



EAST CENTRAL COLLEGE

1995 -1997 Catalog

COURSE DESCRIPTIONS

Accounting

AC 0100, 1, 2, 3 .5-3 hours Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.

Prerequisite: none

AC 1003 3 hours Applied Accounting

An introductory course in the principles of accounting with emphasis on practice in bookkeeping techniques, designed to meet the needs of two types of students: (1) the vocational student who did not receive a B or better grade in high school bookkeeping within the past four years and who needs an accounting course to complete a degree or certificate program; and (2) the student with a need for developmental work in accounting prior to enrollment in Accounting I.

Prerequisite: Keyboarding skills.

AC 1023 (lec), 1031 (lab) 4 hours Accounting I

A study of basic principles and procedures of double-entry accounting for service and merchandising businesses. Includes the complete accounting cycle, special journals, notes, deferrals, accruals, and problems in receivables, payables, inventories, payrolls, plant assets and partnership accounting. Lab is required for vocational accounting majors and recommended for all other students.

Prerequisite/Corequisite: high school accounting, AC 1003, or consent of instructor, CS1003 Keyboarding Skills

AC 1043 (lec), 1051 (lab) 4 hours Accounting II

A study of corporate accounting, job order, process cost and just-in-time accounting systems. Includes corporate statements, bond liabilities, investments, statement of cash flows, not-for-profit accounting and decision-making topics such as variable (direct) costing, break-even analysis, economic order quantity, budgeting, alternative decision analysis, and financial statement analysis. Lab is required for vocational accounting majors and recommended for all other students.

Prerequisite: Grade of C or higher in AC 1023

AC 2013 3 hours Computer Assisted Accounting

A study of accounting as it applies to computers. The course includes the building and use of spreadsheet templates to solve financial accounting problems and study "what if"

situations and the use of a commercial general ledger package to process accounting information.

Prerequisite: AC 1043 or consent of the instructor

AC 2021, 2031 1 hour Accounting Practicum

A course designed to give students practical working experience through the complete accounting cycle. A computer is used.

Prerequisite: AC 1023

AC 2043 3 hours Intermediate Accounting I

A review of the concepts and principles underlying accounting and their application in the accounting process. Valuation procedures and problems are considered for each class of assets on the balance sheet along with their related effect upon income measurement.

Prerequisite: AC 1043

AC 2053 3 hours Tax Accounting

A comprehensive study of the federal tax structure and the application of the principles involved to specific individual and business tax problems.

Prerequisite: AC 1043 or consent of instructor

AC 2063 3 hours Intermediate Accounting II

A continuation of Intermediate Accounting I. Valuation procedures and problems are considered for each class of liabilities and the equity section of the balance sheet along with their related effect upon income measurement. The statement of cash flows is studied along with various forms of financial statement analysis.

Prerequisite: AC 2043 or consent of instructor

AC 2073 3 hours Cost Accounting

A study of the job order, process, and standard cost systems and the flow of costs in the accounting for materials, labor, and overhead in the manufacturing process. Budgets are prepared and analyzed. CIM, JIT and activity-based costing is studied.

Prerequisite: AC 1043 or consent of instructor

AC 2083 3 hours Payroll Accounting

A course structured to develop an appreciation and understanding of personnel and payroll records required for the operation of a payroll system. Includes a study of the Fair Labor Standards Act, basic payroll accounting systems and procedures, the Social Security Act as it relates to payroll, and an introduction to the various types of automated equipment and data

processing systems common to payroll accounting.

Prerequisite: AC 1003 or consent of instructor

*Offered when demand is indicated.

AC 2093 3 hours Managerial Accounting

A course designed to teach future managers ways to use, analyze, and interpret accounting data once it is available to them. Emphasis is placed upon the analysis of data rather than the collecting and recording function as pertains to service and manufacturing enterprises.

Prerequisite: AC 1023

Offered when demand is indicated.

AC 2103 3 hours Advanced Tax Accounting

A continuation of the study of federal income tax. Consideration will be given to the special treatment received by the various business entities, including a study of partnerships, corporations, estates, and trusts. Study will focus on the impact of taxation on business planning and decision-making.

Prerequisite: AC 2043

*Offered when demand is indicated.

AC 2113 3 hours Auditing

A course which features auditing theory, procedures, and practices, including verification of records, evaluation and analysis of accounts, and presentation of conditions. Students will be required to complete a fairly comprehensive set of illustrative audit work papers and prepare an audit report based thereon.

Prerequisite: AC 2063

*Offered when demand is indicated.

AC 2123, 2133 3 hours Accounting Internship

A supervised work experience (at least nine hours per week) in an actual accounting situation. Supervision will be by accounting personnel in business or industry with coordination of the work experience to classroom instruction by the instructor.

Prerequisite: AC 1043 or consent of instructor

AC 2131 1 hour Individual Income Tax

A course designed to cover practical applications of the Federal Tax System as it relates to the individual taxpayer. The 1040, 1040A and 1040EZ will be covered along with supporting schedules involving the most frequent types of reporting situations.

Prerequisite: none

*Offered when demand is indicated.

AC 2661, 2672, 2683 1-3 hours
Independent Studies in Accounting
Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

HVAC, Air Conditioning and Refrigeration Technology

AI 0100, 1, 2, 3 5-3 hours
Workshop/Seminar
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: none

AI 1001 1 hour
Electrical Diagrams
A course designed to familiarize the student with the various factors involved in electrical diagrams. The students will acquire a working knowledge of electrical circuits using schematic and pictorial diagrams. The schematics will include different loads and various switches utilizing electrical symbols.
Prerequisite: none

AI 1013 3 hours
Theory of Refrigeration and Materials
A study of the theory of refrigeration, along with the use and safety of refrigeration hand tools and commonly used materials.
Prerequisite: none

AI 1023 3 hours
Applied Electrical Fundamentals
A course which starts with the basic fundamentals and processes of electrical wiring for refrigeration components and motors. After students acquire a working knowledge of electrical circuits, they apply this to laboratory tests on testing boards and refrigeration equipment.
Prerequisite: none

AI 1033 3 hours
Systems and Components
An introductory course covering basic theory and applied applications of electricity pertaining to industrial and commercial systems, motors, and components comprising these systems. Students will gain technical knowledge and develop skills required in the areas of installation, maintenance, and diagnosis of problems.
Prerequisite: AI 1203 or consent of instructor

AI 1043 3 hours
Refrigerants
A study of the various types of refrigerants and their characteristics, skills in handling refrigerants, pressure-temperature relationships, refrigerant oils, noncondensable gases, and their applications.
Prerequisite: none

AI 1053 3 hours
Domestic Refrigeration
A study of application and knowledge of the fundamentals of refrigeration and electricity by means of troubleshooting and repairing domestic refrigerators and freezers.
Prerequisite: none

AI 1063 3 hours
Commercial Refrigeration
A study of the selection, installation, servicing, diagnosing, and repair of commercial equipment. The student will gain knowledge and experience in food preservation and processing equipment by using the types of equipment found in supermarkets, restaurants, and other commercial installations.
Prerequisite: AI 1013, 1023, 1033, 1043, and 1053

AI 1073 3 hours
Theory of Air Conditioning and Psychrometrics
A study which outlines the fundamental concepts of air conditioning and psychrometrics. Psychrometry is used to find and establish the conditions of air which will be the most comfortable for a specific situation.
Prerequisite: AI 1013, 1023, 1033, 1043, 1053

AI 1082 2 hours
Applied Air Distribution
A course designed to familiarize the student with the various factors involved in the distribution of air in an air conditioning system.
Prerequisite: AI 1013, 1023, 1033, 1043, and 1053

AI 1094 4 hours
Air Conditioning Equipment and Installation
A study of the proper selection, installation of, and adjustments to various systems of air conditioning equipment, with special emphasis on human comfort. Consumerism and/or customer-services technician relationships are discussed.
Prerequisite: AI 1013, 1023, 1033, 1043, and 1053

AI 1103 3 hours
Testing, Diagnosis, and Troubleshooting
A detailed study of the application of the technical knowledge and skills of air conditioning and refrigeration. The student will learn to utilize systematic analysis procedures for speed as well as accuracy in diagnosing and troubleshooting equipment.
Prerequisite: AI 1013, 1023, 1033, 1043, and 1053

AI 1123 3 hours
Applied Sheet Metal I
A course designed to provide a practical working knowledge and to develop skills required in the use of sheet metal in a residential duct system. After students become familiar with the tools and equipment and the set of safety standards used, they will apply this knowledge to practical application. This will include applying patterns,

fabricating sheet metal, soldering, and drawing simple patterns.
Prerequisite: none

AI 1133 3 hours
Applied Sheet Metal II
A course designed to provide a practical working knowledge and develop skills required in the use of sheet metal in a residential duct system. The breadth of this course is greater than Applied Sheet Metal I and allows for the in-depth application of plenums and duct work for heating and cooling systems in residential construction.
Prerequisite: AI 1123 or consent of instructor

AI 1143 3 hours
Heat Pump I
An introductory course designed to cover the basic theory and applied application of the heat pump system. Students will gain a working knowledge and develop skills in the area of load calculations, (heat gain, heat loss) balance points of systems, installation and application, and methods of control of the equipment by different manufacturers. Servicing and troubleshooting the various heat pump systems will be dealt with.
Prerequisite: none

AI 1153 3 hours
Heat Pump II
A detailed study of the applications and design of heat pumps. This course applies in-depth application of air distribution, performance, and system troubleshooting.
Prerequisite: AI 1143 or consent of instructor

AI 1163 3 hours
Oil Heat and Controls
A course which provides advanced training and application pertaining to residential oil heating equipment. Through practical application in the lab, students will gain experience and skills in the areas of installation, maintenance, and troubleshooting.
Prerequisite: completion of Air Conditioning and Refrigeration Program or consent of instructor

AI 1173 3 hours
LP, Electric Heat, and Controls
A course which provides advanced training and application pertaining to liquid petroleum and electric residential heating equipment. Through practical application in the lab, students will gain experience and skills in the area of installation, maintenance, and troubleshooting.
Prerequisite: completion of Air Conditioning and Refrigeration Program or consent of instructor

AI 1193 3 hours
Introduction to Energy
An introductory course on energy and the problems related to energy. The students will have opportunities to explore and experiment with possible solutions to the energy crisis. Students will also explore career opportunities as to the job openings available in this new and emerging field, and learn good conservation techniques.
Prerequisite: none

AI 1183 **3 hours**
Understanding Solar Energy Systems
 A study of solar energy and its uses for heating and cooling buildings, heating of domestic hot water, and heating of water for swimming pools. Active solar energy systems and passive solar energy systems will be investigated and dealt with. Students will gain knowledge, skills, and experience in locating, collecting, storing, and distributing solar energy.
 Prerequisite: none

AI 1203 **3 hours**
Residential Electricity
 An introductory course stressing basic electrical theory and applied practical wiring for residential systems. Students will gain technical knowledge and develop skills required in the areas of installation, maintenance, and diagnosis of problems.
 Prerequisite: none

AI 1213 **3 hours**
Commercial Electricity
 An introductory course covering basic theory and applied application of electricity pertaining to industrial and commercial systems, motors, and components comprising these systems. Students will gain technical knowledge and develop skills required in the areas of installation, maintenance, and diagnosis of problems.
 Prerequisite: AI 1203 or consent of instructor

AI 1661, 1672, 1683 **1-3 hours**
Independent Studies in Air Conditioning and Refrigeration
 Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

Anthropology

AN 1003 **3 hours**
Introduction to Cultural Anthropology
 An introductory course in cultural anthropology emphasizing the use of the cultural perspective in gaining understanding in the areas of social structure, political systems, economic systems, religious systems, and human communication.
 Prerequisite: none

AN 1103 **3 hours**
Introduction to Physical Anthropology and Archaeology
 An introduction to the study of physical anthropology and archaeology, with special emphasis on the connection between cultural and human development, human variability, major concepts in archaeological analysis, and some practical experience in archaeological method.
 Prerequisite: none

AN 2701, 2, 3 **1-3 hours**
Independent Studies (Honors) in Anthropology
 Course content and hours arranged by instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

AN 2703 **3 hours**
Field Archaeology
 Field study course aiming to increase the student's knowledge and understanding of primitive man and his culture with special emphasis on field methods and an archaeological understanding of local pre-history.
 Prerequisite: none

Art

AR1013 **3 hours**
Introduction to Art
 To introduce drawing techniques with perspective, shading, composition, eye-level, and design. Materials used include pencil, charcoal, ink, pastel, cray-pas, and mixed media. Recommend this class before taking drawing or painting. Does not satisfy humanities requirements.
 Prerequisite: None

AR 1103 **3 hours**
Design I
 A study of the basic elements of design, what they are, how they function individually, and how they relate to what is observed by the viewer. The application of elements is stimulated by a wide variety of projects stressing the development of ideas, and technical skills as related to the presentation of two-dimensional problems.
 Prerequisite: none

AR 1113 **3 hours**
Design II
 Advanced exploration of the basic elements of design as related to three-dimensional problem solving. Emphasis is on development of greater technical (finished art) skills. Problem solving is stimulated by assignments stressing creative ability with a high degree of difficulty.
 Prerequisite: AR 1103 or consent of instructor

AR 1203 **3 hours**
Art Appreciation I
 A general survey of the artistic activities of man from prehistoric to modern times. Slides and video tapes are used in conjunction with the course.
 Prerequisite: none

AR 1213 **3 hours**
Art Appreciation II
 A survey of art history from 1900 to the present, with some studio applications. Selected art movements and techniques will be discussed.
 Prerequisite: none

AR 1223 **3 hours**
Art Appreciation
 An introduction to art through various media and techniques such as design, drawing, printmaking, color, shading, sculpture, and space relationship. Media used include ink, cray-pas, plaster, and acrylics. This is a survey course and not recommended for art majors. Slides and video tapes are used in conjunction with the course.
 Prerequisite: none

AR 1303 **3 hours**
Drawing I
 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 perception as well as familiarization with and control of drawing material. Introduction to perspective and light and dark shades; some texture and other media will be used for creative drawings.
 Prerequisite: none

AR 1313 **3 hours**
Drawing II
 A course in the drawing of the human figure in charcoal, crayon, ink, and other media. Included are representational, abstract, and non-objective drawing; 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: None

AR 1403 **3 hours**
Painting I
 An introduction to the materials 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, plus practical application of framing techniques.
 Prerequisite: None

AR 1413 **3 hours**
Painting II
 A course in the theory and practice of painting using oil and acrylics. Development of form through color and appropriate emphasis on texture is studied, along with 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: AR 1403

