# Junior College District Of East Central Missouri



BULLETIN For 1969-70

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# **Course Descriptions**

# Art

Art 101	Introduction to Art
Art 102	Appreciation of Art
Art 103	Drawing 1
Art 104	Drawing 11
Art 105	Painting 1
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	placed on learning to control the medium to create convincing images.
Art 106	Painting II 3 hours Prerequisite: Art 105 Advanced problems in painting.
Art 107	Crafts and Design
Art 108	Color and Composition
Art 109	Advertising Design
	Biological Science

An introductory course involving fundamental biological principles of both plant and animal life. It is designed to be used as a 36

Biol 100 General Biology...... 5 hours Prerequisite: None general education requirement. Not open to students with credit in botany or zoology or students expecting to major in the biological sciences. Four hours lecture and two hours laboratory per week.

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 a week.

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 a week.

### Hygiene 101 Personal and Community

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. It aims to give an appreciation for the benefits derived from good physical fitness and personal appearance.

### Business

Bus 100	Introduction to Business 3 hours Prerequisite: None
	A survey course, designed to give the student a general knowledge of the modern
	business world, a better basis for choosing his specialty and information not say

ing his specialty, and information not covered in more concentrated business offerings.

Bus 101 Office Machines ..... 2 hours Prerequisite: None

This course is designed to give basic training in the operation and use of office calculating and adding machines. It will also acquaint the student with the terminology and mechanization of machine computation in problem solving and in numerical concepts.

' Bus 102 Prerequisite: None

Techniques in touch typewriting; development of basic skill and speed; form, style, and arrangement of typewritten material.

Bus 103 Intermediate Typewriting...... hours Prerequisite: Business 102 or speed of at least 40 wpm for five minutes with a maximum of five errors.

> Further development of typewriting skills with special attention given to speed building and control. Continued instruction in letter styles, tabulations, reports, and forms.

	Bus	104	Advanced Typewriting
•	Bus	105	Elementary Shorthand
1	Bus	106	Intermediate Shorthand
•	Bus	107	Advanced Shorthand
	Bus	201	Accounting 1
•	Bus	202	Acounting 11

depreciation, taxation and problems of the partnerships and corporations.

Bus 203 Business Communications ......... 3 hours Prerequisite: None

A course which will give the student a meaningful educational experience in communications skills. A comprehensive review and intensive drill in the fundamentals of English grammar, diction, punctuation, and paragraph construction.

Bus 205 Office Procedures ...... 3 hours Prerequisite: None

Business information and skills applicable to the secretarial or clerical profession with emphasis on the following areas: mailing, filing, communications, reports, office equipment and supplies, machine transcription, travel, and job information and applications.

### Chemistry

A basic introduction to the elemental levels of inorganic, organic, physical, and analytical chemistry. This course does not satisfy the prerequisites for any chemistry course

except Chemistry 101. Three periods of lecture and two two-hour laboratories each week.

Course covers the basic principles of inorganic, physical, analytical, and organic chemistry with fundamental laws and their applications in practical computations. Three periods of lecture and two two-hour laboratory sessions each week.

Chem 102 General Chemistry 11................................ 3 hours
Prerequisite: Chemistry 101 with a grade
of C or better

A continuation of Chemistry 101, dealing with descriptive chemistry, introduction and application of mass laws, equilibrium, and the ionic theory. Three periods of lecture per week.

Qualitative separation and detection of various cations and anions. Four hours of laboratory per week.

# Drafting and Design Technology

Draft 101 Engineering Drawing ............................... 3 hours
Prerequisite: None

Instruction in this course is designed as the foundation for all engineering and technical design courses. Topics covered include: equipment and supplies; applied geometry; lettering: multi-view drawing and sketching; pictorial drawing and sketching; auxiliary views; sections and conventional practices; dimensioning and notations; and screw threads and fasteners.

Prerequisite: Drafting 101

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.

This course provides an introduction to specialized areas of drafting. Topics covered include: architectural drawing; structural drawing; electrical drawing; pipe drawing and welding drawing.

Problems involved in making drawings for casting, forging, machining and forming processes will be studied. Also, the methods of making working and assembly drawings will be included providing depth in the area of machine drawing.

Draft 105 Principles of Metallurgy ...... 3 hours
Prerequisite: Physical Science 100

Physical aspects of both ferrous and nonferrous metals are studied in this course. Basic metallurgy as it applied to the atomic and crystalline structure, constitution diagrams, physical properties, heat treatment and corrosion is covered. Laboratory work includes the microscopic study of metallic specimens for identification and analyzation.

