITERATURE 1 hour
Intensive study of various movements, themes, genres, or
authors in American or English literature, the study to be
determined by instructor and student. The study will include
extensive reading, discussion, and an in-depth paper.

Prerequisite: Consent of the instructor and a grade point
average of 3.0 or better in the department.

FRENCH

Fren 115 ELEMENTARY FRENCH 5 hours
Elementary French is an introductory French course designed
to give the student facility in understanding, speaking, reading,
and writing the new language so that he may communicate in a
variety of situations.

Prerequisite: none

Fren 125 INTERMEDIATE FRENCH 5 hours
Intermediate French is a continuation of French 125. Emphasis
is placed upon reading selections to give the students exposure
to modern French prose on a variety of subjects.

Prerequisite: Fren 115

Fren 213

FRENCH READINGS

3 hours

Further grammar and vocabulary building.

Prerequisite: Fren 125

GEOGRAPHY

Geog 113

GEOGRAPHY OF THE NEW WORLD

3 hours

A regional study of North America, South America, and Australia, with emphasis on the natural resources, political conditions, economy, population, and cultural patterns of each area.

Prerequisite: none

Geog 123

GEOGRAPHY OF THE OLD WORLD

3 hours

A regional study of Europe, Africa, and Asia with emphasis on the natural resources, political conditions, economy, population, and cultural patterns of each area.

Prerequisite: none

GEOLOGY

Geol 115

**INTRODUCTION TO
PHYSICAL GEOLOGY**

5 hours

An introductory course in physical geology in which materials of the earth's crust, structures, and geologic features of the surface are studied. Field trips and the laboratory study of common minerals and rocks will be included in the five-hour section. Three lecture and four hours laboratory per week.

Prerequisite: none

GERMAN

Germ 115

ELEMENTARY GERMAN

5 hours

Study of the fundamentals of the German language, including grammar, pronunciation, and idioms. Emphasis is placed upon reading simple German prose and development of sightreading skill.

Prerequisite: none.

students of history and others who desire an elective course in the humanities

Prerequisite: none

Hist 233 FOUNDATIONS OF WORLD CIVILIZATION III (LATIN AMERICA) 3 hours
An interdisciplinary topical study of the social, economic, political, cultural and intellectual conditions of modern Latin America from 1800 to the present. The course is designed for students of history and others who desire an elective course in the humanities.

Prerequisite: Sophomore standing or consent of the instructor

Hist 243 FOUNDATIONS OF WORLD CIVILIZATION IV (AFRICA AND ASIA) 3 hours
An interdisciplinary study of Africa and Asia from 1800, including studies of the politics, culture and people of both recent and contemporary Africa, China, Japan, India, and other selected nations of Asia. The course is designed for students of history and others who desire an elective course in the humanities.

Prerequisite: Sophomore standing or consent of the instructor

Hist 271 DIRECTED STUDIES IN HISTORY (HONORS) 1 hour
The student enrolled for directed studies has two alternatives: (1) investigate a specific topic within the field of history (2) assist with tutorial history instruction under the supervision of an instructor.

Prerequisite: consent of the instructor

JOURNALISM

Jour 102 PUBLICATIONS PRACTICUM I-YEARBOOK 2 hours
Students enrolled in this course produce the college yearbook. The course includes instruction and practical experience in copy writing, editing, layout and design, and photography.

Prerequisite: none

Jour 112 PUBLICATIONS PRACTICUM II-NEWSPAPER 2 hours
Practice in news reporting, newspaper layout and design, and

pasteup. The course is open to all students who want practical experience working on the college newspaper **Cornerstone**.

Prerequisite: none

MATHEMATICS

Math 100

BASIC MATHEMATICS

3 hours

A beginning course which will satisfy certain terminal program requirements but does not satisfy Associate of Arts degree requirements. Topics covered include the following: basic principles of arithmetic, positive and negative numbers, exponents, fractions, decimals, combining like terms, order of operations and symbols of grouping, working with formulas, linear equations, word problems, ratio and proportion, units of measure, area and volume formulas, multiplying polynomials, factoring polynomials, fractions containing variables, radicals, graphing and quadratic equations.