AR 1423 **3 hours**
Painting III
 A continued application of principles of composition in the medium of opaque and watercolor materials. Emphasis on expression and refinement of personal techniques.
 Prerequisite: AR 1403, 1413, or consent of instructor

AR 1503 3 hours
Figure Drawing I
 An introduction to drawing from the human figure, analysis of structure and proportion of basic forms.
 Prerequisite: consent of instructor

AR 1513 3 hours
Figure Drawing II
 A continuation of AR 1503. The course emphasizes the use of various drawing media; and the analysis of the structure of the human figure through anatomy.
 Prerequisite: AR 1503 or consent of instructor

AR 1523 3 hours
Figure Drawing III
 A continued study of drawing from the model at rest and in action. Exploration of individual techniques in a creative studio atmosphere. Goals and refinement of techniques encouraged.
 Prerequisite: AR 1503, 1513, or consent of instructor

AR 1603 3 hours
Graphic Arts and Computer Production I
 Basic commercial art and print production will be emphasized. Applied layout, design, typography, traditional and computer assisted production artwork with different mechanical techniques.
 Prerequisite: background in art and instructor's consent

AR 1613 3 hours
Graphic Arts and Computer Production II
 A continuation of AR 1603. Emphasis is placed upon the creative design of advertising layouts using drawings, photographs, lettering and type. Typography, lettering, composition and relationship to advertising elements will be covered.
 Prerequisite: AR 1603 or consent of instructor

AR 1703 3 hours
Art History I
 A historical study of art, tracing its development from prehistoric times to the eighteenth century. Emphasis is on the study of the growth and development of art forms and movements, leading to an understanding of the relationship of art to the historical periods.
 Prerequisite: none

AR 1713 3 hours
Art History II
 An advanced art history course. Students will gain more experience in identification and study of 18th, 19th, and 20th century American and European artists and their works.
 Prerequisite: none

AR 2003 3 hours
Watercolor I
 The study of watercolor painting with emphasis on color, composition, and pictorial expression with experimentation in varied methods of watercolor painting. Studies will include washes and brush control.
 Prerequisite: None

AR 2013 3 hours
Watercolor II
 A continuation of the study of watercolor painting with emphasis on color, composition, and pictorial expression with experimentation in varied methods of watercolor painting. Studies will include washes and brush control.
 Prerequisite: AR 2003 or consent of instructor

AR 2043 3 hours
Watercolor III
 A continuation of the study of watercolor painting with emphasis on personal creative structure, topics and problems, and contemporary painting.
 Prerequisite: AR 2013 or consent of instructor

AR 2023 3 hours
Art for Children
 A study of the types of art activities related to various groups in the elementary school, including experience with art materials used in the classroom.
 Prerequisite: none

AR 2103 3 hours
Printmaking I
 An introduction to printmaking. Lecture and laboratory exercises deal 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: Consent of instructor

AR 2113 3 hours
Printmaking II
 A continuation of AR 2103. Laboratory exercises deal with the techniques of lithography, silkscreen, and dry point as a fine printing medium. Emphasis is on individual exploration with materials.
 Prerequisite: AR 2103, or consent of instructor

AR 2203 3 hours
Photography I
 A course dealing with the basics and principles of photography, primarily black and white, including the mechanical and visual aspect for beginning photographers. Darkroom skills of black and white film developing and printing are taught.
 Prerequisite: none, 35mm camera

AR 2213 3 hours
Photography II
 A course approaching photography primarily from the creative visual aspect. The course is meant to increase the photographer's awareness and sensitivity, and at the same time refine basic mechanical skills.
 Prerequisite: AR 2203 or consent of instructor, 35mm camera

AR 2403 3 hours
Sculpture I
 An introduction to sculpture through the use of various media: cardboard sculpture, plaster sculpture, and wood or stone sculpture. Some

drawing, model making, and research of sculptors and sculpture techniques is required.
 Prerequisite: none

AR 2413 3 hours
Sculpture II
 An examination and analysis of traditional and contemporary sculpture. Sculptural design as related to material and techniques such as clay, wood, stone, plaster, and metal are explored.
 Prerequisite: AR 2403 or consent of instructor

AR 2701, 2, 3 1-3 hours
Independent Studies (Honors) in Art
 Independent Studies in Art provides two alternatives. An exceptional art student may (1) study or develop independently a specific prearranged topic or project within the field of art, (2) develop experience in procedures, processes, and actual presentations of gallery displays, or (3) business art, career decision by guest artist. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

Biological Science

BI 1003 3 hours
Nutrition
 A study of the essential nutrients and their value in various food groups, their functions in the body, and how to determine the food needs of the individual.
 Prerequisite: none

BI 1103 3 hours
Ecology of Wildlife and Man
 A study of principles of ecology as they apply to such problems as pollution and wildlife, park, urban, and resource management. Historical and political implications will be examined. Methods of coping with problems will be evaluated. Three hours lecture per week.
 Prerequisite: none

BI 1112 2 hours
Medical Terminology
 A course in biomedical terminology. The student learns to pronounce, spell, and interpret the meaning of word components and how they fit together in modern biomedical terminology. The student studies some 1,500 words and learns the basics for expanding his or her own biomedical vocabulary. Two hours lecture per week.
 Prerequisite: none

BI 1202 2 hours
Health
 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. The course is intended for education majors. A portion of this course is devoted to methods of teaching health.
 Prerequisite: none

BI 1203 3 hours
Introduction to Life Science
 A study of fundamental biological concepts, with emphasis on human biology. Topics include: the cell, the chemistry of life, the structure and function of human organ systems, genetics, ecology, and evolution.
 Prerequisite: none

BI 1303 (lec), 1312 (lab) 5 hours
General Biology
 An introductory course involving fundamental biological principles of both plant and animal life. This course is designed to be used as a general education course and is not open to students with credit in botany or zoology or students planning to major in the biological sciences. Three hours of lecture and two two-hour laboratory periods per week.
 Prerequisite: none

BI 1403 (lec), 1411 (lab) 4 hours
General Invertebrate Zoology
 A study of the structure and function of invertebrates with special attention paid to the phylogenetic origins of taxonomic groups and the integration of their structural systems. Three one-hour lecture recitation periods and one three-hour laboratory period per week. This course is recommended for students majoring in the life sciences and related fields.
 Prerequisite: none

BI 1503 (lec), 1511 (lab) 4 hours
General Vertebrate Zoology
 A study of the structure and function of vertebrates with special attention paid to the phylogenetic origins of taxonomic groups and the integration of their structural systems. Three one-hour lecture recitation periods and one three-hour laboratory period per week. This course is recommended for students majoring in the life sciences and related fields.
 Prerequisite: BI 1403 & 1411, or consent of instructor

BI 1603 (lec), 1612 (lab) 5 hours
General Botany
 An introduction to the plant kingdom, structure, physiology, life histories, economic importance, and the evolution of plants. Laboratory will include experimentation 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: BI 1303 & 1312, 1403 & 1411, 1503 & 1511, or consent of instructor

BI 1701 1 hour
Introduction to Respiratory Therapy
 A course intended to introduce a prospective student to the Respiratory Care profession. Includes the study of topics, techniques, and issues that are a part of a respiratory therapist's daily job function. In addition to the classroom discussions and demonstrations, each student will spend a shift with a staff therapist as an observer.
 Prerequisite: none

BI 2003 3 hours
Genetics
 A study of the principles of heredity and biological evolution as applied to plants and animals.
 Prerequisite: BI 1303 & 1312, 1403 & 1411, 1503 & 1511, 1603 & 1612, or consent of instructor

BI 2102 (lec), 2112 (lab) 4 hours
Human Anatomy and Physiology I
 Part one of a two-semester course where gross micro- and macroscopic anatomy and the function of the respective structures are studied. The first semester includes the study of integument, skeletal, muscular, and nervous systems. Two lectures and two two-hour laboratory periods per week.
 Prerequisite: BI 1303 & 1312, 1403 & 1411, or 1503 & 1511, and CH 1203 & 1212, or CH 1303 & 1312 or consent of instructor
 College courses in math are useful.

BI 2202 (lec), 2203 (lab) or 2212 (lab) 4-5 hours
Human Anatomy and Physiology II
 Part two of a two-semester study. Systems studied are digestive, respiratory, circulatory, and urogenital. Sequencing of courses I and II is not important. The student may take Human Anatomy and Physiology II first. Two lectures and three two-hour laboratory periods per week.
 Prerequisite: BI 1303 & 1312, 1403 & 1411, or 1503 & 1511, and CH 1203 & 1212, or CH 1303 & 1312 or consent of instructor
 College courses in math are useful.

BI 2302 (lec), 2303 (lab) 5 hours
Comparative Anatomy
 A study of 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, coelom, digestive and respiratory systems, circulatory system, urogenital system, and nervous system. Two lectures and six hours laboratory per week.
 Prerequisite: BI 1403 & 1411, 1503 & 1511 or consent of instructor

BI 2403 (lec), 2411 (lab) 4 hours
Microbiology
 An introduction to microorganisms, their morphology, physiology, classification, and importance. Three hours lecture and three hours laboratory per week.
 Prerequisite: BI 1303 & 1312, 1403 & 1411, 1503 & 1511, or 1603 & 1612

BI 2503 (lec), 2512 (lab) 5 hours
General Ecology
 A course which involves the mathematical and descriptive principles of ecosystem structure, trophic dynamics, population regulation, and evolutionary ecology. Three lectures and two two-hour laboratory periods per week. This course involves one two-hour field trip per week.

Prerequisite: BI1303 or 1312, 1403 & 1411, 1503 & 1511 or consent of instructor.

BI 2701, 2, 3 1-3 hours
Independent Studies (Honors) in Biology
 The student enrolled in independent studies has two alternatives: (1) investigate or study independently a specific prearranged topic within the field of biological science, or (2) assist primarily in the laboratory or lecture when peer groupings are being utilized. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

BI 2802 2 hours
Practicum in Biology
 Biology practicum provides two types of learning experiences: (1) assisting students in laboratory sessions of life science courses, or (2) participating in a weekly biology topics seminar. May be repeated.
 Prerequisite: Successful completion of course in which student will assist or consent of instructor

BI 2903 3 hours
Alpine Biology
 This course involves the descriptive principles of ecosystem structure, trophic dynamics, population regulation, and evolutionary ecology as applied to life zones of the Rocky Mountains. The course is taught at Colorado State University Pingree Park Campus.
 Prerequisite: none
 Corequisite: GL 2703

Building Construction Technology

BC 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar
 Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
 Prerequisite: none

BC 1014 4 hours
Blueprint Reading and Layout
 A course in reading and interpreting prints of the building, mechanical, and electrical trades. Includes preparation of a complete set of working drawings for a structure.
 Prerequisite: none

BC 1023 3 hours
Surveying and Layout
 A study of the theory involving basic surveying equipment, chaining, differential leveling, grade operations, layout of buildings, and building construction layout.
 Prerequisite: none

BC 1033 3 hours
Concrete
 A study of the basic theory and processes involving Portland cement, mixing cement, testing and design of concrete mixture, curing

concrete, tools for placing and finishing concrete, and estimating.
Prerequisite: none

BC 1043 3 hours
Carpentry

A study of basic theory and application of building construction fundamentals.
Offered evenings only.
Prerequisite: none

BC 1045 5 hours
Carpentry

A study of basic theory and application of building construction fundamentals including fabrication from architect's plans.
Prerequisite: none

BC 1055 5 hours
Electricity

A study of basic A.C. and D.C. circuits with emphasis in commercial and residential applications.
Prerequisite: none

BC 1064 4 hours
Plumbing

A study of basic theory involving materials tools and calculations, drainage and disposal systems, fittings, fixtures, and layout of systems.
Prerequisite: none

BC 1073 3 hours
Welding

A study of fundamental processes involving oxyacetylene and electric arc welding.
Prerequisite: none

BC 1083 3 hours
Commercial Carpentry

A study of basic theory and application of commercial building construction fundamentals.
Prerequisite: none

BC 1093 3 hours
Sheet Metal and Preventive Building Maintenance

A study of basic building, mechanical, and electrical maintenance. Includes applying patterned fabrication of sheet metal, soldering, and drawing simple patterns.
Prerequisite: none

BC 1103 3 hours
Energy Efficient Buildings

A study of energy conservation practices used in new and existing structures.
Prerequisite: none

BC 1113 3 hours
Residential Construction Procedures

A course dealing with building construction fundamentals including concrete, carpentry, plumbing, and electricity.
Prerequisite: none

BC 1123 3 hours
Farm and Home Shop Construction

A course designed to provide a working knowledge of construction and to develop many different shop skills and executing a project.
Prerequisite: none

BC 1133 3 hours
Home Maintenance

A study of basic theory and application in repairing, maintaining, and remodeling residential structures.
Prerequisite: none

BC 1143 3 hours
Repair and Construction of Farm Machinery and Buildings

A study of basic theory and application of farm building construction and equipment repairs.
Prerequisite: none

BC 1153 3 hours
Blueprint Reading/Architectural Drawing

A course in reading, drawing, and interpreting prints of the building, mechanical and electrical trades. Students must prepare a complete set of working drawings for a structure.
Prerequisite: none

BC 1661, 1672, 1683 1-3 hours
Independent Studies in Building Construction Technology

Course content and hours arranged by instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

Business Management / Marketing

BU 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: none

BU 1003 3 hours
Introduction to Business

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

BU 1013 3 hours
Principles of Marketing

A course 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

BU 1023 3 hours
Salesmanship

A study of proper sales techniques for presenting and selling merchandise to the consumer including methods of organization, training, and management of the sales force.
Prerequisite: none

BU 1033 3 hours
Principles of Advertising

A study of the 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 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

BU 1043 3 hours
Principles of Finance

A broad introduction to the operation, mechanics, and structure of the financial system within the United States. Special emphasis is given to financial instruments, markets and institutions, the Federal Reserve System and monetary policy. The course stresses the impact of monetary policy on the economy and on the operation of financial institutions. The course is intended to be the first course in finance.
Prerequisite: none

BU 1053 3 hours
Fundamentals of Management

A study in the evaluation and comparison of private and public personnel practices and the techniques of recruiting, selecting, transferring, promoting, classifying, and training workers.
Prerequisite: none

BU 1063, 2023 3 hours
Business Management/Marketing Internship

Actual work experience in a business or industry with periodic discussions of the problems involved in applying classroom principles to the job.

