

east
central
junior
college



1972-1973 CATALOG

east central junior college - 1972

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

ARCHITECTURE

Arch 103 APPRECIATION OF ARCHITECTURE 3 hours
A course tracing the evolution of architecture and the various styles, interpreted in the light of the changing spectra of environment, social structures, politics, economics, and religion. The course is designed to show the architectural response to the needs of society, and to provide the student with the background necessary to understand and appreciate the architecture of the past, present and future.

Prerequisite: none

ART

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-historical 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 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 3 hours
 Lecture and laboratory exercises dealing with history and techniques of printmaking. Also, the making of prints from material such as wood blocks, cardboard, and linoleum by using surface printing techniques will be included.
- Prerequisite: Art 133 or consent of the instructor.
- Art 263 LITHOGRAPHY 3 hours
 Laboratory exercises dealing with the techniques of lithography as a five print medium. Emphasis is on individual exploration with materials.
- Prerequisite: Art 153, 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 113 AUTOMOTIVE PRINCIPLES I 3 hours
The study of the basic principles of the modern automobile and the function of its component parts, particularly pointed toward developing the knowledge necessary to facilitate service and repair of the various individual systems.

Prerequisite: none
Corequisite: Auto 136

Auto 123 AUTOMOTIVE PRINCIPLES II 3 hours
An advanced study of automotive systems and components, including theory and function of the assemblies. Particular attention is given to diagnosing, service and repair.

Prerequisite: Auto 113
Corequisite: Auto 146

Auto 136 APPLIED AUTOMOTIVE PRACTICES I 6 hours
Actual shop performance of the basic operations necessary to diagnose, service and repair the automobile, in a supervised program to teach the basic skills necessary for the automobile mechanic.

Prerequisite: none
Corequisite: Auto 113

Auto 146 APPLIED AUTOMOTIVE PRACTICES II 6 hours
Advanced shop practice in diagnosing malfunctions, performing routine service, and actual repair of the various systems and components of the modern automobile.

Prerequisite: Auto 136
Corequisite: Auto 123

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 115 GENERAL BIOLOGY 5 hours
An introductory course involving fundamental biological principles of both plant and animal life. It is designed to be used as a general education requirement. Not open to students with credit in botany or zoology or students expecting to major in the biological sciences. Three hours of lecture and two two-hour laboratory periods per week. *This course is intended as a general education course and not recommended for life science majors.*

Prerequisite: none

Bio 145 GENERAL ZOOLOGY 5 hours
A survey of the animal kingdom, animal structure, life processes, development, ecology, and the evolution of animals. Laboratory will include structure and taxonomic relationships as shown by dissection of representatives of the various animal groups. Three one-hour lecture recitation periods and two two-hour laboratory periods per week. *This course should be taken by people majoring in the life sciences.*

Prerequisite: none

Bio 155 GENERAL BOTANY 5 hours
An introduction to the plant kingdom, structure, physiology, life histories, economic importances, and the evolution of plants. Laboratory will include dissection and observation to verify and enhance classroom lecture and recitation. Three one-hour lecture recitation periods and two two-hour laboratory periods per week.

Prerequisite: Bio 115 or Bio 145

Bio 224 FIELD BIOLOGY 4 hours
An introduction to ecology and other field courses in biology. Provides a background in field techniques, field and laboratory identification of plants and animals. Three one-hour lecture recitation periods and two two-hour laboratory periods per week.

Prerequisite: none (Bio 115 or Bio 145 is recommended.)

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.

BUSINESS

Bus 103 **INTRODUCTION TO BUSINESS** 3 hours
A survey course designed to give the student a general knowledge of the modern business world, and a better basis for choosing concentrated business offerings.

Prerequisite: none

Bus 213 **ACCOUNTING I** 3 hours
Basic principles and procedures of business accounting, including debits and credits, journals and ledgers, the balance sheet, and income statements.

Prerequisite: none

Bus 223 **ACCOUNTING II** 3 hours
A continuation of the study of Accounting principles, including cash and investments, receivables, inventory, fixed assets, liabilities, accounting principles, manufacturing operations, and the analysis of financial data.