Prerequisite: none



Math 103**BUSINESS MATHEMATICS**

3 hours

Commercial and financial applications of basic arithmetic and algebraic processes. This course is intended for students in office and business career A.A.S. degree programs.

Corequisite: All students who enroll in Math 103 will be tested to see if they have adequate skills in basic mathematics. Those students who do not possess such skills will be required to take additional laboratory instruction in their weak areas.

Math 113**MODERN MATHEMATICS I**

3 hours

This course is designed for students who are potential elementary teachers or for general education students. Topics are presented in such a manner that they can be mastered by the student without previous training in set theory. Topics covered include the following: sets, logic, venn diagrams, systems of numeration, system of whole numbers, system of integers, system of rational numbers, field properties, algorithms for whole numbers, and terminology of modern math. As these topics are mastered, modern methods of teaching these topics will be investigated.

Prerequisite: Math 100 or satisfactory score on MMPT.

Math 123**MODERN MATHEMATICS II**

3 hours

This course is designed to make the potential elementary teacher or general education student familiar with all topics which are taught in the math curriculum in grades K-10 and the modern approach of teaching these topics. Topics covered include the following: review of topics covered in Math 113, number theory, decimals and real numbers, nonmetric metric geometry, metric geometry, statistics and probability, and modern methods of teaching the above mentioned topics.

Prerequisite: Math 113 or consent of the instructor.

Math 133**TECHNICAL MATHEMATICS I**

3 hours

Treatment of measured data, significant figures, applications in geometry, basic algebra, use of the slide rule, linear equations.

Prerequisite: Math 100 or satisfactory score on MMPT.

Math 143**TECHNICAL MATHEMATICS II**

3 hours

Numerical trigonometry of the right angle, analytic trigonometry, oblique triangles, functions and graphs, logarithms, and application of numerical trigonometry and vectors.

Prerequisite: Math 133

- Math 153** **INTERMEDIATE ALGEBRA** 3 hours
 A preparatory course covering the fundamental principles of algebra designed to prepare the student to take college algebra and in the case of certain degrees to satisfy the mathematics requirement. This course is recommended for those students who have only one or two years of high school algebra. Topics covered include the following: sets, factoring, linear and quadratic equations, fractions and fractional equations, exponents and radicals, simple analytical geometry and systems of equations.
 Prerequisite: Math 100 or satisfactory score on MMPT.
- Math 162** **TRIGONOMETRY** 2 hours
 This course designed to provide the student with a study of the trigonometric functions and their applications. Topics covered include the following: angles, length of arc, tables of trigonometric functions, interpolation, reference angles, graphic representation of trigonometric functions, law of cosines, law of sines, identities, trigonometric equations, inverse functions, complex numbers, logarithms, and polar coordinates.
 Prerequisite or corequisite: Math 153 or 163.
- Math 163** **COLLEGE ALGEBRA** 3 hours
 This course is designed to meet the needs of the student in a transfer program. Topics covered include the following: sets, factoring, exponents, radicals, linear and quadratic equations, theory of equations, inequalities, logarithms, complex numbers, field properties, systems of equations, simple linear programming, and applications of these topics.
 Prerequisite: Three years of high school mathematics and/or satisfactory score on the MMPT or Math 153.
- Math 165** **ANALYTIC GEOMETRY AND CALCULUS I** 5 hours
 A first course in a sequence of courses including analytic geometry, differential calculus, and integral calculus. This series is recommended for majors in engineering, the physical sciences, and mathematics. Topics include the following: properties of real numbers, introduction to analytic geometry, functions, limits, continuity, the derivative, differentiation of algebraic functions, applications of the derivative, antidifferentiation, and the definite integral.
 Prerequisite: Math 163 and Math 162 or satisfactory score on the MMPT

Math 175 **ANALYTIC GEOMETRY AND CALCULUS II** **5 hours**
A continuation of Math 165 including the following topics: applications of the definite integral, logarithmic and exponential functions, trigonometric functions, techniques of integration, approximate integration, polar coordinates, conic sections, and vectors, and parametric equations.

Prerequisite: Math 165.

Math 203 **FINITE MATH** **3 hours**
An introduction to matrices and linear programming. Designed primarily for non-physical science majors.