Prerequisite: Enrollment in Business Management Program and consent of instructor

BU 1193 3 hours
Dynamics of Leadership

This course has as its central focus the development of leadership ability. The course provides a basic understanding of leadership and group dynamics theory, assists participants in developing a personal philosophy of leadership, and the awareness of the moral and ethical responsibilities of leadership. This course may not transfer.
Prerequisite: None

BU 2012 2 hours
Readings in Management

A study of selected readings in group dynamics, communications, decision-making theory, managerialism, and its economic justification.
Prerequisite: BU 1053

BU 2013, 4 **3-4 hours**
Survey Calculus
 A study of the techniques of differential and integral calculus. The focus of the course is on functions and the applications of the calculus to the life, social, and managerial sciences, with particular emphasis on the latter. Trigonometry is not used.
 Prerequisite: MT 1403, or 1505, or 2003, or 2004

BU 2033 **3 hours**
Legal Environment of Business
 A study of those areas of the law which affect most businesses. Topics include: emphasis on the perspective and systematic approach of the law to issues such as legal history, reasoning, court system and procedure, regulatory law, environmental responsibility, consumer rights; law of torts, contracts and law of sales, international dimensions of legal environment, anti-trust and employment implications.
 Prerequisite: None

BU 2043 **3 hours**
Business Simulation and Problem Solving
 A computer assisted course in which the student encounters and attempts to solve the problems common to business owners and managers. The student is able to participate in operating an enterprise, as well as managing inventories, financial resources, and personnel. In addition to operating an ongoing concern, the student will also participate in a number of related business oriented decision-making situations, such as plant expansion, purchasing, and decision-making strategies.
 Prerequisite: AC 1003, AC 1023 or BU 1043, or consent of instructor

BU 2063 **3 hours**
Concept of Quality and Productivity
 A course which introduces the concepts of quality and productivity, demonstrating that quality improvements enhance productivity and competitive position.
 Prerequisite: none

BU 2073 **3 hours**
Techniques to Improve Quality
 A course which includes elements of a successful Quality Circle Program through a hands-on approach.
 Prerequisite: none

BU 2103 **3 hours**
Basic Business Statistics
 An introductory course dealing with the methods of collecting, organizing, presenting, and analyzing data related to business. The course deals with measures of central tendency and dispersion, elementary probability and probability distributions, statistical estimation and hypothesis testing, and linear correlation.
 Prerequisite: MT 1403, or 1505, or 2003, or 2004, or consent of instructor

BU 2661, 2672, 2683 **1-3 hours**
Independent Studies in Business Management
 Course content and hour arranged by instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

Chemistry

CH 1003 **3 hours**
Introduction to Chemistry
 A non-laboratory course emphasizing elementary principles of chemistry with a strong emphasis on applications of chemistry in society and in our individual lives. Students will learn to appreciate the chemical nature of our everyday world. The applications studied may include agriculture, body chemistry, cosmetics, energy, genetic engineering, household chemicals, medicine, polymers, poisons, pollution, and a variety of other issues currently in the world, national, and local news. This course is intended for non-science majors.
 Prerequisite: MT 1013 with a grade of "C" or better, or a math placement score equivalent to enter MT 1303.

CH 1103 (lec), 1112 (lab) **5 hours**
Introduction to Chemistry
 An introduction to the basic principles of chemistry, including inorganic, analytical, physical, and organic chemistry. Three hours of lecture and two two-hour laboratory periods per week. This course is designed for the student with no background in chemistry.
 Prerequisite: MT 1303 with a grade of "C" or better, or a math placement score equivalent to enter MT 1403.

CH 1203 (lec), 1212 (lab) **5 hours**
Chemistry for the Health Sciences
 A course which emphasizes fundamental chemical principles and their application to the human organism. Classroom and laboratory work will include work with solutions, electrolytes and pertinent organic and biochemical topics related to digestion and metabolism. Three hours lecture and four hours laboratory per week.
 Prerequisite or Corequisite: MT1303

CH 1303 (lec), 1312 (lab) **5 hours**
General Chemistry I
 A study of atomic and molecular structure, bonding, chemical equations, stoichiometry, gases, solutions, and an introduction to organic chemistry. Three one-hour lecture periods and two two-hour laboratory periods per week.
 Prerequisite or Corequisite: MT1403 (or higher) or placement score to enter MT1605 and either CH1103 & 1112 or high school chemistry.

CH 1403 (lec), 1412 (lab) **5 hours**
General Chemistry II
 A continuation of CH 1303 & 1312, including the study of chemical equilibria, acid-base chemistry, complex ions, thermodynamics, oxidation-reduction reactions, nuclear chemistry, and

qualitative analysis. Three one-hour lecture periods and two two-hour laboratory periods per week, emphasizing quantitative techniques.
 Prerequisite: Grades of "C" or better in CH 1303, CH 1312, and MT 1403 or higher level math course

CH 2102 (lec), 2112 or 2113 (lab) **4-5 hours**
Quantitative Analysis
 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: Grades of "C" or better in CH 1403, CH 1412, and MT 1403 or higher level math course

CH 2203 (lec), 2212 (lab) **5 hours**
Organic and Biological Chemistry
 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 per week.
 Prerequisite: CH 1103 & 1112 or 1303 & 1312

CH 2303 (lec), 2312 (lab) **5 hours**
Organic Chemistry I
 A study of the basic principles of organic chemistry including acid-base theory, carbonium ions, stereochemistry, electrophilic aromatic substitution, spectroscopy, and reaction mechanisms. Three hours of lecture and two three-hour laboratory periods per week.
 Prerequisite: CH 1403 & 1412 or consent of instructor

CH 2403 (lec), 2412 (lab) **5 hours**
Organic Chemistry II
 A continuation of CH 2303 & 2312, including application of basic principles to the study of the important classes of organic and biochemical compounds. Three hours of lecture and two three-hour laboratory periods per week.
 Prerequisite: CH 2303 & 2312
 Prerequisite or Corequisite: CH 1403 & 1412

CH 2701, 2, 3, 4 **1-4 hours**
Independent Studies (Honors) in Chemistry
 The student enrolled for independent studies has two alternatives: (1) investigate a specific topic within the field of chemistry, or (2) assist in the laboratory, stockroom, or with individualized instruction under the supervision of an instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

Communication, Media and Theatre

CT 1003 3 hours Oral Communications

A fundamentals of speech course designed to develop student improvement in the critical understanding of ideas about communication as well as the critical issues of our time, and subsequently to improve individual communication skills. Intended to meet the DESE communications requirement for education majors.

Prerequisite: none

CT 1103 3 hours Public Speaking

An introduction to the basic elements of public speaking. Assignments include the presentation of speeches, preparation of outlines, and the discussion of evaluation techniques.

Prerequisite: none

CT 1203 3 hours Oral Interpretation

A study in the basic techniques of oral interpretation. The recreation 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

CT 1303 3 hours Theatre Appreciation

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

CT 1334 4 hours American Sign Language I

This course offered for anyone interested in gaining a knowledge about deafness and the sign system used by the deaf. The students will learn: fingerspelling, approximately 500 words, reverse skills, history of sign language; and an understanding of deafness.

Prerequisite: none

CT 1344 4 hours American Sign Language II

The student will become more proficient in fingerspelling; know the signs for 1,000 words; improve reverse skills; gain an understanding of different levels of deaf verbal language, and begin learning interpretation and translation.

Prerequisite: CT 1334

CT 1354 4 hours American Sign Language III

A continuation of training in sign language usage. Emphasis on increased ability in both receptive and expressive areas as well as the ability to move from one modality of sign language to another

modality. Concentration on the mastery of Ameslan.

Prerequisite: CT 1344 and consent of instructor

CT 1403 3 hours Beginning Acting

A course designed to introduce the student to the basics of acting.

Prerequisite: none

CT 1603 3 hours Television Production I

A basic course establishing the television production process as a system, in which many elements interact to produce television programming. Students will receive hands-on experience with all of the elements: cameras, switchers, lighting equipment, character generators, VCR's, film islands, etc.

Prerequisite: none

CT 1703 3 hours Intro to Mass Communications

Through lectures, discussions and audio-visual presentations, the class will examine the history, organization, role, and current status of newspapers, magazines, broadcasting, film, cable, public relations advertising and corporate communications.

Prerequisite: none

CT 1803 3 hours Basic Radio

An experience-oriented course in radio production and performance with emphasis on career and entry-level skills in announcing and the operation of the broadcast and production control rooms. Includes an overview of programming and promotional strategies, commercial scripting and sales, radio news reporting and current broadcasting technology.

Prerequisite: none

CT 1903 3 hours Television Production II

A continuation of CT 1603.

Prerequisite: CT 1603 or consent of instructor

CT 1912 2 hours Stage Makeup

A course in materials and methods of application of makeup artistry for cosmetic and character effects on stage.

Prerequisite: none

CT 2002 2 hours Stagecraft

Study of fundamentals or properties and scenic construction, stressing terminology and practical production experience.

Prerequisite: none

CT 2102 2 hours Advanced Stagecraft

Study of applying principles learned in lighting, construction, or painting will be developed toward a student designed project. Each project will be documented and include at least one of the following: plot or plans; a limited number of

elevations; a rendering and white model. Documentation will include how basic principles taught apply to design.

Prerequisite: CT 2002, or consent of instructor

CT 2022 2 hours Advanced Stage Makeup

A study in the principles and techniques of three-dimensional makeup. Exercises include preparation and application of beards, latex, putty, scarwax, and balding. Procedures and steps followed will be documented by each makeup artist.

Prerequisite: CT 1912, or consent of instructor

CT 2102 2 hours Voice and Diction

A study of respiration, phonation, resonance, articulation, and diction for the stage.

Prerequisite: none

CT 2112 2 hours Advanced Voice and Diction

Development of a set of specific exercises tailored to achieve a constant performing level of clarity, enunciation, breathing, projection, and inflection in voice. Application of these principles will then be tested in the selections of reading from scripts to be performed before conservatory students.

Prerequisite: CT 2102, or consent of instructor

CT 2203 3 hours Advanced Public Speaking

An in-depth study into the persuasive elements of communication including audience analysis and motivational techniques.

Prerequisite: CT 1103

CT 2403 3 hours Acting I

An extensive study in the theories and techniques of acting.

Prerequisite: none

CT 2503 3 hours Acting II

An intensified study of characterization centering around the study of characters in production and the adaptation of acting techniques to various characters in production and the adaptation of acting techniques to various styles.

Prerequisite: CT 2403 or consent of instructor

CT 2603, 2613, 2623, 2633 3 hours Forensics

A course in intercollegiate debate and speech competition.

Prerequisite: consent of instructor

CT 2701, 2, 3 1-3 hours Independent Studies in Communication/ Media/Theatre Arts

The student enrolled for independent studies has two alternatives: (1) investigate a specific topic within the field of communication/media/theatre arts, or (2) assist with tutorial instruction under the supervision of an instructor. For each semester hour enrolled, the student will be required to

spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

CT 2801, 2, 3 **1-3 hours**
Communication/Media/Radio/Television/Theatre Practicum

A course designed to give interested students the opportunity to work in a controlled environment. The course provides experience and training in communications, media, radio, television, or theatre arts under the direct supervision of an instructor.

Prerequisite: consent of instructor

CT 2803 **3 hours**
Children's Theatre

This course involves seven weeks of study, rehearsal and preparation for a performance that will tour East Central College District elementary schools during spring break. May be repeated.

Prerequisite: none

CT 2901, 2, 3 **1-3 hours**
Acting Practicum

A course designed to give interested students the opportunity to work in a controlled theatrical environment. The course provides experience and training in the art of acting under the direct supervision of a theatre instructor.

Prerequisite: consent of instructor

Computer Information Systems

CS 0001 **1 hour**
Introduction to Personal Computer/APPLE/Macintosh

An introductory course in personal computers to acquaint the student with the operation of a microcomputer system. Word processing, spreadsheet processing, file management and simulation programs are used by the student to develop an appreciation of the kinds of problems a computer can handle. All course activity is conducted in the microlab. Each student uses the microcomputer for approximately fifteen hours.

Prerequisite: Keyboarding skills recommended

CS 0011 **1 hour**
Intro to Personal Computers/IBM

A course designed to introduce the capabilities of a microcomputer to the beginning student. The operating system, word processing, file processing and spreadsheet processing will be introduced. All coursework will be done using the microcomputer and appropriate software.

Prerequisite: Keyboarding recommended

CS 0021 **1 hour**
Lotus 1-2-3 Spreadsheet

A course designed to introduce the student to the Lotus 1-2-3 Spreadsheet capabilities on the microcomputer system. Through lectures, demonstrations, handouts and hands-on experiences the students learn to define formulas, use commands and develop worksheets. Some

knowledge of a microcomputer and accounting principles is necessary.

Prerequisite: Keyboarding recommended

CS 0031 **1 hour**
Lotus 1-2-3 Files and Graphs

A course designed for students familiar with the spreadsheet capabilities of Lotus 1-2-3. Topics include managing data files, producing graphs, and developing simple macros.

Prerequisite: CS 0021 or consent of instructor

CS 0061 **1 hour**
Introduction to Database

A course designed to teach the use of a data base program. The development of specifications for files and records, sorting, retrieving records and updating records will be the main topics. Beginning programming techniques will also be taught. The course will use microcomputers.

Prerequisite: CS 0011. Keyboarding recommended

CS 0081 **1 hour**
Advanced Database

This course is designed for individuals who are familiar with the basic commands of a database either through experience or a database course. Through discussion, demonstration and extensive hands-on use, the student will learn how to develop programs, how to create special input and output screens, and how to solve complex problems in a database software.

Prerequisite: CS 0061 or consent of instructor

CS 0091 **1 hour**
IBM DOS & Utility Programs

A course designed to introduce microcomputer users to the capabilities of the disk operating system and various utility programs to help the users in operating their microcomputers. Demonstration, discussion, lecture and extensive hands-on experience will be used to teach file management, back-up and recovery procedures. Batch files and automatic start-up files will be covered as well as other public domain software appropriate to the class.

Prerequisite: CS 0011 or consent of instructor. Keyboarding recommended.

CS 0100, 1, 2, 3 **.5-3 hours**
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.

Prerequisite: none

CS 0111 **1 hour**
Microsoft Windows (5 week course)

A course designed to introduce the student to the Microsoft Windows capabilities on the microcomputer system. Through lecture, demonstration, handouts, hands-on experiences the students will use Windows to communicate with the microcomputer by pointing at windows, menus, and icons. Topics covered will be: Navigating through Windows, Program Manager, File Manager, Print Manager, Transferring Data

between applications, and Customizing Windows.

Prerequisites: CS 0011. Keyboarding required. Experience needed with microcomputers and application software.