Prerequisite: Business 213

CHEMISTRY

Chem 105 **INTRODUCTION TO CHEMISTRY** 5 hours
An introduction to the basic principles of chemistry, including inorganic, analytical, physical, and organic chemistry. Environ-

mental 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.

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 thermo-dynamics, and a survey of qualitative methods of 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 and volumetric determinations. Two hours lecture and two or three three-hour laboratory periods per week.

Prerequisite: Chem 125

Chem 245 INTRODUCTORY ORGANIC CHEMISTRY 5 hours
A survey of major topics of organic 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 class and two hours laboratory each week.

Prerequisite: Chem 105 or Chem 115

Chem 271 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 113 ENGINEERING DRAWING AND DESCRIPTIVE GEOMETRY 3 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 123 DESCRIPTIVE GEOMETRY 3 hours
A study of the graphic analysis and solution of typical three dimensional space problems through the application of the principles of multi-view projections. Fundamental problems are related to points, lines, planes, intersections, and developments of plane and curved surfaces, revolutions, and vector geometry.

Prerequisite or corequisite: Drafting 113

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: Drafting 113

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: Drafting 113

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 172

PRINCIPLES OF POWER

2 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 182

PRINCIPLES OF METALLURGY

2 hours

Physical aspects of both ferrous and non-ferrous metals are studied in this course. Basic metallurgy as it applies to the physical properties, heat treatment, corrosion, and materials testing.

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 isometric, dimetric, trimetric, oblique and perspective drawing, and the methods and media used in creating illustrations.

Prerequisite: Draft 113 and 143

Draft 233 CIVIL DRAWING 3 hours
A course encompassing the methods and conventions of engineering graphics as they are practiced in the civil engineering field and its allied industries. Primary focus will be on drawing and detailing civil projects such as highway projects, bridges, land division and subdivision, and municipal utility facilities.

Prerequisite: Drafting 113

Draft 243 MACHINE DESIGN 3 hours
This course is designed to bring together in practical applications the skill and knowledge developed in courses covering mechanics and drafting. Instruction provided will permit logical organization of facts for economical solution of machine design problems. Emphasis is placed on standardization, use of stock parts, and using manufacturers' catalogs.

Prerequisite: Drafting 143

Draft 253 STATICS AND STRENGTH
OF MATERIALS 3 hours
A study of statics and strength of materials as applied to structures, beam theory, beam design, and theory of column formu-

lae. Includes study of stress and strain experienced by machine parts and structural members. Emphasis is placed on applications and problem solving.

Prerequisite: Math 143 or consent of the instructor.

Draft 263 TOOL AND DIE DESIGN 3 hours
Lectures, classroom discussions and actual drawing board work are combined to give the student knowledge necessary to design the less complicated tools used in modern manufacturing. The work consists of laying out simple jigs, fixtures, cutting tools, gauges, and dies. Mass production methods are discussed so that this knowledge may be applied in the practical work of tool designing.

Prerequisite: Drafting 113, 243 or consent of the instructor.

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: Drafting 113.

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 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

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.

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 MEPT 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 MEPT 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. Select-

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 laboratory hours are provided.

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.

Germ 125 INTERMEDIATE GERMAN 5 hours
Continuation of German 115. Emphasis is placed upon reading simple prose, conversation, and grammar review.

Prerequisite: German 115

Germ 213 GERMAN READINGS 3 hours
Review of grammar and further vocabulary building through a

concentration on selected readings in 19th and 20th century prose and poetry. Students will increase both spoken and written comprehension.

Prerequisite: Germ 115 and Germ 125



HISTORY

Hist 113 AMERICAN HISTORY I 3 hours
A survey of the cultural, economic, institutional, political, and social forces and events which have shaped the United States through the Civil War.

Prerequisite: none.

Hist 123 AMERICAN HISTORY II 3 hours
A survey of the cultural, economic, institutional, political, and

social forces and events which have shaped the United States from the Civil War to the present.