Prerequisite: Math 163 or equivalent.

Math 213 **STATISTICS** **3 hours**
This is an introductory course in statistics with an emphasis upon the collection and presentation of the following data: averages, dispersion, introduction to statistical inference, index numbers, time series, correlation and linear regression.

Prerequisite: Math 153

Math 225 **ANALYTIC GEOMETRY AND CALCULUS III** **5 hours**
A continuation of Math 175 including the following topics: hyperbolic functions, indeterminate forms, improper integrals, vectors in three-dimensional space, solid analytic geometry, differential calculus of functions of several variables, multiple integration, infinite series.

Prerequisite: Math 175

Math 233 **DIFFERENTIAL EQUATIONS** **3 hours**
Topics include separable variables, homogenous equations, exact equations, integrating factors, linear differential equations. LaPlace transform, and applications.

Prerequisite: Math 225.

Math 271 **DIRECTED STUDIES**
IN MATHEMATICS (HONORS) **1 hour**
The student enrolled for directed studies has two alternatives:
(1) investigate a specific topic within the field of mathematics
(2) assist with tutorial mathematics instruction under the supervision of an instructor.

Prerequisite: consent of the instructor

MUSIC

- Mus 103** **FUNDAMENTALS OF MUSIC** 3 hours
A basic study of music, including notation, scales, intervals, chords, and rhythms; intended for the elementary education major and those not majoring in music. Summer offering intended as a pre-music theory survey.
Prerequisite: none.
- Mus 111, 211** **COLLEGE CHOIR** 1 hour
Prerequisite: Open to all students with consent of instructor who have had previous chorus or choir experience. Credit will be given for participation each semester.
- Mus 111, 211** **COLLEGE CONCERT BAND** 1 hour
Prerequisite: Open to all students with consent of instructor who have had previous experience. Credit will be given for participation each semester.
- Mus 111, 211** **STAGE BAND** 1 hour
The stage band is a studio band and will prepare and present concerts, while dealing primarily with music of the jazz idiom. Credit will be given for participation each semester.
Prerequisite: Open to all college students who are qualified instrumentalists by consent of the director.
- Mus 111, 211** **ECJC SINGERS** 1 hour
A select singing and dancing ensemble which performs popular music incorporating choreography the fall semester. The spring semester the ensemble will present music of the Medieval church-an early worship service by candlelight, known as Compline.
Prerequisite: Consent of the instructor.
- Mus 112, 222** **APPLIED MUSIC** 2 hours
Applied music (private lessons) is offered in the following areas: piano, voice, brass, woodwind, and string instruments.
Prerequisite: none.
- Mus 113** **MUSIC APPRECIATION** 3 hours
A historical survey of the development of music, intended to provide a background for the understanding and appreciation of music. Recommended for music majors and minors as well as non-music majors.
Prerequisite: none.
- Mus 115** **MUSIC THEORY I** 5 hours
A beginning course in music theory, study of intervals, triads, four part diatonic harmony, connection of triads and their in-



Mus 271 **BEGINNING GUITAR** 1 hour
A basic course in the elementary skills playing guitar, including chord and melody playing. No previous musical training required.

Prerequisite: none.

PHYSICAL EDUCATION

PE 101 **PHYSICAL EDUCATION
FOR MEN AND WOMEN** 1 hour
One hour credit granted per course. Four courses are generally required. (See degree requirements.)

PE 101 **CO-ED BOWLING** 1 hour
Emphasis on better performance of skills and techniques. Understanding of form, timing, and coordination. Team competition in league play.

Prerequisite: none

PE 101 **CO-ED CANOEING** 1 hour
Fundamental techniques, skills and courtesies of canoeing. Actual canoeing trips a part of class sessions.