CS 0121 **3 hours**
Introduction to Networks

A course designed to introduce the student to the basic concepts of Networks. Through lecture, demonstrations, handouts, and hands-on experiences the students will learn networking concepts, vocabulary, and applications. Topics covered will be: network concepts, configurations, installation and trouble shooting using network software.

Prerequisite: None

CS 1003 **3 hours**
Microcomputer Applications

A course designed to introduce the student to a variety of ways to use microcomputers in business. Spreadsheet processing, data base management, word processing, and the operating system of a microcomputer will be the focus of the course.

Prerequisite: CS1013 recommended. Keyboarding skills required.

CS 1013 **3 hours**
Introduction to Computers and Information Systems

An analysis of computer systems, their present uses and future roles in society, business, and public organizations. Topics emphasized include computer algorithms, computer organization (both hardware and software), data structures, program design and elementary programming in high level languages using microcomputers. Microcomputers are used to complete lab work in the course.

Prerequisite/Corequisite: Keyboarding skills.

CS 1023 **3 hours**
Computer Fundamentals and Operations

A course to familiarize students with the general hardware of modern computer systems and to explain the relationship between computer hardware concepts and operating system software organization. Topics include data and storage representations including binary arithmetic, Boolean algebra applications, operating system concepts, computer system components, device characteristics (including data base structure), and operations principles and documentation. AS/400 terminals are used to complete lab work.

Prerequisite: CS 1013 and/or previous programming experience

CS 1033 **3 hours**
Problem-Solving Techniques

A basic course in logical problem-solving methods employed in today's computer systems. Emphasis is placed upon developing the student's skills to logically apply the concepts to the problem solutions and maintaining an overall structure and discipline in logical design. General conceptual areas covered include: problem

definition, problem analysis, solution development, and documentation.
Corequisite: CS 1013

CS 1043 3 hours
BASIC Programming

A course in the BASIC language, designed to expand the student's knowledge, understanding, and skill development in solving problems using BASIC on a microcomputer system. Topics covered in the course include BASIC fundamentals, editing capabilities in BASIC on a microcomputer, character string functions, table processing, subroutines and functions, extended I/O and format features, disk processing techniques, and system and utility commands.
Prerequisite: CS 1013 or elementary experience with the BASIC language; keyboarding skills.

CS 1053 3 hours
RPG Programming

A beginning course in business programming using the problem-oriented language, Report Program Generator III/RPG 400. The capabilities and limitations of RPG 400 and the structure and design of this report writer will be examined. The preparation and integration of languages' specification forms and its sundry features will be studied and applied to the solution of various business reporting requirements. AS/400 terminals are used to complete course work.
Prerequisite: CS 1013, and CS 1033, keyboarding skills.

CS 1063 3 hours
Microcomputer Operations

A course to familiarize students with the microcomputer hardware and operating system software. Topics include the PC microprocessor and support chips, ROM software, ROM BIOS, Utility software and diagnostics, DOS and its functions, networking terminology and PC LAN considerations, and peripheral coordination.
Prerequisite: CS 1013, CS 1023 & CS 1003 or consent of the instructor.

CS 2003 3 hours
Database Structures

Database structure definition and creation as well as development on microcomputers and minicomputers will be the major topics. Software to create, update and extract data from databases on minicomputers and microcomputers will be investigated.
Prerequisite: CS 1023, CS 1053, CS 2033 or consent of instructor.

CS 2013 3 hours
COBOL Programming

A course in computer programming techniques and structure using the COBOL language, emphasizing programming concepts and methodologies (i.e., structured design and structured COBOL programming). It also stresses development of the student's skills in applying these methods and concepts during the process of designing and coding COBOL programs. The tools and facilities of the language are also explored and utilized. Topics include structured

design and programming; basic and special features of the COBOL language, including sequential disk files, sorting, tables and arrays, and report writing. AS/400 terminals or PC Compilers are used to complete lab work.
Prerequisite: CS 1013 & CS 1033, CS 1053. Keyboarding skills.

CS 2033 3 hours
Systems Development & Design

Basic approaches and techniques used in the analysis, design, and development of integrated business information systems. Typical business information problems will be examined via case studies. Topics covered are general systems theory; management organization and systems; system functions/concepts; survey initiation and fact gathering; charting; systems analysis/design/implementation; evaluation and review; and feasibility studies.
Prerequisite: CS 1023, CS 1033, and one computer language course

CS 2053 3 hours
FORTAN 77 Programming

A basic course in computer programming techniques and structure using the FORTRAN 77 language which is oriented primarily toward mathematical, scientific, or engineering problem solutions. Emphasis is placed upon expanding the student's knowledge, understanding, and awareness of fundamental problem-solving concepts and upon developing, in each student, basic skills in applying these concepts to problem solutions using the tools, techniques, and features of the FORTRAN 77 language.
Prerequisite: MT 1303 or CS 1033 or consent of instructor. Keyboarding skills.

CS 2073, 2083 3 hours
Computer Information Systems Internship

A supervised work experience in a data processing environment using the skills and related knowledge learned in previous courses. Coordination of work experience to classroom learning will be done by the instructor. Time will be arranged. A one-hour seminar will be held each week to discuss work experiences.
Prerequisite: enrollment in the Computer Information Systems Program and consent of the instructor
*To be taken last semester of study.

CS 2093 3 hours
C Programming

A course in computer programming techniques and structure using the C language, emphasizing programming concepts and methodologies. It is recommended for those who already have some programming experience. Learn to design, code, compile, and execute your own programs in the C programming language. Topics include variable types, various input techniques, formatting output, conditionals, setting up loops, case structures, arrays, functions, symbolic constants, preprocessor macros, file inclusions, and structured programming techniques.
Prerequisite: CS 1013, CS 1033, and one computer language.

CS 2123 3 hours
Pascal Programming

An intermediate level course in computer programming and problem-solving techniques, using the general-purpose Pascal language. Emphasis is placed upon expanding the student's knowledge and understanding of state-of-the-art problem-solving concepts and methods, and upon developing skills in applying these concepts to problems solved by usage of the block-structured language, Pascal. Areas covered include structured programming and problem solving; algorithm design and development; basic Pascal data types and program structure; computational structure; logical and I/O structures; flow of control structures; advanced data types; functions and procedures; UCSD extensions to standard Pascal; and Turtle graphics.
Prerequisite: CS 1033 or MT 1303 or consent of instructor. Keyboarding skills required.

CS 2661, 2672, 2683 1-3 hours
Independent Studies in Computer Information Systems

Course content and hours arranged by instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

Criminal Justice

CJ 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: none

CJ 1013 3 hours
Introduction to Criminal Justice

An introduction to the criminal justice system in America. This course stresses the interrelatedness of the three components: police, courts, and corrections. Included is a study of current national problems within the system with an examination of proposed changes. The course provides historical and philosophical insights into the system of criminal justice.
Prerequisite: none

CJ 1023 3 hours
Criminal Law and Procedures

A study of criminal, common, and statutory law within the context of enforcement. Study includes substantive criminal law, its development, interpretation, and administration with emphasis on the criminal law and procedures in the state of Missouri.
Offered evenings only.
Prerequisite: none

CJ 1033 3 hours
Rules of Criminal Evidence

A study of basic rules of evidence applicable to criminal and other related police duties. Emphasis is placed on the question of admissibility of evidence and the practical application of

procedural and substantive constitutional guarantees.

Offered evenings only.

Prerequisite: none

CJ 1043 3 hours
Juvenile Procedures

A study of the organization, functions, and jurisdiction of juvenile agencies; the detention of juveniles; and the processing of neglected children. Topics include the intent, application, and procedures of the Missouri Juvenile Code: juvenile case disposition, crime prevention methods, and diversion programs.

Offered evenings only.

Prerequisite: CJ 1013

CJ 2013 3 hours
Introduction to Corrections

This course provides a basic knowledge of the correctional process as it proceeds from the time of arrest and incarceration, through the criminal justice system, and into the correctional institution or alternative program. It includes a description of various treatment modalities and philosophies.

Offered evenings only.

Prerequisite: CJ 1013

CJ 2023 3 hours
Criminal Investigation I

A study of the criminal act and its investigation, including specific crimes against the person and against property, the process of fact-gathering testing of hypotheses, and the problem of proof.

Offered evenings only.

Prerequisite: CJ 1023 and 1033

CJ 2033 3 hours
Criminal Investigation II

A study of the recognition, collection, identification, preservation, transportation, and development of criminal evidence. Narrative police report writing and the preparation of cases for prosecution are also covered.

Offered evenings only.

Prerequisite: CJ 2023

CJ 2043 3 hours
Police Patrol and Services

A study of the foundations of police operations, providing patrol coverage and called-for services, the principle of conspicuous presence as a means of crime prevention, and preservation of the peace.

Offered evenings only.

Prerequisite: CJ 1013

CJ 2053 3 hours
Police Supervision & Administration

A study of the organization and administration of various police systems. The specialized characteristics of individual police organizations and police personnel, the relationship of police to other public agencies, and the control and responsibility of police departments. The most popular and prevalent ideals, principles, and assumptions pertaining to police administration

are presented utilizing a multi-disciplinary orientation to analyze these concepts.

Offered evenings only.

Prerequisite: nine credits in criminal justice

CJ 2063 3 hours
Street Survival

A fundamental course in officer survival. Topics covered will include arrest techniques, felony car stops, officer-violator confrontations, and officer protection.

Prerequisite: CJ 1013 or consent of instructor

CJ 2073, 2083 3 hours
Criminal Justice Practicum

A supervised work experience in three to four criminal justice settings. Work periods will be arranged. Students will write a brief report on their experiences at each criminal justice setting.

Prerequisite: consent of instructor

CJ 2661, 2672, 2683 1-3 hours
Independent Studies in Criminal Justice

Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

Dental Assisting

Open Entry/Open Exit Program—Self Paced

Note: Courses must be taken in order as listed below or by approval of instructor.

DA 1001 1 hour
Introduction to Dental Assisting

Descriptions and explanations of the competency based program, how it works, the forms used, and the program policies. Also an introduction to the profession of dentistry including the history, use, and functions of dental equipment. Personal oral hygiene will also be taught.

Prerequisite: admission to Dental Assisting Program.

DA 1104 4 hours
General and Dental Anatomy and Physiology

A study of head and neck anatomy, oral embryology and histology, and tooth morphology. Also included is the study of gross anatomy of body systems and organization comprising normal human anatomy and physiology, as well as disorders and pathologies. Emphasis on the relationship of the whole body as related to dentistry.

Prerequisite: admission to Dental Assisting Program

DA 1302 2 hours
Sterilization and Disinfection

Discusses the infectious disease process, including HIV, HBV and STD's. Provides information about essential infection control practices, including immunization, handwashing, and personal protective equipment. Also provided

is detailed information on sterilization, disinfecting methods and OSHA Standards.

Prerequisite: admission to Dental Assisting Program

DA 1404 4 hours
Chairside Assisting I

An introduction to the functions of a chairside assistant and composite restorations including instrument exchange, oral evacuation, anesthetic techniques, isolation techniques and charting. Special emphasis will be placed on Preventive Dentistry, nutrition and patient education.

Prerequisite: admission to Dental Assisting Program

DA 1204 4 hours
Dental Materials I

A study of the science of dental materials, their composition, structures and properties, uses in dentistry and manipulation techniques. Topics include gypsums, some impression materials, cements and bases, and restorative materials. Activities include taking alginate impressions, wax bites, and model trimming.

Prerequisite: admission to Dental Assisting Program.

DA 1504 4 hours
Dental Radiology

A introduction of radiographic procedures, basic terms and nomenclature, theory of production and effects of x-radiation, instruction in dental radiographic health and safety according to OSHA, theory and instruction on darkroom and darkroom chemistry, theory of techniques and practice in exposing bitewings, bi-secting, paralleling, edentulous and child radiographs and occlusal. Practice in processing and mounting.

Prerequisite: admission to Dental Assisting Program

DA 1602 2 hours
Emergencies in the Dental Office and Pharmacology

A study of drugs in the Dental Office and their effects. Emphasis is placed on recognition of emergencies which may occur and how to handle the situation.

Prerequisite: admission to Dental Assisting Program

DA 1703 3 hours
Clinical Practice I

Provides the student with actual work experience in a dental office. It provides the student the opportunity to perfect chairside and laboratory skills in the dental environment, and to work with other dental professionals.

Prerequisite: admission to Dental Assisting Program

DA 1804 4 hours
Dental Materials II

A continued study of the science of dental materials to include impression materials, waxes, metals, and abrasives and polishing agents. Activities include articulating models, constructing custom trays, fabricating and seating

a temporary crown, cleaning and repairing dentures, and constructing bite rims and bite blocks.

Prerequisite: admission to Dental Assisting Program

DA 1904 4 hours
Chairside Assisting II

The concepts taught in Chairside Assisting I will be applied to the specialty areas of dentistry, including theories of orthodontics, periodontics, endodontics, pedodontics, and oral surgery, prosthodontics and oral pathology.

Prerequisite: admission to Dental Assisting Program

DA 2002 2 hours
Dental Office Procedures

A study of the principles of business management for the dental office including appointment control, record keeping, recall systems, fee maintenance, insurance forms, inventory control, telephone communication skills and types of dental office procedures performed on a computer.

Prerequisite: admission to Dental Assisting Program

DA 2101 1 hour
Psychology/Communications in the Dental Office

Discusses some of the psychological factors which affect the dental patient's behavior. Also discussed are problems facing the dental health team members including topics such as stress, team building and problem solving skills.

Prerequisite: admission to Dental Assisting Program

DA 2305 5 hours
Clinical Practice II

Provide the student with the opportunity to perfect chairside and laboratory skills and to perform expanded functions in a dental office. The student may also receive experience in a specialty office, i.e., orthodontics or oral surgery.

Prerequisite: admission to Dental Assisting Program

DA 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.

Prerequisite: none

DA 2201 1 hour
Dental Assisting Placement

A course designed to assist dental assisting students in obtaining jobs suitable to their training and interests.

To be taken last semester of study.

Prerequisite: admission to Dental Assisting Program

* For information on expanded functions — contact Dental Assisting Department.

Drafting and Design Technology

DF 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.

Prerequisite: none

DF 1001 1 hour
Blueprint Reading

A course designed to give the student a working knowledge of standard drawing conventions and dimensioning practices. Areas covered include drafting and blueprint reading procedures, notes and title block information, and machining specifications.

Prerequisite: none

DF 1013 3 hours
Engineering Drawing

A course designed to give the student a working knowledge of fundamental drawing practices and the geometric relationship of points, lines, and planes in space. Areas covered include the techniques of lettering, sketching, drawing of mechanical parts, sectional and auxiliary views, conventional drafting practices, and an introduction to computer aided drafting.