### Draft 106 Basic Electricity

Fundamentals of AC and DC circuits and their application to power transmission and control is presented. Emphasis is placed on the selection and application of power transmission components and control systems.

A graphic study of motion without regard to forces causing that motion. Covered are displacement, velocity and acceleration of linkages; and cams. These mechanisms are treated in the strictest geometric form, therefore, making graphic solutions fast and practical. Mathematical solutions are kept to a minimum, but are used when graphics become too involved or confusing.

> This course is designed to bring together in practical applications the skill and knowledge developed in courses covering mechanics and drafting. Instruction provided will per

mit logical organization of facts for economical solution of machine design problems. Standardization, use of stock parts, and using manufacturers' catalogs is emphasized.

Draft 203 Tool and Die Design ...... 3 hours Prerequisite: Drafting 105

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, gages, and dies. Mass production methods are discussed so that this knowledge may be applied in the practical work of tool designing.

Draft 204 Statics and Strength of Materials.... 3 hours Prerequisite: Trigonometry 102

> A study of stress and strain experienced by machine parts and structural members in service. Includes statics and vector analysis as applied to structures, properties of materials review, beam theory, beam design theory of columns, and formulae. Emphasis is placed on application of theory and problem solving.

Draft 205 Materials and Processes.......... 3 hours Prerequisite: Drafting 105

A survey of engineering materials and the various processes used to shape them is the purpose of this course. Materials studied include: A review of ferrous and nonferrous metals, plastics, rubbers, and ceramics. Emphasis 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. New materials and processes and up-to-date process cost analysis are also studied.

Draft 206 Principles of Fluid Power .........3 hours
Prerequisite: Science 100

Principles of hydraulics and pneumatics fundamental to fluid power system design and component selection and application are presented. The physical properties of hydraulic fluids, and operational and constructional features of pumps, motors, valves, seals, packing and conductors are covered giving the student an overview of the components in a fluid power system.

### **Economics**

Econ 201 Principles of Economics 1......... hours
Prerequisite: None

A basic course of economics, including price theory and national income theory.

Econ 202 Principles of Economics 11.........3 hours
Prerequisite: Economics 201

A continuation of Economics 201, emphasizing the application of economic principles to specific areas, such as agriculture, international trade, labor, business regulation, fiscal policy, and monetary policy.

### Education

Ed 101 Introduction to Education..........3 hours
Prerequisite: None

An introduction to all facets of American education including historical background, its role in today's world, organization and administration, areas of education, personnel in education, provisions for educational materials and environment, and interpretation of education.

### Engineering

Engr 101 Engineering Drawing.................. 3 hours
Prerequisite: None

A course in orthographic projections (multiview, sections, auxiliaries), isometric and oblique drawing and simple dimensioning. Emphasis is given to interpretation of drawings, phasis is given to interpretation of drawings, technique of sketching, care and use of drafting instruments, and preparation and interpretation of graphs and charts.

Course deals with the use and care of the slide rule and involves practical and industrial calculations.

An introduction to the basic elements of public speaking and platform performance. Materials and activities are used to make the course practical.

An introduction to literature on the collegiate level, emphasizing appreciation but including a study of types of literature.

Eng 201 Technical Writing ................................... 2-3 hours
Prerequisite: English Composition 101

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.

# Geography

Geog 101 Principles of Geography............3 hours
Prerequisite: None

A study of the physical elements of the natural environment and the pattern of their distribution over the earth, with emphasis upon the effect of these patterns upon man's health, culture, and economic development in various environmental locations. Designed to acquaint the student with some of the natural causes for cultural conflicts in today's world

and to provide a broader understanding of the opportunities available and the limitations imposed by environmental factors in both developed and underdeveloped areas.

# History and Political Science

A study of American history, institutions and government. Special consideration will be given to the Constitutions of the United States and Missouri and special historical emphasis will be placed on the twentieth century. Intended primarily for students in career curricula.

Hist 101 Western Civilization 1.............................. 3 hours Prerequisite: None

A survey of Ancient Near Eastern Civilization, including Egypt, Mesopotamia and Israel; the classical civilizations of Greece and Rome; Christianity and Medieval Europe; Islam; and the cultural and religious changes of the Renaissance and Reformation. Attention given to political developments, cultural achievements, and literary sources of each area.