Prerequisite: none

- PE 101 CO-ED GOLF 1 hour
Fundamental techniques and skills, rules, terminology, playing courtesies, and etiquette.
- Prerequisite: none
- PE 101 CO-ED GYMNASTICS 1 hour
Fundamentals of gymnastics, including an introduction to various apparatus such as the trampoline, side horse, uneven parallel bars, mats, and free exercise. An introduction to weight training may also be received.
- Prerequisite: none
- PE 101 CO-ED KARATE 1 hour
Techniques of basic empty hand fighting in form, practice, and sparring.
- Prerequisite: none
- PE 101 CO-ED ROLLER SKATING 1 hour
An introduction to the skills of roller dancing. Three skate dances are taught each semester to include skating to music, timing, and basic coordination.
- Prerequisite: none
- PE 101 CO-ED SKEET AND TRAP SHOOTING 1 hour
Techniques, skills, and safety uses of shooting clay birds
- Prerequisite: none
- PE 101 CO-ED TENNIS 1 hour
Fundamental skills, rules, strategy, and courtesies of tennis. Tournament play during class sessions.
- Prerequisite: none
- PE 101 PHYSICAL EDUCATION FOR MEN 1 hour
An introduction to the fundamentals of flag football, including rules, playing skills, and coordination. An introduction to the fundamentals of volleyball, basketball and softball.
- Prerequisite: none
- PE 101 VARSITY SPORTS 1 hour
One hour of credit is given for participation each semester in the

following varsity sports: cross-country, basketball, golf, and tennis

Prerequisite: none

PE 101 **PHYSICAL EDUCATION FOR WOMEN** 1 hour
An introduction to the fundamentals and skills of volleyball, softball, soccer, badminton, table tennis, and shuffle board.

Prerequisite: none

PE 102 **PERSONAL AND COMMUNITY HYGIENE** 2 hours
A general course designed to develop proper attitudes and practices which will contribute to the fine art of living. Health problems which will require community action are given consideration

PE 112 **INTRODUCTION TO PHYSICAL EDUCATION** 2 hours
A consideration of the principles of the basic theories of physical education. Course is designed for physical education majors and minors.

Prerequisite: none.



PE 122

COMMUNITY RECREATION

2 hours

Study and practice of sports adaptable to junior and senior high school facilities and recreational centers. Course designed for physical education and recreation majors and minors.

Prerequisite: none.

PE 212

FIRST AID AND ATHLETIC TRAINING

2 hours

Treatment of wounds, shock, poisoning, fractures, unconsciousness, and stoppage of breathing, the care and prevention of athletic injuries. Red Cross certificate will be earned.

Prerequisite: none.

PHILOSOPHY

Phil 113

INTRODUCTION TO LOGIC

3 hours

Logic is the study of techniques for distinguishing between adequate and inadequate arguments. This course is designed to introduce several techniques that may be used to evaluate arguments. The primary emphasis will be becoming able to use the techniques of propositional and monadic predicate calculi in evaluating arguments. A second emphasis will be upon learning several criteria for distinguishing between adequate and inadequate arguments in science. The final emphasis of the course will be upon learning some elementary decision making procedures, e.g. two-person zero sum games and the use of decision tables

Prerequisite: none.

Phil 213

CONTEMPORARY ETHICAL PROBLEMS

3 hours

This course is a survey course in philosophy. It is designed to be problem oriented, using the writings of the philosophers as a resource in understanding the issues raised by the contemporary ethical problems.

Prerequisite: none

PHYSICS

Phy 105

PHYSICAL SCIENCE

5 hours

A demonstration, lecture, reading course in physical science designed for students who do not expect to take the traditional

Phy 271

**DIRECTED STUDIES
IN PHYSICS (HONORS)**

1 hour

The student enrolled for directed studies has two alternatives:
(1) investigate a specific topic within the field of physics (2)
assist in the laboratory, stockroom, or with individualized in-
struction under the supervision of an instructor.

Prerequisite: consent of the instructor

POLITICAL SCIENCE

Pol S 113

AMERICAN NATIONAL GOVERNMENT 3 hours

An introduction to the basic principles and structures of American national government. Emphasis will be placed on constitutional development and interpretation, the place of government in the social process, the nature of political organization, the processes of the machinery of popular control in the exercise of authority and freedom, and the function of the executive, legislative, and judicial branches. Successful completion of Political Science 113 and 123 meets the State of Missouri requirements in American history and institutions and state and national constitutions.

Prerequisite: none.