Prerequisite: none

DF 1023 3 hours
Descriptive Geometry

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 development of plane and curved surfaces, revolutions, and vector geometry.

Prerequisite or Corequisite: DF 1013

DF 1032 (lec), 1041 (lab) 3 hours
Principles of Power

A study of the principles of hydraulics and pneumatics fundamental to fluid power design. Other topics include principles of mechanical and electrical powered systems and power system schematics.

Corequisite: DF 1043 or consent of instructor

DF 1043 3 hours
Technical Computations I

A study of the treatment of measured data, significant figures, applications in geometry, basic algebra, and linear equations.

Prerequisite: none

DF 1055 5 hours
Materials and Processes

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

DF 1063 (lec), 1072 (lab) 5 hours
Machine Drawing

A course dealing with problem situations involving the development of drawings of castings, forgings, and machine parts. Drawings are produced using conventional drafting procedures and computer aided drafting.

Prerequisite: DF 1013

DF 1083 3 hours
Technical Computations II

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

Prerequisite: DF 1043

DF 2013 3 hours
Machine Design

A course designed to bring together in practical applications the skill and knowledge developed in courses covering mechanics and drafting. Instruction provided permits logical organization of facts for economical solution of machine design problems. Emphasis is placed on standardization, the use of Drawings are produced using the drawing board and the computer aided drafting system.

Prerequisite: DF 1063

DF 2023 3 hours
Tool and Die Design

A course designed to give the student a fundamental knowledge of the design of tools and fixtures used in manufacturing. Projects include design and drawing of jigs, fixtures, and blanking dies utilizing conventional drafting practices and computer aided drafting. Mass production methods are discussed so that this knowledge may be applied to the practical work of tool design.

Prerequisite: DF 1063

DF 2033 (lec), 2042 (lab) 5 hours
Technical Physics

A study of mechanics, heat, sound, light, electricity, and physical properties of matter. A noncalculus course which features problem solving. Three hours lecture and two lab periods per week.

Prerequisite: either DF 1083, MT 1303, or satisfactory score on the MMPT

DF 2053 3 hours
Statics and Strength of Materials

A study of statics and strength of materials as applied to structures, beam theory, beam design, and theory of column formulas. The course includes study of stress and strain experienced by machine parts and structural members. Emphasis is placed on applications and problem solving.

Prerequisite: DF 1083 or consent of instructor

DF 2063 3 hours
Technical Writing
An 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: EN1223

DF 2073 (lec), 2082 (lab) 5 hours
Architectural Drawing
An introduction to the fundamental principles of residential design, building materials, methods of construction, design standards, room arrangements, and energy efficient design. Prerequisite: DF 1013

DF 2093 3 hours
Civil Drawing
A course encompassing the methods and conventions of the civil engineering field and its allied industries. Primary focus is on drawing and detailing civil projects such as land division and subdivision, municipal utility facilities, contours, and land cut and fill using the drawing board and computer aided drafting. Prerequisite: DF 1013

DF 2102 (lec), 2111 (lab) 3 hours
Structural Drawing
A course which concentrates on detailing and delineating the structural systems encountered in architectural and civil construction. Systems included are those structures based on wood, steel, and concrete components. Prerequisite: DF 1013 and 2053

DF 2123 3 hours
Technical Illustration
A course to develop the understanding and skills to produce technical illustrations in the many forms required by industry. Includes an intensive study of the pictorial forms of isometric, diametric, oblique, and perspective drawing, and the methods and media used in creating illustrations. Prerequisite: DF 1013

DF 2132 2 hours
Modern Drafting Techniques
An exploratory course which has major emphasis on photography, film processing, model building, and their industrial applications. Students participate in the development of projects utilizing the latest available industrial techniques. Prerequisite: DF 1013

DF 2143 3 hours
Introduction to CAD Applications I
A course designed to acquaint the student with the basic fundamentals of computer aided drafting. Problems and solutions include construction of basic drawings, saving drawings, using a file system, modification of existing drawings, and plotting drawings using the computer plotter. Prerequisite: DF 1013 and 1023 or consent of instructor

DF 2153 3 hours
CAD Applications II
A course designed to acquaint the student with advanced applications of computer aided drafting. Projects and solutions include the production of working drawings and three dimensional drawings. Prerequisite: DF 2143

DF 2661, 2672, 2683 1-3 hours
Independent Studies in Drafting and Design
An in-depth investigation of a specific industrial problem or actual experience in related office practices. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated. Prerequisite: consent of instructor

Economics

EC 2103 3 hours
Principles of Macroeconomics
An introduction to the total level of economic activity—the rate of production and income. Topics include inflation, unemployment, government spending and fiscal policy, incomes policy, the banking system and monetary policy, and international economics. Prerequisite: none

EC 2203 3 hours
Principles of Microeconomics
An introduction to how prices are determined. Topics include how prices are set in markets of varying degrees of competition; how income is determined: wages and salaries, rent, interest, and profits; unions; environmental problems; wealth and poverty in the United States of America; and non-market economic systems. Prerequisite: none

EC 2701, 2, 3, 4 1-4 hours
Independent Studies in Economics
Course content and hours arranged by instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated. Prerequisite: consent of instructor

Education

ED 0001 1 hour
Adult Re-Entry Orientation
This class is designed exclusively for adults planning to pursue a degree at East Central College. It's purpose is to acquaint them with the programs and services available at the college. The course meets for four consecutive mornings for a total of 16 hours. A session is held in March of each year, and again in July. Topics that are covered include career exploration, time and stress management, assertiveness training, ECC program information, financial assistance sources, self-concept building, values clarification, and interest assessment. Prerequisite: Age 24 or older

ED 1001 1 hour
Orientation for Student Success
A required orientation to the College for all degree seeking students entering ECC for the first time. Students attend an orientation session prior to the start of classes in their first semester of attendance at ECC. Additional assignments are completed during the semester. (This requirement is waived for students with 15 or more college credits taken before Fall 1988, and for students with an orientation credit from another college or university.) Prerequisite: none

ED 1011, 1012 1-2 hours
Career Planning
A course designed to involve students in (1) orientation to college, (2) self-study and understanding, (3) occupational exploration, and (4) educational and career planning. As set forth in this work text, career exploration and planning involves self-study, knowing vocational requirements and trends, and understanding different lifestyles. Students will learn how to make decisions regarding themselves and their relationship to the world of work. Prerequisite: none

ED 1031, 2, 1-2 hours
Field Experience (Elementary or Secondary Ed)
Supervised field experience in an actual classroom setting. The student is required to attend a minimum of 42 hours (per credit hour) observing in the classroom. Additional requirements include a journal which summarizes the observation experience, attendance at scheduled meetings on campus, and other assignments to be determined by the instructor. Prerequisite: consent of education advisor

BI 1202 2 hours
Health
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. The course is intended for the elementary education major and those not majoring in biology. Prerequisite: none

AR 2023 3 hours
Art for Children
A study of the types of art activities related to various age groups in the elementary school, including experience with art materials used in the classroom. Prerequisite: none

EN 2033 3 hours
Literature for Children
A study of children's literature from pre-school to sixth grade to acquaint the student 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: EN 1223

MU 2043 3 hours
Music for Children
 Students will be introduced to methods of classroom music with units in music reading, performing skills, music education approaches for K-6, and peer-teaching. Recommended for early childhood and elementary education majors.
 Prerequisite: Music Appreciation (recommended)

PE 2052 3 hours
Physical Education for Children
 This course will introduce the student to a children's physical education program that is designed for every child and to prepare them to guide learning experiences that are positive and appropriate for all levels of skill. Students will learn the values, purpose and outcomes of quality physical education. Through a study of teaching styles and management methods, students will be introduced to the tools they will need to teach movement concepts, skill themes, fitness, games, gymnastics and dance.
 Prerequisite: none

PY 2203 3 hours
Child Psychology
 A study of development from conception to adolescence emphasizing both current and historical approaches to research and theory, genetic and environmental influences on development, and the sequence and timing of physical, mental, and personality development throughout the years of childhood.
 Prerequisite: PY 1103 or consent of instructor

PY 2503 3 hours
Adolescent Psychology
 A broad, general introduction to human development and, specifically, adolescent development. Adolescence will be viewed in the entire life cycle and in the social, cultural, political, and historical contexts. An integrated approach involving biological, psychological, and cultural perspectives will be used.
 Prerequisite: PY 1103 or consent of instructor

TA 2013 3 hours
Teacher Aide Seminar
 An individualized, self-paced seminar designed to acquaint the prospective teacher aide with the responsibilities and requirements of the teaching assistant and the clerk assistant. The student will discover how the teacher aide fits into the instructional team. Through the seminar, the student prepares to do an internship in one of the district schools. The instructor moderates the seminar, tying coursework and experience together.
 Prerequisite: None

TA 2021, 2032, 2043 1-3 hours
Teacher Aide Internship
 A supervised work experience in one of the district schools to provide a realistic view of the varied duties of the teaching assistant or the clerk assistant. Students can register for 1 to 6 hours credit and must spend 2 hours working as an intern for every hour of credit. Students keep a detailed

journal in which they describe and react to the work experience.
 Prerequisite: TA 2013 or consent of instructor

ED 2701, 2, 3 1-3 hours
Independent Studies in Education
 The student enrolled for directed studies has two alternatives: (1) investigate a specific topic within the field of education, or (2) assist with tutorial history instruction under the supervision of an instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent or instructor

Electronics

EL 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar
 Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
 Prerequisite: none

EL 1003 (lec), 1011 (lab) 4 hours
Direct Current Circuits
 A study of direct current circuit operations. Passive electronic devices are analyzed as to their physical and electrical properties. Interpretation of fundamental schematic symbols is developed.
 Prerequisite: none
 Corequisite: EL 1023, 1031

EL 1023 (lec), 1031 (lab) 4 hours
Alternating Current Circuits
 A study of alternating current and reactive components. Fundamental theory of alternating electrical and magnetic fields are developed and applied to dynamic circuit configurations. Interpretation of associated schematic diagrams is advanced.
 Prerequisite: none
 Corequisite: EL 1003, 1011

EL 1046 (lec), 1052 (lab) 8 hours
Fundamentals of Semiconductors
 A study of the semiconductor devices and associated circuitry with modern applications. Operational theories of diodes, bipolar junction transistors, field effect transistors, four layer devices, voltage regulator and operational amplifier integrated circuits in addition to optoelectronic devices are made known. Circuit applications include basic analog amplifiers, oscillators, timers, pulse circuits and power supplies.
 Prerequisite: EL 1003, 1011, 1023, 1031

EL 1063 3 hours
Advanced Circuit Analysis
 This course provides an advanced study of analog circuit theory. Active filters, Op-Amp frequency response, R.F. amplifiers, Thyristor circuit applications and Opto-Electronic principles are studied. Circuit formulations developed are incorporated into systems configurations to introduce the student to a comprehensive analysis of large circuits.
 Prerequisite: EL 1046

EL 1103 3 hours
Basic Electronics
 A study of the principles of direct and alternating current, motors and generators, and an introduction to semiconductor devices. Soldering and desoldering, operation of test equipment, and laboratory experimentation are included.
 Prerequisite: none

EL 1114 4 hours
Industrial Control I (Industrial Electricity)
 A study of basic D.C. and A.C. electricity and its application in the industrial environment. Electrical safety, D.C. and A.C. generation, transmission, and installation, along with D.C./A.C. motor theory will be covered.
 Prerequisite: none

EL 1124 4 hours
Industrial Control II (Solid State Control Circuits)
 A thorough and comprehensive study of modern electronic solid state circuit components with applications in industrial controls. The course provides an initial review of basic electronics, followed by a study of semiconductor theory. Analysis is made of rectifiers and power supplies, bipolar transistors and transistor biasing, and solid state sensors and transducers. The student is provided examples of industrial control circuits that make use of these electronic devices.
 Prerequisite: EL 1103, EL 1114 or EL 1023

EL 1134 4 hours
Industrial Control III (Digital Control Circuits)
 A study of the concepts associated with modern industrial control systems. Digital fundamentals and basic microprocessor systems are covered. Includes topics such as numbering systems, logic circuits, microprocessor architecture, interfacing methods, and fundamentals of programmable control.
 Prerequisite: consent of instructor or EL 1124

EL 1143 3 hours
R.F. Electronic Communications
 This course presents information about the circuits and building blocks of communications systems. Fundamental A.M., F.M., and single sideband transmitters and receivers are analyzed. Principles of waveguides, antennas, and microwave devices are discussed. Digital communication systems, radar systems and television broadcast standards are studied.
 Prerequisite: EL 1046 and 1052 or consent of instructor

EL 1164 4 hours
Industrial Control IV (Intelligent Machines)
 An advanced study of microprocessor controlled machine operations. A view is presented of the sensory activities, movement and interactive information exchange involved in intelligent machine communication. Advanced vision and tactile sensor systems are discussed. The course concludes with an overview of computer-aided manufacturing, computer-aided design, and other flexible manufacturing systems.

Prerequisite: EL 1134, EL 2054 or consent of instructor

EL 2054 (lec), 2061 (lab) 5 hours
Introduction to Digital Circuits

A general study of digital electronics. Areas covered include numbering systems and codes, decision-making logic elements, sequential and combination logic elements, memories, data conversion, and digital applications.

Prerequisite: EL 1046, 1052 or consent of instructor

EL 2072 (lec), 2081 (lab) 3 hours
Sensors and Transducers

A study of sensors and transducers as related to industrial control applications. The student is introduced to industrial ladder diagrams with an overview of Robotics fundamentals. Emphasis is placed on current applications of these devices in industrial systems.

Prerequisite: EL 1046, 1052

EL 2084 (lec), 2091 (lab) 5 hours
Introduction to Microprocessors

A study of general microprocessor theory and operation. Topics include numbering systems, architecture, assembly language programming, I/O interfacing, and troubleshooting methods.

Prerequisite: EL 2054, 2061, or consent of instructor

EL 2093 3 hours
Introduction to Computer Integrated Manufacturing

An introductory course in Computer Integrated Manufacturing Technology. The three major components of CIM, namely: 1) (CAD) Computer Assisted Design, 2) (LAN/MAP) Local Area Networks/Manufacturing Automation Protocol and 3) Robots and (AI) Artificial Intelligence are discussed. The course is itself an integration of the use of computers to plan, implement and manage the manufacturing process. Basic concepts of materials processing are introduced.

EL 2102 (lec), 2112 (lab) 4 hours
Advanced Microprocessors

A study of the theory and operation of the 8088 and 68000, 16 bit microprocessors. Advanced interfacing techniques will be discussed along with operating systems, advanced assembly language programming, and servicing techniques.