Prerequisite: none

Hist 213 FOUNDATIONS OF WORLD
CIVILIZATION I (EUROPE) 3 hours
An interdisciplinary study of the European people up to the French Revolution – 1789. Attention will be given to cultural, intellectual, diplomatic and political movements. The course is designed for students of history and others desiring elective courses in the humanities.

Prerequisite: none

Hist 223 FOUNDATIONS OF WORLD
CIVILIZATION II (EUROPE) 3 hours
An interdisciplinary study of European nations from the French Revolution to the present. Attention will be given to cultural, intellectual, social, diplomatic and political movements of recent and contemporary Europe. The course is designed for 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.

MATHEMATICS

Math 100 BASIC MATHEMATICS 3 hours
A beginning course which will satisfy certain terminal program requirements but does not satisfy 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 MATH 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 123

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 is a 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 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, lap-lace transform, and applications.

Prerequisite: Math 225.

MID-MANAGEMENT

Mid M 103 APPLIED ACCOUNTING 3 hours
This course is designed to give the student extensive practice in working with basic accounts, records, and statements.

Prerequisite: none

Mid 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

Mid 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

Mid M 233 ADVERTISING 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 advertising plans. Each student will be assigned an advertising project concerned with a marketing plan, advertising strategy, and an advertising budget.

Prerequisite: none

Mid M 243 PRINCIPLES OF FINANCE 3 hours
Basic financial management of the business firm involving procurement, allocation, and control of funds according to object-

ives 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

Mid M 252 DISPLAY 2 hours
A study of the types and the role of visual merchandising in the retail store including creation, color and principles of design.

Prerequisite: none

Mid M 263 RETAILING 3 hours
The organization and management of retail establishments; store location, policies, sales systems, control of inventories, personnel, store publicity and advertising; summaries for management control.

Prerequisite: none

Mid 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.

Mid 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.

Prerequisites: none.

Mid M 291,
292, 293 INTERNSHIP 1-3 hours
This phase of the student's mid-management training will include actual work experience in a retail business with weekly discussions of the problems involved in applying classroom principles to the job.

Prerequisite: Enrollment in Mid-Management Program and consent of the instructor.

MUSIC

- Mus 102 FUNDAMENTALS OF MUSIC 2 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 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 inversions. Sight singing, dictation, and elements of music; aural recognition of all diatonic intervals; melodic phrases and rhythms. Two hours laboratory.

Prerequisite: none.
- Mus 125 MUSIC THEORY II 5 hours
A second course in music theory, extending into areas of seventh chords and non-harmonic tones. Two hours laboratory.

Prerequisite: Music 115
- Mus 215 MUSIC THEORY III 5 hours
A third course in music theory. A study of chromatic harmony including secondary dominants, modulation, and altered chords. Two hours laboratory.

Prerequisite: Music 125
- Mus 225 MUSIC THEORY IV 5 hours
A continuation of Music 215 to more complex areas of chromatic borrowed and altered chords, and finally to the vigorous appearance of complex modern techniques. Two hours laboratory.

Prerequisite: Music 215.