Pol S 123

AMERICAN STATE AND LOCAL GOVERNMENTS 3 hours

An introductory survey of state constitutions, legislative, executive and judicial organization, and powers and principal activities of the states. Emphasis will be upon state-local relations, county-municipal governments, and the growth and problems of metropolitan areas.

Prerequisite: Pol S113 or consent of the instructor

Pol S 213

INTERNATIONAL RELATIONS 3 hours

A study of the major factors underlying international relations: climate and geography, national concepts and institutions, the development of foreign policy. Today's problems of developing nations, East vs. West, and nuclear potentials are considered.

Prerequisite: Pol S 113 or consent of the instructor.

Pol S 271

**DIRECTED STUDIES
IN POLITICAL SCIENCE (HONORS)**

1 hour

The student enrolled for directed studies has two alternatives:
(1) investigate a specific topic with the field of political science
(2) assist with tutorial political science instruction under the
supervision of an instructor.

PSYCHOLOGY

Psyc 113 GENERAL PSYCHOLOGY 3 hours
A survey of theories and facts dealing with various aspects of human behavior, such as development, perception, motivation, and emotion, learning, and personal adjustment.

Prerequisite: none.

Psyc 213 PERSONAL AND SOCIAL ADJUSTMENT 3 hours
A study of personality structure and successful and unsuccessful processes of adjustment and human effectiveness.

Prerequisite: Psyc 113 or consent of the instructor.

Psyc 223 EDUCATIONAL PSYCHOLOGY 3 hours
A study of theories and facts concerning human behavior in such areas as motivation, learning, and social development, as applied to the educational process.

Prerequisite: Psychology 113 or consent of the instructor.

SECRETARIAL SCIENCE

ScS 113 ELEMENTARY TYPEWRITING 3 hours
The keyboard and techniques of touch typewriting, development of basic skills, and a study of the arrangement of typewritten material.

Prerequisite: none.

ScS 123 INTERMEDIATE TYPEWRITING 3 hours
Further development of typewriting skills with special attention given to improving accuracy and increasing speed. Continued instruction in letter styles, tabulations, reports, and forms.

Prerequisite: ScS 113 or speed of at least 40 wpm for five minutes with a maximum of five errors.

ScS 133 ADVANCED TYPEWRITING 3 hours
A continuation of ScS 123 with further development of accuracy and speed in typewritten work. Emphasis on handling office typing problems according to employment standards.

Prerequisite: ScS 123

ScS 143 ELEMENTARY SHORTHAND 3 hours
A study of Gregg shorthand theory and shorthand dictation at

moderate rates.

Prerequisite or Corequisite: ScS 113

ScS 153 **INTERMEDIATE SHORTHAND** 3 hours
Development of speed and accuracy in writing shorthand from dictation and development of ability to transcribe.

Prerequisite: ScS 113 and ScS 143

Corequisite: ScS 123

ScS 163 **ADVANCED SHORTHAND** 3 hours
Emphasis on ability to take dictation and transcribe mailable copy in conformity with occupational standards.

Prerequisite: ScS 123 and ScS 153

ScS 172 **OFFICE MACHINES** 2 hours
Basic training in the operation and use of adding machines and calculators. Acquaints students with machine terminology, office problems, and work standards.

Prerequisite: none



SOCIOLOGY

Soc 113

GENERAL SOCIOLOGY 3 hours
An introductory course in the field of sociology with special emphasis on the scientific study of social relations, social organizations, social institutions, and social dynamics as related to human behavior.

Prerequisite: none.

Soc 123

AMERICAN SOCIAL PROBLEMS 3 hours
A study of select social problems, including consideration of proposed lines of action in dealing with them. Problem areas include population, the affluent society, poverty, urban renewal, delinquency and crime, automation, the aging, ethnic and racial relations, and the role of the United States in the relationship to the underdeveloped areas of the world

Prerequisite: Soc 113

Soc 213

HUMAN RELATIONS 3 hours
This course is an introduction to the applied principles of sociology and psychology as they relate to human interaction in small groups. Major emphasis is placed on analysis of the interaction process with a view toward additional understanding of individual and group behavior and the problems attendant to leadership

Prerequisite: Psych 113

Soc 223

THE FAMILY 3 hours
The study of the family as an agency of personality development, and cultural transmission, including a study of the family in relation to the structure and function of wider forms of social organization.