Prerequisite: EL 2084, 2091, or consent of instructor

EL 2113 3 hours
Electronic Systems Troubleshooting and Maintenance

This course is designed to allow the student to gain knowledge in a practical area of electronics. Maintenance procedures, troubleshooting techniques, and specific electronic systems are studied.

Prerequisite: EL 2084 and EL 1046

EL 2123, 2133 3 hours
Electronics Internship

Students are placed with cooperating employers in various specialized areas of electronics. The internship involves students working with experienced technicians to gain limited experience in the field of electronics. Positions are arranged by the department and assigned to the student. The trainee is expected to spend six clock hours on the job per week.

Prerequisite: electronics major and consent of instructor

EL 2145 5 hours
Advanced Manufacturing Processes

This course is a study of new manufacturing technology that has resulted from the introduction of automation and computer integration in the production process. The basic concepts of machining, casting, forming assembly, joining and fastening are presented in light of how they have been modified by automation and computer aided integration technology. Numerical controlled machines, LASER manufacturing applications and Programmable Logic Controllers are discussed.

Prerequisite: EL2054, CS1003 or consent of instructor

EL 2661, 2672, 2683 1-3 hours
Independent Studies in Electronics

Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be expected to spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

EL 2991 1 hour
Employment Skills

This course is designed to provide students with the basic skills necessary to conduct a self-directed job search. Areas of review include: self-assessment, employer research, application, references, resumes, interviewing, follow-up and employer expectations. This course should be taken during your last or second to last semester.

Emergency Medical Technology

* All courses must be taken in the same academic year.

EM 0100, 1, 2, 3 5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.

Prerequisite: none

EM 1014 4 hours
Emergency Medical Technician Refresher

A course which provides review in the emergency care of the sick and injured. It is designed to prepare the student for relicensure as an EMT. It includes both didactic and practical review. Upon successful completion of the course, the student is qualified to retake the Missouri State Licensure

Examination. The course is held in conjunction with EM 1027. May be repeated.

Offered evenings only.

Prerequisite: A currently licensed EMT having previously passed the Missouri State Licensure Examination within the last three years.

EM 1027 7 hours
Emergency Medical Technician

A course which provides training in the emergency care of the sick and injured. The course includes didactic, practical, and off-campus clinical experiences. Those completing the course are eligible for the Missouri State Licensure Examination and/or the National Registry Examination to become a licensed/registered EMT.

Offered evenings only.

Note: A student can take the course and sit for the Missouri State Licensure Examination; however, a state license will not be issued until the student reaches the age of 18.

EM 1036 6 hours
Emergency Medical Technician-Internship

This course is designed to provide additional training in the emergency care of the sick and injured. The student will receive emergency medical training above the EMT level which will enhance existing job skills as well as provide sound knowledge base for entrance into a paramedic training program. This course includes a 100 hour ambulance clinical component to be completed outside of class.

Prerequisite: Current Missouri EMT License

***EM 1112 12 hours**
Emergency Medical Technician-Paramedic I

A course which provides advanced training in emergency care and advanced life support techniques for the sick and injured. Course includes didactic, practical, and off-campus clinical experiences covering the roles and responsibilities of a paramedic, legal aspects, communications, stress management, anatomy and physiology, advanced respiratory care, shock and fluid management, and pharmacology. An advanced life support internship is available for those students needing ALS exposure. Offered evenings and afternoons.

Prerequisite: A high school diploma or GED, current license as an EMT in Missouri, successful completion of a paramedic pretest, and at least two letters of recommendation from specified persons. Experience is highly recommended and preferred. Exception is by consent of the course medical director only.

Corequisite: MT1011

Recommended: BI 1303, 1312; CH 1303, 1312; BI 2102, 2112, 2202, 2203, MT 1303.

***EM 1122 12 hours**
Emergency Medical Technician-Paramedic II

A course which provides advanced life support techniques for the sick and injured. Course includes didactic, practical, and off-campus clinical experiences, covering cardiology, trauma, burns, central nervous system, medical emergencies, environmental emergencies,

rescue/extrication, pediatrics, OB/Gyn, and psychiatric.

Prerequisite: EM 1112 in the preceding semester

EM 1144 4 hours
MEMT/EMT-Paramedic Refresher

A course designed to meet the state requirements for relicensure as a paramedic. It includes didactic, laboratory, and clinical experiences. (Clinical may be waived.) Course is offered on an as needed basis. May be repeated. Offered evenings only.

Prerequisite: Current Missouri License as an MEMT or EMT-P. Acceptance is based on the nearest expiration date of the paramedic license.

EM 1152 2 hours
MEMT/EMT-P Refresher Clinical

Opportunities are provided for EMT-Paramedics to have their clinical skills evaluated under the controlled environment of the hospital. Meets BEMS requirements for inactive EMT-P relicensure. May be repeated.

Prerequisite: EM 1144

EM 1153 3 hours
Teaching Techniques for EMS/Fire Personnel

A study of the basic theories of learning and methods of instruction. The use of lectures, demonstrations, and visual aids as applied to the instruction of emergency medical services/fire department personnel are illustrated. Practice is provided in the use of lesson plans, visual aids, tests, and other teaching devices. Each student's application of a teaching procedure is critically discussed and evaluated.

Offered evenings only on an as needed basis.

Prerequisite: none

***EM 1306 6 hours**
Emergency Medical Technician-Paramedic Field Internship

Opportunities are provided for students to perfect skills and apply knowledge acquired in EM 1112, and 1212, by gaining experience in actual field settings under experienced preceptors. Upon successful completion, the student is eligible to sit for the Missouri State License Examination as a paramedic.

Prerequisite: EM 1112, 1212

EM 1661, 1672, 1683 1-3 hours
Independent Studies in Emergency Medical Technology

Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

EM 1705, 1710 5 or 10 hours
Independent Studies-EMT-P Review

A course which provides remedial study in designated areas for the EMT-Paramedic candidate not meeting the Bureau of Emergency Medical Services practical skills abilities. For each semester hour enrolled, the student will be

required to spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

Engineering

EG 1103 3 hours
Engineering Drawing and Descriptive Geometry

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: none

EG 2003 3 hours
Engineering Mechanics-Statics

A study of the application of the principles of mechanics to engineering problems of equilibrium. Topics include resultant, equilibrium, friction, trusses, center of gravity and moment of inertia.

Prerequisite: PH 2103, 2112

Prerequisite or Corequisite: MT 2205

EG 2102 2 hours
Engineering Mechanics Dynamics

A study of application of the principles of mechanics to engineering problems of motion and acceleration. Topics include plane motion, force, mass, and acceleration; work and energy, and impulse and momentum.

Prerequisite: EG 2003

EG 2303 3 hours
Introduction to Circuit Theory

An introduction to electrical circuits, electronic devices, nodal methods, steady state, and transient circuits. Resistors, capacitors, voltage sources, and current sources are included.

Prerequisite: MT 2105 and PH 2103 & 2112

Prerequisite or Corequisite: MT 2205 and PH 2203 & 2212

EG 2701, 2, 3 1-3 hours
Independent Studies in Engineering

The student enrolled for directed studies will study a specific topic in engineering. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

English

EN 0003 3 hours
Developmental Reading

A non-credit developmental course in reading designed for students who need to improve their reading skills before beginning college level courses. The course stresses the improvement of reading comprehension skills, the development of vocabulary, and the improvement of reading rates. Not intended for transfer.

Prerequisite: None

EN 1003 3 hours

Developmental English

A non-credit developmental course in grammar for students who need to improve their grammar skills before attempting college level courses. The course reviews the basic grammar of the English sentence and addresses basic writing problems. Grammar, usage, and punctuation are further reinforced in several sentence-combining exercises and in a simply-constructed basic paragraph. Not intended for transfer.

Prerequisite: None

EN 1101 1 hour
Study Skills

A course designed to help students make the most of the college experience by introducing them to some of the ideas and skills that have been proved to work for successful students. Content can be adjusted to meet the needs of any group but covers such topics as time management, note taking, reading, test taking, memorizing, critical thinking, health, finances, and college resources available.

Prerequisite: None

EN 1112 2 hours
Reading Comprehension

A course in reading comprehension, including such skills as recalling specific facts, making an inference, drawing a conclusion, isolating details, finding the main idea, making a judgment, understanding literary terms, and recognizing tone. The course also stresses vocabulary improvement and flexible reading rates.

Prerequisite: Grade Equivalent of 8.0 or 23rd percentile on the Nelson-Denny Reading Test

EN 1212 2 hours
Spelling

A course designed to review basic spelling rules and to practice applying these rules to selected words. For students whose spelling skills are weak or a student preparing to teach or to serve as an aide in the elementary school.

Prerequisite: None

EN 1213
English Grammar

A multi-media college grammar course using a programmed text coupled with either lecture or individualized instruction and designed to concentrate on those grammar skills that students need to know in order to write well. The course incorporates sentence combining exercises and paragraph writing in order to make the study of grammar, usage, and punctuation meaningful.

Prerequisite: A grade of C or better in EN1003 or a satisfactory score on the Asset Exam.

EN 1223 3 hours
English Composition I

A course dealing with the principles of written composition, including rhetoric and usage. The course emphasizes the development of ideas through the use of various rhetorical patterns.

Prerequisite: demonstrated proficiency on placement test or C grade or better in EN1213.

EN 1233 English Composition I (Honors) An intensified composition course open only to students who exhibit a high degree of proficiency in English. The student will be required to take EN 1233, EN 1343 and a literature course to fulfill the English requirement. (Any literature course taught at ECC is acceptable in fulfilling this requirement except EN 2033.) While emphasis in this course is on the development of ideas through the use of various rhetorical patterns, as is the case in EN 1223, the student is required to write a research paper and critical papers on literature. Grading standards are higher in Honors than in EN 1223. Prerequisite: demonstrated high proficiency on placement test and/or a writing sample	3 hours	EN 1503 Poetry A study of literature concentrating on the forms, techniques, and themes of poetry. Emphasis is placed upon analysis and interpretation. Prerequisite: EN1223 or consent of instructor	3 hours	EN 2113 Survey of British Literature: Romanticism to the Present A survey of English literature from the Romantic Period to the present. Prerequisite: EN1223 or consent of instructor	3 hours
EN 1301 Library Skills A programmed course designed to introduce students to the library, making it possible for them to use its resources effectively. Prerequisite: none	1 hour	EN 1603 Fiction A study of literature concentrating on the short story. Prerequisite: EN1223 or consent of instructor	3 hours	EN 2203 Survey of American Literature: Colonial Period to 1865 A survey of American literature from the Colonial period to the Civil War. Prerequisite: EN1223 or consent of instructor	3 hours
EN 1333 English Composition II A second course in composition which provides practice in writing longer units of exposition than does EN 1223 and includes the writing of a research paper and analytical papers. Prerequisite: EN 1223	3 hours	EN 1703 Drama As Literature A study of the forms, techniques, and themes of drama through reading and discussing plays destined for the theatre. Film and television drama may also be considered. Prerequisite: EN1223 or consent of instructor	3 hours	EN 2213 Survey of American Literature: 1865-Present A survey of American literature from the Civil War to the present. Prerequisite: EN1223 or consent of instructor	3 hours
EN 1343 English Composition II (Honors) A second intensified composition course open only to students who have completed EN 1233 with grades of A or B. Prerequisite: EN 1233	3 hours	EN 1803 Art of the Novel A course in which English and American novels selected to give a fair sampling of 18th, 19th, and 20th century writers are read with emphasis placed upon how to read the novel. The course is an introduction to the pleasures of the novel, not just a survey. Prerequisite: EN 1223 or consent of instructor.	3 hours	EN 2303 Mexican/American Literature A study of selected readings in Mexican/American writings, particularly drama, prose, poetry, and essay. All readings are in English. Prerequisite: EN1223 or consent of instructor	3 hours
EN 1403 Technical Writing An 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: EN1223	3 hours	EN 1903 Classical Mythology A study of the ancient mythology and religion of the Greeks and others shown in literature past and present. Prerequisite: EN 1223 or consent of instructor.	3 hours	EN 2313 Creative Writing A course in imaginative writing involving student production of poems, stories, and plays. Prerequisite: EN 1223 or consent of instructor	3 hours
EN 1413 World Literature I The first of two courses designed to strengthen students' skills in the discussion of literary classics and in their writing about great literature. Prerequisite: EN1223 or consent of instructor.	3 hours	EN 2033 Literature for Children A study of children's literature from pre-school to sixth grade to acquaint the student with the best forms of literature for children and to develop standard of judgment in the selection of reading materials for children. Recommended for elementary education majors. Prerequisite: EN 1223	3 hours	EN 2403 Literature of Fantasy A study of the development of fantasy as a literary form, with emphasis on J.R.R. Tolkien. The course aims at defining fantasy in a basic way, and then showing, through an analysis of the works, the pleasures particular to the genre. Prerequisite: EN 1223 or consent of instructor	3 hours
EN 1423 World Literature II The second of two courses designed to strengthen students' skills in the discussion of literary classics and in their writing about great literature. Prerequisite: World Literature I or EN 1223 or consent of instructor	3 hours	EN 2102 Speed Reading A course in reading improvement which stresses speed while heeding the importance of comprehension, interpretation, critical thinking, including vocabulary improvement. Students read with pacing devices, using a computer program that emphasizes tachistoscopic exercises, and using timed-reading materials. Students should be able to double their reading speeds in one semester. Prerequisite: 35th percentile or better in both speed and comprehension on the Nelson-Denny Reading Test.	2 hours	EN 2503 Literature of Science Fiction A study of the development of science fiction, especially in the 20th century. The emphasis is on reading the works themselves, for themselves, but an attempt is made to show the development of the form toward literary maturity. Prerequisite: EN1223 or consent of instructor	3 hours
		EN 2103 Survey of British Literature: Beginnings to 1784 A survey of English literature from the Anglo-Saxon Period through the Age of Reason. Prerequisite: EN1223 or consent of instructor	3 hours	EN 2603 Shakespeare on Stage Selected Shakespearean plays are studied in conjunction with video tapes of the plays. Spring semester only. Prerequisite: EN 1223 or consent of instructor.	3 hours
				EN 2701, 2, 3, 4 Independent Studies in English An intensive study of some specific topic in English to be determined by the instructor and student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated. Prerequisite: consent of instructor and a grade point average of 3.00 or better in the department	1-4 hours

Fire Technology

FT 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.

Prerequisite: none

FT 1013 3 hours
Basic Fire Protection and Alarm Systems

A study of modern fire protection including water supply and distribution systems, housing of equipment and personnel, private fire protection methods, chemical extinguishers, building construction, and a study of the various types of fixed and portable fire detection and alarm systems. Written documentation included as applicable.