Hist 102 Western Civilization 11............................. 3 hours
Prerequisite: None

A survey of the cultural, economic, intellectual, political, and social forces which have shaped Western Europe and its areas of influence, since the end of the fifteenth century.

Technology 101

A course covering the fundamental theories of space relations with respect to points, lines, and surfaces, with application to practical industrial problems.

# English and Speech

A course dealing with the fundamentals of grammar and language usage. This course in composition will partially fulfill the English requirement for the technical education student or may prepare a student to enter English 101.

Eng ll Reading Laboratory ...... l hour Prerequisite: None

A course designed to improve a student's reading efficiency through the use of reading films, timed readings, and vocabulary exercises. This course is required of all students in English 10 and is open to other interested students.

A continued study of communication with an expanded emphasis on grammar, language usage, and writing skill.

Eng 101 English Composition 1........... 3 hours

Prerequisite: Demonstrated proficiency on the Missouri English Placement Test

A basic course in expository writing dealing with the fundamentals of English usage, structure and organization of themes.

Eng 101 H English Composition (Honors)...... 3 hours

Prerequisite: Demonstrated high proficiency on the Missouri English Placement
Test.

An intensified composition course open to freshmen who qualify as evidenced by their high school ranks and placement test scores. The student who received a grade of A or B will not be required to take English 102 but may take a Literature course to complete his 6 hour English graduation requirement.

Eng 102 English Composition 11........... 3 hours
Prerequisite: English 101

A continuation of English Composition 1 with emphasis on the application of the fundamentals mastered in English 101 and to the writing of a term paper.

A study and practice of basic rudiments of generating, designing, delivering, and evaluating ideas for speech situations facing adults of our society. This beginning course is both for speech majors and others who need an introductory course in speech. Persons with one unit of high school speech may enter Speech 102 directly.

Hist 103 American History 1 ................................. 3 hours
Prerequisite: None

A survey of the cultural, economic, institutional, political, and social forces and events which have shaped the United States through the Civil War.

Hist 104 American History 11 ................................ 3 hours Prerequisite: None

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.

Pol S 101 American National Government ...... 3 hours
Prerequisite: None

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 101 and 102 meets the State of Missouri requirements in American history and institutions and state and national constitutions.

Pol S 102 American State and

Local Governments...... 3 hours Prerequisite: None

An introductory survey of state constitutions, legislative, executive and judicial or-

ganization, 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.

### Mathematics

Math	50	Basic Alg	gebra	., No	Credit
		Prere	quisite: None		

A beginning course primarily developmental in nature which will satisfy certain terminal program requirements but is not acceptable as degree or transfer credit. Programmed instruction is employed in this course with two class meetings weekly. This course is open only to those students with less than one year of high school algebra.

Math 60 Technical Mathematics 1.......... 3 hours
Prerequisite: None

Treatment of measured data, significant figures, applications in geometry, basic algebra, ratio, proportion and variation.

Math 70 Technical Mathematics 11.......... 3 hours
Prerequisite: Mathematics 60

Numerical trigonometry of the right angle, analytic trigonometry, oblique triangles, and application of numerical trigonometry.

 basic arithmetic and algebraic processes. This course is intended for students in commercial education and distributive education. Does not meet mathematics requirement for Associate of Arts Degree.

Math 101 Intermediate Algebra ............................... 3 hours
Prerequisite: None

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 year of high school algebra and for those students who have more than one year of high school algebra but score low on the Missouri Placement examination. Topics covered include the following: Sets and Integers, Algebraic Expressions, Simple Equations, Factoring and the Solution of Quadratic Equations, Fractions and the Solution of Fractional Equations, Functional Relationships, Measurement and Logarithms.

A course designed to provide the student with a study of algebra from the modern approach. Topics covered include the following: Sets, Numbers as a Logical System, Inequalities, Functions, Polynominals, and Inverse and Logarithmic Functions.

A course designed to provide the student with a study of the trigonometric functions and their applications. Topics covered include the following: Angles, the Trigonometric Functions, Approximate Numbers and Tables of Trigonometric Functions, Application of Right Triangles, Fundamental Identities, Trigonometric Functions of Several Angles, Graphic Representation of the Trigonometric Law of Sines and the Law of Cosines, Law of Tangents, Trigonometric Equations and the Inverse Functions, and Complex Numbers.