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 112,
222

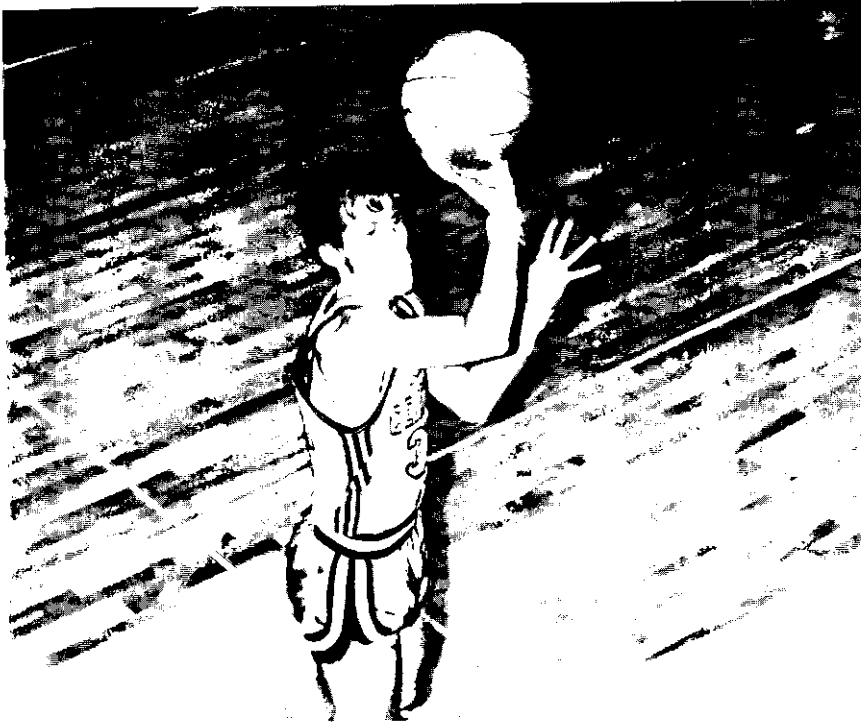
APPLIED MUSIC

2 hours

Applied music (private lessons) is offered in the following areas: piano, voice, brass, woodwind, and string instruments.

Prerequisite: none





PHYSICAL EDUCATION

- PE 101,
201 PHYSICAL EDUCATION
FOR MEN AND WOMEN 1 hour
One hour credit granted per course. Four courses are generally
required. (See page 20).
- 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 2 hours
Treatment of wounds, shock, poisoning, fractures, unconsciousness, and stoppage of breathing, the care and prevention of athletic injuries. Red Cross certificate may 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.

PHYSICS

Phy 114

INTRODUCTORY PHYSICS 4 hours
Three hours of lecture and one lab period per week. A study of mechanics, heat, sound, light, electricity, and physical properties of matter. This is a non-calculus course which features problem solving and laboratory work.

Prerequisite: Math 100 or satisfactory score on the MMPT.

Phy 215

GENERAL PHYSICS I 5 hours
Four hours lecture and one lab per week. A study of the mechanics of solids, liquids, and gases; study of heat and sound. This course is intended for the student who plans to major in mathematics, the physical sciences, or engineering.

Corequisite: Math 175

Phy 225

GENERAL PHYSICS II 5 hours
Four hours lecture and one lab per week. A study of electricity, magnetism, light, and modern physics.

Prerequisite: Phy 215

Corequisite or prerequisite: Math 225

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: none

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.

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 available

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

ScS 182 SECRETARIAL MACHINES 2 hours
Basic training in the operation and use of duplicating machines, transcribing machines, and typewriter with proportional spacing. Acquaintance given to the automatic type-writing process and to copy machines. Acquaints students with machine terminology, office problems, and work standards.

Prerequisite or Corequisite: ScS 123

ScS 212 FILING AND RECORDS MANAGEMENT 2 hours
Filing rules and their application to alphabetic, numeric, subject, and geographic filing. Attention is given to the selection and organization of a filing system, equipment and supplies, retention and disposition of records, and administrative duties.

Prerequisite or Corequisite: ScS 123

ScS 223 BUSINESS COMMUNICATIONS 3 hours
A study of communication needs in the office, both oral and written, with emphasis on inter-office communication, letters, and reports. Special attention is given to organization, mechanics, and the business vocabulary.

Prerequisite: Either Eng 123 or Eng 103 and ScS 123

ScS 233 SECRETARIAL PROCEDURES 3 hours
Business information and office skills applicable to the secretarial or clerical profession. Special attention is given to human relations, maintenance of an office, work efficiency, employment standards, and job information and applications.

Prerequisite: ScS 123

ScS 296 INTERNSHIP 6 hours
Supervised work experience in an actual office situation, put-

ting to use the skills and related knowledge learned in previous courses. Supervision on the job will be by office personnel. Coordination of work experience to classroom learning will be done by the instructor. Time will be arranged.