Offered evenings only.

Prerequisite: none

FT 1015 5-6 hours
Firefighter I

A course designed to help fire service officials in providing training to recruit firefighters. The course places emphasis on these skills and related information necessary to develop and recruit firefighters as a usable member of the firefighting team. The standards outlined for the firefighter in NFPA Standard 1001-1987 were used in the development of this package. The courses is divided into 18 subject areas as required by NFPA 1001.

Offered evenings only.

Prerequisite: none

* If state certified, this course not required.

FT 1023 3 hours
General Building Construction

A study of the fundamentals of building construction and materials related to fire protection. Includes building plan layouts, conventional representations, symbols and abbreviations for building materials, methods of showing floor plans, elevations, sections, and dimensions.

Offered evenings only.

Prerequisite: none

FT 1025 3 hours
Firefighter II

This course is designed to train the student to Level II as outlined in the Standard for Fire Fighters Professional Qualifications, NFPA 1001-1987 Chapter 4. Subjects include fire behavior, portable extinguishers, water supplies, ropes, self-contained breathing apparatus, ladders, ventilation, forcible entry, hose, nozzles, appliances, fire streams, rescue, sprinkler systems, inspections, first aid, salvage, and overhaul.

Prerequisite: FT 1015

FT 1034 4 hours
Fire Service Hydraulics and Equipment

This course is designed to acquaint fire fighters, pump operators, and engineers with the following: characteristics of water flow, friction loss, engine pressure, multiple lines, unequal layouts, pump and pumpers, and field equations. Written documentation included as applicable.

Offered evenings only.

Prerequisite: mathematics and physics advisable

FT 1043 3 hours
Fire Department Organization and Supervision

Instruction in management and administration for the fire service including the functions of management, planning, organizing, directing, controlling, the management cycle, motivation, behavioral science, executive development, educational development, and labor relations. Written documentation included as applicable.

Offered evenings only.

Prerequisite: none

FT 1063 3 hours
Codes and Ordinances

This course is designed to acquaint students with necessary procedures to properly enforce national, state, and local ordinances related to fire protection. Includes building and electrical codes. Offered evenings only.

Prerequisite: FT 1023 recommended

EM 1153 3 hours
Teaching Techniques for EMS/Fire Personnel

A study of the basic theories of learning and methods of instruction. The use of lectures, demonstrations, and visual aids as applied to the instruction of emergency medical services/fire department personnel are illustrated. Practice is provided in the use of lesson plans, visual aids, tests, and other teaching devices. Each student's application of a teaching procedure is critically discussed and evaluated.

Meets a partial requirement to become a Missouri EMS instructor.

Offered evenings only on an as needed basis.

Prerequisite: none

FT 2023 3 hours
Hazardous Materials

Content will provide students with basic information concerning the properties of hazardous materials and the methods that are most appropriate for handling the various kinds of accidents that can occur with these substances.

Offered evenings only.

Prerequisite: FT 1003 recommended

FT 2033 3 hours
Inspection and Fire Prevention

This course is designed to introduce students to various inspection practices which include surveying and mapping procedures associated with the organization and functions of fire prevention. Also includes areas of legal responsibilities and fire hazard characteristics. Opportunity is provided to make at least one complete inspection and report on an operation

industry. Written documentation included as applicable.

Offered evenings only.

Prerequisite: FT 1063 recommended

FT 2043 3 hours
Fire Investigation

This course is designed to introduce students to methods of determining point of origin, path of fire travel, and fire causes. Topics include motives, motives and methods of fire setting, recognizing and preserving evidence, arson laws, types of arson fires, court testimony, reports, and records.

FT 2063 3 hours
Rescue Techniques

A course designed to provide technical knowledge and practical skills necessary to perform emergency rescue procedures. Content will include auto extrication, water and ice rescue, rope rescue, cave rescue, trenching incidents, search and rescue, electrical emergencies, and proper use and care of equipment.

FT 2661, 2672, 2683 1-3 hours
Independent Studies in Fire Technology

Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.

May be repeated.

Prerequisite: consent of instructor

Foreign Languages

French

FR 1104 4 hours
Elementary French I

A multi-media course that combines video, audio and print materials (Pierre Capretz's French in Action) to "immerse" students in authentic, unsimplified French and to train them to use it in the context of actual communication. The introductory sequence emphasizes the development of listening and speaking skills, self-expression, and cultural insight.

Prerequisite: none

FR 1204 4 hours
Elementary French II

A continuation of FR 1104.

Prerequisite: FR 1104 or two years high school French

FR 2104 4 hours
Intermediate French I

A multi-media course that combines video, audio and print materials (Pierre Capretz's French in Action) to "immerse" students in authentic, unsimplified French and to train them to use it in the context of actual communication. The intermediate sequence emphasizes the development of reading and compositional skills.

Prerequisite: FR 1204 or four years in high school

FR 2204 4 hours
Intermediate French II
A continuation of FR 2104.
Prerequisite: FR 2104

FR 2701, 2, 3 1-3 hours
Independent Studies in French
An intensive study of some specific topic in French to be determined by instructor and student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

German

GR 1104 4 hours
Elementary German I
An introductory German course stressing basic language skills: listening, comprehension, speaking, reading and composition. Additional audio-lingual laboratory practice.
Prerequisite: none

GR 1204 4 hours
Elementary German II
A continuation of GR 1104.
Prerequisite: GR 1104 or 2 yrs high school German

GR 1302 2 hours
Elementary German III
A continuation of GR 1204.
Prerequisite: GR 1204

GR 2102 2 hours
German Readings (Part I)
A study of selected readings in prose and poetry along with grammar review, vocabulary building, and additional audio-lingual practice.
Prerequisite: GR 1204

GR 2104 4 hours
German Readings
A study of selected readings in prose and poetry along with grammar review, vocabulary building, and additional audio-lingual practice. Also available in two-hour courses. GR 2102 and GR 2112.
Prerequisite: GR 1204 or consent of instructor

GR 2112 2 hours
German Readings (Part 2)
This course is a continuation of GR 2102.
Prerequisite: GR 2102

GR 2701, 2, 3 1-3 hours
Independent Studies in German
An intensive study of some specific topic in German to be determined by instructor and student. For each spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

Spanish

SP 1104 4 hours
Elementary Spanish I
An introductory Spanish course stressing basic language skills: listening comprehension, speaking, reading, and composition. Additional audio-lingual laboratory practice is included.
Prerequisite: none

SP 1204 4 hours
Elementary Spanish II
A continuation of SP 1104.
Prerequisite: SP 1104 or 2 yrs high school Spanish

SP 2104 4 hours
Spanish Readings/Mexican Drama
A study of selected readings in Mexican drama and the short story. This course stresses the ability to read, interpret, and analyze drama which is presented in the target language.
Prerequisite: SP 1204 or consent of instructor

SP 2204 4 hours
Spanish Readings/Penninsula
This course is designed to cover selected works of "Generation of 98". A study of selected prose in the form of drama and "novela" with emphasis directed to the understanding of the philosophy of Spanish writers of the time.
Prerequisite: SP 1204 or consent of instructor

SP 2213 3 hours
Spanish Composition & Conversation
A review of Spanish grammar with practice in composition and conversation.
Prerequisite: SP 1204 or consent of instructor

SP 2303 3 hours
Mexican/American Literature
A study of selected readings in Mexican/American writings particularly drama, prose, poetry, and essay. All readings are in English.
Prerequisite: none

SP 2701, 2, 3 1-3 hours
Independent Studies in Spanish
An intensive study of some specific topic in Spanish to be determined by instructor and student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

Geography

GE 1003 3 hours
World Geography
An introductory study of the basic geographic and cultural regions of the world, including North and South America, Europe, Africa, and Asia with emphasis on the natural resources, political conditions, economy, population, religions, and cultural patterns of each area. A special unit on Missouri geography is included.
Prerequisite: none

Geology

GL 1103 (lec), 1112 (lab) 3 or 5 hours
Introduction to Physical Geology
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 laboratory study of common minerals and rocks will be included.
Prerequisite: none

GL 2703 3 hours
Alpine Geology
A course which studies the geological structures and features of the Rocky Mountains. The course is taught at Colorado State University's Pingree Park Campus.
Prerequisite: none
Corequisite: BI 2903

History

HI 1103 3 hours
U.S. History to 1877
A survey of the cultural, economic, political, and social forces and events which have shaped the United States from the Age of Discovery through Reconstruction. U.S. History 1103 complies with the provisions of Section 170.011 Rs Mo. requiring the study of state and federal constitutions.
Prerequisite: none

HI 1203 3 hours
U.S. History Since 1877
A survey of the cultural, economic, political, and social forces and events which have shaped the United States from Reconstruction to the present. U.S. History 1203 complies with the provisions of Section 170.011 Rs Mo. requiring the study of state and federal constitutions.
Prerequisite: none

HI 1303 3 hours
U.S. History (Special Focus)
Organized study of selected topics in American History.
Prerequisite: none

HI 1403 3 hours
Missouri & Mississippi Valley History
A course on aspects of Missouri and the Central Mississippi River Valley region history from the French Colonial era through the present and focusing on social, cultural and political developments. (Field trips may be required.)
Prerequisite: none

HI 2103 3 hours
Foundations of World Civilization I
(Europe to 1500)
An interdisciplinary study of the development of Western culture from prehistoric man through the Protestant Reformation, with special emphasis on social, economic, intellectual, religious, and political institutions. The course fulfills a humanities requirement.
Prerequisite: none

HI 2203 3 hours
Foundations of World Civilization II
 (Europe since 1500)
 An interdisciplinary study of the development of Western institutions from the Protestant Reformation to the present, with special emphasis on economic, intellectual, social, political, and religious movements. The course fulfills a humanities requirement.
 Prerequisite: none

HI 2303 3 hours
Foundations of World Civilization III
 (Latin America)
 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 humanities.
 Prerequisite: none

HI 2403 3 hours
Foundations of World Civilization IV
 (Africa and Asia)
 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 humanities.
 Prerequisite: none

HI 2503 3 hours
Foundations of World Civilization V
 (Special Focus)
 Organized study of selected topics in world civilization.
 Prerequisite: none

HI 2603 3 hours
Foundations of World Civilization VI
 (Japan)
 An interdisciplinary topical study of Japan from pre-historic times to the present including studies of the geography, politics, cultural and intellectual conditions. Also includes a study of Japanese business methods and organizations. The course is designed for students of history and for others such as business students who desire an in-depth study of a non-European culture. Counts as an elective course in the humanities.
 Prerequisite: none

HI 2701, 2, 3 1-3 hours
Independent Studies (Honors) in History
 The student enrolled for directed studies has two alternatives: (1) investigate a specific topic within the field of history, or (2) assist with tutorial history instruction under the supervision of an instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

HI 2802 (lec), 2803 (tour) 5 hours
Heritage Studies
 The course involves focused studies of varying duration which include both lectures and historical site tours. History and culture are the primary emphasis. This course may be repeated.
 Prerequisite: none

HI 2903 3 hours
The World Since 1945
 A study of the major events of world history from the end of the Second World War to the present. Topics include social and economic change, diplomacy and political change, the emergence of the Superpowers, the Cold War, the end of colonialism, and discussions of third world areas of Asia, Africa, and Latin America both in terms of domestic conflicts and as arenas for superpower conflict.
 Prerequisite: none

Horticulture

HR 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar
 Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
 Prerequisite: none

HR 1003 3 hours
The Home Gardener (Telecourse)
 An introductory course outlining the basics of gardening. Greenhouse labs support this interesting course covering the general plant types and their planting requirements.
 For special interest students only.
 Prerequisite: none

HR 1013 (lec) 1012 (lab) 5 hours
Introduction to Horticulture
 An introductory course covering the many varied occupational areas of horticulture. Students will be given extensive exposure to each area in order to better determine which area of horticulture they want to pursue vocationally. The biological aspects of plant life and the environmental factors which affect plant growth will be covered as well. For the laboratory course, students will spend one hour each week outside of class working in an assigned greenhouse area and a garden area. The three hour per week lab will be spent doing supplemental activities that will enhance the lecture topics. Offered fall semester only.
 Prerequisite: none

HR 1033 3 hours
Plant Propagation
 An introduction to the common methods of commercial plant reproduction including seeds, cuttings, layering, grafting, and division. The course makes use of the greenhouse propagation facilities.
 Offered spring semester only
 Prerequisite: HR 1013

HR 1043 3 hours
Greenhouse and Nursery Management
 A course with a greenhouse field/lab approach. Modern growing structures are studied. Greenhouse design and construction will be explored. Current practices in environmental control in greenhouses and other plant growing structures will be discussed. Students will work in the campus greenhouses raising a bedding plant crop. The business management aspect of owning or managing a greenhouse, nursery, or gardening center business will be discussed.
 Offered spring semester only.
 Prerequisite: HR 1013, 1033, and sophomore standing

HR 1053, 1063 3 hours
Horticulture/Nursery Management Internship
 A supervised work experience (at least six hours per week) in an actual greenhouse and/or nursery situation coordinated with the student's regular classwork to provide a realistic view of the duties of a greenhouse/nursery worker.
 Offered every semester
 Prerequisite: consent of instructor and sophomore standing

HR 1093 3 hours
Residential Landscape Design
 A survey course for non-majors. Students will explore basic landscape design concepts. Basic plant materials and graphics will be covered. Students will analyze landscape situations and develop appropriate plans mainly at the residential level.
 Prerequisite: none

HR 1103 3 hours
Horticulture Math
 A course in horticultural applications of mathematics. The study will include treatment of measured data, applications of geometry and basic algebra. Daily problem assignments will include word problems taken from actual horticultural situations. This course will fulfill the math requirement for horticulture A.A.S. majors. Not intended for transfers
 Offered fall semester only
 Prerequisite: none

HR 1703, 1803 3 hours
Floral Design Internship I, II
 A course designed to give the student actual working experience in a floral shop. Emphasis is on preparation for full-time employment.
 Prerequisite: consent of instructor
 Corequisite: Floral Design

HR 2003 3 hours
Landscape Maintenance
 A course designed to tie together the skills and knowledge acquired in soils, nursery management, and woody plants as related to the management of commercial and large residential grounds. Labs covering maintenance skills will be incorporated.
 Offered spring semester only

Prerequisite: HR 2013, 2053 or consent of instructor
Corequisite: HR 2063

HR 2013 3 hours
Woody Plants I

A study of trees with regard to their identification, culture, growth habits, and landscape values. Major emphasis is given to the development of a functional use concept in planting design.
Offered fall semester only
Prerequisite: none