Prerequisite: Consent of the instructor.

SOIL AND PLANT TECHNOLOGY

SPT 102

HORTICULTURE ORIENTATION 2 hours
An overview of various aspects of the horticulture industry including general and specialized nursery operations, floriculture, arboriculture, landscape design, etc., as well as an introduction to basic horticulture practices, propagation, plant identification, soil management etc. Class includes numerous field trips.

Prerequisite: none

- SPT 113 SOILS 3 hours
 A study of the soil from a plant's point of view. Physical structure, availability of nutrients, proper use of organic and chemical fertilizers are discussed and observed in the soils lab.
 Prerequisite: Chemistry 105
- SPT 123 HORTICULTURE I 3 hours
 An in-depth study of a variety of common ornamental plants, techniques for growing, maintenance, and proper application in design situations.
 Prerequisite: Biology 155
- SPT 201 SOIL AND PLANT TECHNOLOGY PLACEMENT 1 hour
 A course designed to assist soil and plant technology students in obtaining jobs suitable to their training and interests.
 Prerequisite: none
- SPT 233 HORTICULTURE II 3 hours
 An in-depth study of a variety of common ornamental plants, techniques for growing, maintenance, and proper application in design situations
 Prerequisite: SPT 123
- SPT 243 PLANT PROPAGATION 3 hours
 An introduction to the common methods of commercial plant reproduction including seeds, cuttings, layering, grafting, and division. This course will make use of the greenhouse propagation facilities.
 Prerequisite: Biology 155
- SPT 253 LANDSCAPE DESIGN 3 hours
 Theory of design of outdoor space for human use or enjoyment. The relation of site engineering to landscape planning and design of simple structures.
 Prerequisite: none
- SPT 263 HORTICULTURE III 3 hours
 Discussion, and when feasible, class use of special tools and machinery used in the horticulture trade, including the proper maintenance of the more common machines.
 Prerequisite: SPT 233

critical understanding of ideas about rhetorical communication as well as the critical issues of our time, and subsequently to improve individual communications skills.

Prerequisites: none.

Spe 113 PUBLIC SPEAKING 3 hours
An introduction to the basic elements of oral communication. Assignments include the presentation of speeches and the discussion of communication theories and techniques.

Prerequisite: Spe 103 or consent of the instructor.

Spe 123 ORAL INTERPRETATION 3 hours
Study in the basic techniques of oral interpretation. The re-creation of literature is stressed through acquiring the skills and techniques necessary to convey the intellectual, emotional, and aesthetic values of literature to an audience. The course will include study in the oral interpretation of prose, drama, and poetry.

Prerequisite: none



Spe 133

INTRODUCTION TO THE THEATRE 3 hours
An appreciation course designed to give a comprehensive introduction to theatre, including theatre history and contributions made by directors, actors, designers, technicians and playwrights to modern dramatic productions.

Prerequisite: none.

Spe 271

DIRECTED STUDIES IN COMMUNICATION OR THEATRE ARTS 1 hour
Independent study in the many and varied aspects of the theatre for the advanced student. This could include study in acting, directing, costuming, makeup, scene design and construction, stage lighting, dramatic theory and history. Experimental research and studies of the theories of communication are also possible

Prerequisite: Consent of the instructor.

TEACHER AIDE

TeacA 201

TEACHER AIDE PLACEMENT 1 hour
A course designed to assist Teacher Aide students in obtaining jobs suitable to their training and interests.

Prerequisite: none

Teac A 213

TEACHER AIDE SEMINAR 3 hours
A seminar providing the opportunity for Teacher Aide students to discuss the field of Teacher Aide Work, and to share the experiences and problems they have encountered in their role as Teacher Aide Interns. Moderated by a college staff member, the seminar serves as the vehicle to tie coursework and experience together in a relevant manner.

Prerequisite: Sophomore standing.

Teac A 291,
292, 293

TEACHER AIDE INTERNSHIP 1-3 hours
Supervised work experience in an actual educational setting, coordinated with the student's regular classwork, to provide a realistic view of the varied duties of a Teacher Aide.

Prerequisite: Consent of the instructor.