Prerequisite: Enrollment in the Secretarial Science Program and consent of the instructor.

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.

SPANISH

Span 115 ELEMENTARY SPANISH 5 hours
Presentation of basic written and oral aspects of Spanish. Additional practice in aural comprehension through use of the language laboratory.

Prerequisite: none

Span 125 INTERMEDIATE SPANISH 5 hours
Review of basic grammar, with increased practice in conversation, reading, and composition. Additional practice in aural comprehension through use of the language laboratory.

Prerequisite: Spanish 115 or two units of high school Spanish.

Span 213 SPANISH READING 3 hours
Reading skill cultivated with an introduction to Spanish Literature.

Prerequisite: Spanish 125 or consent of the instructor.

Span 222 SPANISH COMPOSITION 2 hours
A review of Spanish grammar with practice in composition.

Prerequisite: Spanish 125 or consent of the instructor.

Span 233 SPANISH CONVERSATION 3 hours
Practice in conversation with emphasis on perfecting pronunciation.

Prerequisite: Spanish 125 or consent of the instructor.

SPEECH

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.

Prerequisite: none.

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, emotion-

al, and aesthetic values of literature to an audience. The course will include study in the oral interpretation of prose, drama, and poetry.

Prerequisite: none.

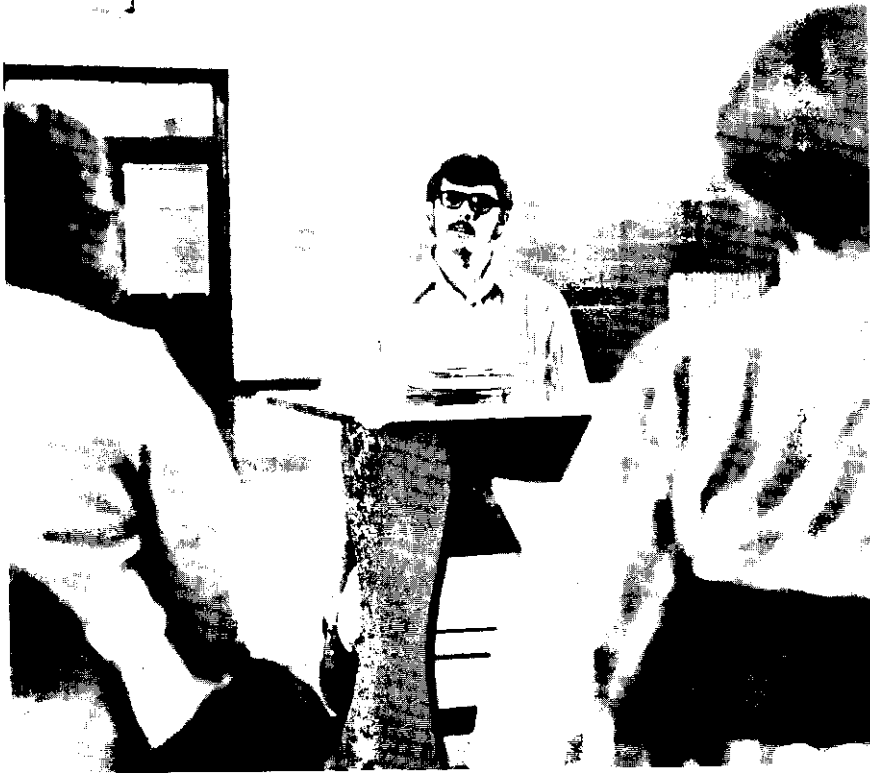
Spe 133 INTRODUCTION TO THE THEATRE 3 hours
An appreciation course designed to give a comprehensive introduction to theatre, including theatre history, and contributions made by directors, actors, designers, technicians, and playwrights to modern dramatic productions.

Prerequisite: none.

Spe 271 DIRECTED STUDIES IN THEATRE 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.

Prerequisite: none.





TEACHER AIDE

- Teach 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.
- Teach 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.