### Math 104 Analytic Geometry and Calculus...... 5 hours Prerequisite: Math 102 and Math 103

A first course in a sequence of courses including plane analytic geometry, differential calculus, and integral calculus. This series is recommended for majors in engineering, the physical sciences, and mathematics. Topics covered include the following: The Derivative, The Integral, Plane Analytic Geometry, The Trigonometric Functions, and the Logarithmic and Exponential Functions.

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This course is designed to make students who are potential elementary teachers or general education students familiar with the basic concepts and principles of modern mathematics. Topics are presented in such a manner that they can be mastered by anyone even though he has not had previous training in modern mathematics. Topics covered include the following: Sets and

Numeration Systems, The Base Seven Numeration System, Duodecimal and Binary Number Systems, More on Sets, Venn Diagrams, The Number Line, Our Numeration System, Properties and Laws, Equations and Inequalities, Graphing of Solution Sets on the Number Line, Ordered Pairs and the Cartesian System, and Equations and Inequations in Two Variables.

### Music

Mus 102 Music Theory 1 ...... 4 hours Prerequisite: None

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.

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A second course in music theory, continuing the subject matter of Music 102 and extending into areas of seventh chords and non-harmonic tones. A continuation of sight singing, dictation, ear training and keyboard harmony.

### Mus 110, 111, 210, 211

Open to all students interested in singing in the college chorus or college choir. Credit will be given for participation each semester in accordance with the course numbering shown.

Mus 115, 116, 215, 216

Instrumental Ensembles ......l hour

Prerequisite: None

Open to all students interested in participation in instrumental ensembles. Credit will be given in accordance with the numbering shown for participation in successive semesters.

Mus 117 À, B - 218 À, B

Applied Music ..... 2 hours

Prerequisite: None

Applied music is offered in the following areas: Piano, Voice and Brass and Woodwind instruments.

# Physical Education

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Prerequisite: None Participation in various games and sports. Course is required of all freshman men.

PE 105-106

PE 110 Introduction to

A consideration of the principles of health and basic theories of physical education. Course is designed for physical education majors.

Study and practice of adults sports adaptable to junior and senior high school facilities and to recreational centers.

## Physics

A demonstration, lecture, reading course in physical science designed for students who do not expect to take the traditional courses in laboratory science. This course covers some of the fundamental concepts from the

areas of physics, chemistry, and geology. A does not count toward a major or minor in any of the fields of science.

# Psychology

Psyc 101 General Psychology ................................. hours Prerequisite: None

A survey of theories and facts dealing with various aspects of human behavior, such as development, perception, motivation and emotion, learning, and personal adjustment.

The application of theories and facts concerning human behavior in such areas as motivation, learning, and social development, to the educational process.

## Retail Mid-Management

Retail 101 Principles of Marketing....... 3 hours
Prerequisite: None

A study of the flow of goods and services through the various marketing channels, types of middlemen and their functions, and costs of distribution.

A study of proper sales techniques for presenting merchandise to the consumer, for

making the sale, methods of organization, training, and management of the sales force.

A course in selecting, mixing, and utilizing the advertising media and in the techniques of layout construction, copy writing, and in evaluating the results.

The financial structure of business organization, capital structure, methods of raising capital, and the problems of credit and collection.

A study of the types and the role of visual merchandising in the retail store including creation, color and principles of design.

ail 202 Retailing ...... 3 hours Prerequisite: None

General principles of retail store operations including organization, location, layout, buying, pricing, personnel problems, and inventory control.

An evaluation and comparison of private and public personnel practices and techniques of recruiting, selecting, transferring, promotion, classifying, and training workers.

Prerequisite: None

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.

### Sociology

This course is designed as an introduction to the basic principles of sociology, general psychology, and industrial psychology. Major emphasis is placed on such topics as the origin and development of the social body, group behavior, and the problems attendant to leadership and cooperation. Designed to develop a thorough understanding of good human relationships in the industrial complex. The course also proposed to aid in the formation of sound citizenship.

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

Soc 102 American Social Problems ........... hours Prerequisite: Sociology 101

A study of select social problems, including consideration of proposed lines of ac-

tion 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 relationship to the underdeveloped areas of the world.

## Spanish

Presentation of basic written and oral aspects of Spanish. Additional practice in aural comprehension through use of the language laboratory.

Review of basic grammar, with increased practice in conversation, reading, and composition. Additional practice in aural comprehension through use of the language laboratory.

Reading skill cultivated with an introduction to Spanish Literature.

A review of Spanish grammar with practice in composition.

Practice in conversation with emphasis on perfecting pronunciation.