HR 2023 3 hours
Landscape Design I

A detailed study of the functional uses of ornamental plants. Landscape design is introduced with concern for design development, site analysis, plant graphics, and lettering. Principles of landscape design are applied to residential design problems.
Offered fall semester only
Prerequisite: HR 2013 & 2063

HR 2033 3 hours
Floral Design I

A course which includes student involvement in wholesale-retail management activities. Segments of the course include floriculture, with floral design and retail flower shop management. This practical course earmarks a trend toward a broadening approach to commercial horticulture.
Offered fall semester only
Prerequisite: none

HR 2043 3 hours
Landscape Design II

A study in landscape plan, landscape surfaces, plant materials, construction and maintenance, and implementation of landscape plans. The process of design is given particular emphasis.
Offered spring semester only
Prerequisite: HR 2023

HR 2053 3 hours
Soil Science

A study of interactions between water, air, organisms, and soil minerals important in plant growth and land use. The course includes up-to-date studies of new soil mixes and plant nutrition. Field observations and soil testing labs complete the course.
Offered fall semester only
Prerequisite: none

HR 2063 3 hours
Woody Plants II

A study of shrubs, vines, and ground covers with regard to their identification, culture, growth habits, and landscape value. Special concern is given to the cultural aspects of proper planting in functional landscape design.
Offered spring semester only
Prerequisite: none

HR 2073 3 hours
Plants for Interior Design

This course pursues the increasingly popular interior plantscaping where interior design skills are developed along with cultural management of these house plants. The course stresses identification and functional uses of house plants.
Offered fall semester only
Prerequisite: none

HR 2083 3 hours
Floral Design II

A continuation of Floral Design I. Professional practices will be stressed.
Offered spring semester only
Prerequisite: HR 2033

HR 2093 3 hours
Herbaceous Plants II

A study of the major plant groups: annuals, perennials, bulbs, herbs, and wildflowers grown in the landscape garden. Identification, growth habits, and functional uses will be stressed. Designing with herbaceous plants will be explored.
Offered spring semester only
Prerequisite: none

HR 2103 3 hours
Fruit and Vegetable Production

This course introduces the student to management of fruit and vegetable production. Topics of discussion will include selection of fruit, nut, vegetable, and herb cultivars; cultural practices of crop production, and harvesting and marketing.
Offered fall semester only.
Prerequisite: HR 1012, HR 1013, HR 1033 and sophomore standing or consent of instructor

HR 2113 3 hours
Turf Management

A lecture and hands-on course to provide the experience a student needs to become proficient in turfgrass management. Students will develop a solid understanding of the basic principles and concepts of turf management and be able to put them into practice.
Offered spring semester only.
Prerequisite: HR 1012, HR 1013, HR 2053 and sophomore standing or consent of instructor

HR 2123 3 hours
Fruit & Vegetable Production Internship

A supervised work experience (at least six hours per week) in an actual crop production situation coordinated with the student's regular classwork to provide a realistic view of the duties of an orchard or truck farm worker.
Offered every semester
Prerequisite: Consent of instructor and sophomore standing

HR 2133 3 hours
Turf Management Internship

A supervised work experience (at least six hours per week) in an actual turf management situation coordinated with the student's regular classwork to provide a realistic view of the duties of a turf manager.

Offered every semester.

Prerequisite: consent of instructor and sophomore standing

HR 2143 3 hours
Landscape Internship

A supervised work experience (at least six hours per week) in an actual landscaping situation coordinated with the student's regular classwork to provide a realistic view of the duties of a landscaper.
Offered every semester.
Prerequisite: consent of instructor and sophomore standing

HR 2661, 2672, 2683 1-3 hours
Independent Studies in Horticulture/Nursery Management

Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Offered every semester
Prerequisite: consent of instructor

HR 2703 3 hours
Home Horticulture

An introductory course for special interest students. Topics of interest to the homeowner or hobby horticulturist will be discussed. Greenhouse labs will support lectures on plant propagation and plant growth. Other topics covered will include home greenhouses; garden planning; rose growing; fruit and vegetable production; plant maintenance; flower arranging; landscaping; and lawn care.
The course cannot be taken for credit for major.

Hospitality Management

HM 1003 3 hours
Introduction to Hospitality

This course gives students who are planning a career in food service management or hotel/travel an overview of the industry today. The course is designed to help students understand the roles played by the various components in the hospitality industry and thus to help students to decide which of the many facets of the industry would best suit them.
Prerequisite: none

HM 1013 3 hours
Customer Service

This course explores the various successful techniques involved in establishing effective communications and functional relationships with the customer.
Prerequisite: None

HM 2003 3 hours
Quantity Food Production I

Survey of basic cooking skills and kitchen procedures. Methods of hot food preparation, soups, stocks, sauces, standardized recipes, recipe conversion, costing. Class consists of lecture and kitchen lab work.
Prerequisite: none

HM 2013 3 hours
Safety and Sanitation
 The study of the causes of food borne illness and actions to prevent illness by proper food protection and personal hygiene of employees. Review of laws for consumer protection and standards for employee working conditions. Methodology of dishwashing systems for best sanitation results and utilization of materials and personnel. Survey of most common accidents in the industry and procedures for prevention of accidents through the development of a safety program.
 Prerequisite: none

HM 2033,2053 3 hours
Hospitality Management Internship
 Actual work experience in the restaurant, hotel or travel industry. Job placement is dependent upon the student's interest and availability of participating hospitality institutions. Supervision on the job will be led by a designated management member of the hospitality industry. Coordination and documentation of the work experience to classroom instruction will be done by the instructor. A minimum of 9 hours per week for a total of 144 clock hours are required.
 Prerequisite: Completion of two semesters in Hospitality Program.

HM 2043 3 hours
Quantity Food Production II
 Continuation of HM 2003. Topics to be covered include baking (breads, cakes, pastries), cold food preparation, garde' manager work, breakfast cooking, and banquet service. Students are required to plan and serve a year-end banquet.
 Prerequisite: HM 2003

HM 2063 3 hours
Restaurant Management
 This course includes the basic principles of analysis of food management problems, job analysis methods, selection, control, and supervision of personnel, facilities, layout, labor and food costs control, purchasing, legal problems, furniture and decor for clubs, restaurants and related institutions.
 Prerequisite: none

HM 2073 3 hours
Destination World Geography
 Destination World Geography is a course which presents the world's principal geographic areas from a touristic perspective. Destinations receive a detailed treatment concerning modes of transportation, cultural patterns, lodging options, climate, typical visitor profiles and attractions.
 Prerequisite: none

HM 2083 3 hours
Travel and Tourism
 This course is designed to give Hospitality majors an overview of the industry as well as an understanding of the interaction between different segments which make up this industry. Emphasis is placed upon a knowledge of segment function and terminology.
 Prerequisite: None

HM 2093 3 hours
Hotel and Resort Operations Management
 This course acquaints the student with the operation of a resort/hotel or motel to include front office procedures in registering, accounting for and checking out guests, promotional and sales practices, housekeeping, purchasing, storage and an overall look at how each department relates to the others within the organizational chart.
 Prerequisite: none

HM 2103 3 hours
Airline Reservations and Ticketing
 This course provides an understanding of industry automation with emphasis on computer skills, and covers the concepts and skills required to interpret and modify availability; sell air space; create and change Passenger Name Records (PNRs), client profiles, and seat assignments; access fares; modify and price itineraries; issue tickets and boarding passes; handle hotel reservations, car rentals and tours.
 Prerequisite/Corequisite: HM 2083 or instructor's permission, keyboarding skills

HM 2113 3 hours
Convention Sales and Group Planning
 This course focuses on a comprehensive survey of convention, exposition, and meeting industry. Topics include but are not limited to trade shows and expositions, meeting planners, convention management, visitors' bureaus, exhibit design, transportation, and destination management.
 Prerequisite: none

HM 2123 3 hours
Food and Beverage Management
 The student will acquire the fundamentals involved in purchasing food and beverages in quantity. The course emphasizes standardizing, grading, estimating, selecting, receiving, and storing foods and beverages, as well as the practical application in writing specifications and in developing purchasing techniques.
 Prerequisite: none

HM 2991 1 hour
Hospitality Employment Skills
 This course is designed to provide students with the basic skills necessary to conduct a self-directed job search. Areas of review include self-assessment, employer research, application, references, resumes, interviewing, follow-up and employer expectations. This course should be taken during your last or second to last semester.

Journalism

JR 1003 3 hours
Newswriting
 Introduction to the fundamentals of newswriting. Emphasis is placed upon journalistic principles, writing, editing and design, including work on official student publications.
 Prerequisite: none, typing skills recommended

JR 1103 3 hours
Journalism Productions
 An in-depth study and practical application of newswriting, editing, headline writing, and design skills. The course includes production experience on official student publications. May be repeated.
 Prerequisite: JR 1003. Typing skills recommended

JR 2701, 2, 3 1-3 hours
Independent Studies in Journalism
 The student enrolled for directed studies has two alternatives: (1) investigate a specific topic within the field of journalism, or (2) assist with tutorial journalism instruction under the supervision of an instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

JR 2801, 3 3 hours
Journalism Practicum
 A course which offers students an opportunity to do writing for and assist in the production of official student publications under the instructor's guidance. It is designed for students who enjoy working on a campus newspaper or yearbook. May be repeated.
 Prerequisite: consent of instructor

Mathematics

MT 1000 3 hours
Arithmetic Skills
 A self-paced arithmetic course designed for those students not ready to start in algebra.
 Prerequisite: none

*Not intended for transfer.

MT 1003 3 hours
Pre-Algebra
 An introductory course in arithmetic and algebra. Pre-Algebra consists of the first sixteen topics of the "Basic Mathematics" textbook and a final exam over the first sixteen topics. Topics covered include whole numbers, fractions, decimals, percentages, exponents, directed numbers, solving linear equations, and applications of arithmetic and algebra.
 Prerequisite: none, placement test required

*Not intended for transfer.

MT 1011 1 hour
Medication Calculations for Allied Health
 This course is primarily designed to provide the student enrolled in an Allied Health program with a review of basic mathematics as well as methods of medication dosage calculations using metric, apothecary, and household measures. Specific intravenous (IV) flow rates and pediatric formulas are also presented.
 Prerequisites: None

* Not intended for transfer. Enrollment limited to students enrolled in EM 1112 EMT-Paramedic or NR 1014 Fundamentals of Nursing.

MT 1013 3 hours**Introductory Algebra**

A beginning course in algebra. Topics covered include exponents, solving linear polynomials, factoring polynomials, solving linear equations, word problems, graphing, multiplying polynomials, fractions containing variables, radicals, and quadratic equations.

Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 1003

* Not intended for transfer

MT 1103 3 hours**Real Number System**

A course designed for students who are potential elementary teachers. Topics covered include the following: sets, logic, number bases, systems of numeration, whole numbers, integers, rational numbers, development of the real number system, field properties, algorithms for real numbers, and terminology of mathematics.

Prerequisite: A grade of "C" or better in MT 1303 or satisfactory score on the math placement test

MT 1113 3 hours**Metric and Non-Metric Geometry**

A course designed to make the potential elementary teacher 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 MT 1103, logic, number theory, decimals and real numbers, non-metric geometry, metric geometry, statistics and probability.

Prerequisite: A grade of "C" or better in MT 1103 or consent of instructor

MT 1213 3 hours**Electronics Algebra-Trigonometry**

The major emphasis of the course is solving first and second degree equations and using trigonometry to solve right triangle and vector problems. Other topics covered include: powers of 10 units and dimensions, algebraic fractions, graphs, exponents, radicals, and logarithms.

Prerequisite: high school algebra or consent of instructor

MT 1243 3 hours**Electronics Calculus**

The major emphasis of the course will be an understanding of differentials and integrals of various functions; maxima and minima; and differentiating and integrating circuits.

Prerequisite: A grade of "C" or better in MT 1213 or consent of instructor

* Not intended for transfer

MT 1303 3 hours**Intermediate Algebra**

A preparatory course covering the fundamental principles of algebra designed to prepare the student to take College Algebra or College Mathematics. It is recommended for those students who have one or two years of high school algebra. Topics covered include the following:

real number system, exponents and polynomials, solving equations and inequalities, fractions and fractional equations, exponents and radicals, simple analytical geometry, and systems of equations.

Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 1013

* Not intended for transfer.

MT 1323 3 hours**College Mathematics**

This course is designed to give the student an appreciation of mathematics and an understanding of the role of mathematics in today's world. This course contains a substantial component of College Algebra to meet the CBHE Guidelines for the mathematics requirement for the A.A. degree. Topics include complex number systems, exponents, polynomials, rational expressions, radicals, solving equations, solving inequalities, graphing equations, graphing inequalities, linear programming, geometry, trigonometry, probability, and statistics.

Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 1303

MT 1402 2 hours**Trigonometry**

A study of trigonometric functions and their applications. Topics covered include the following: angles, length of arc, tables of trigonometric functions, law of cosines, law of sines, identities, trigonometric equations, inverse functions, complex numbers, logarithms, and polar coordinates.

Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 1303

Prerequisite or Corequisite: MT 1403

MT 1403 3 hours**College Algebra**

A course designed to meet the needs of the student planning to enroll in other math courses numbered 1600 or above. Topics covered include: complex number system, exponents, polynomials, rational expressions, radicals, solving equations, solving inequalities, graphing equations, graphing inequalities, linear programming, permutations, combinations, probability, sequences, theory of equations, matrices and determinants.

Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 1303

MT 1505 5 hours**Pre-Calculus Mathematics**

A unified study of College Algebra and Trigonometry. Topics include sets, exponents, solutions of equations, inequalities, theory of equations, systems of equations, graphing, radicals, complex numbers, matrices and determinants, analytical geometry, solutions of right triangles, identities, solutions of oblique triangles, inverse functions, logarithms, and polar coordinates.

Prerequisite: Satisfactory math placement score or a grade of "B" or better in MT 1303

MT 1605 5 hours**Analytic Geometry and Calculus I**

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, differential of algebraic functions, applications of the derivative, antidifferentiations, and the definite integral.

Prerequisite: Satisfactory math placement score or a grade of "C" or better in either MT 1505 or both MT 1402 and 1403

MT 2003, 4 3-4 hours**Finite Mathematics**

A study of set theory, counting and probability theory, matrix algebra and linear programming, stochastic processes, Markov chains, and game theory. Special emphasis will be given to business applications of the techniques of finite math.

Prerequisite: A grade of "C" or better in either MT 1403 or 1505, or consent of instructor

MT 2013, 4 3-4 hours**Survey Calculus**

A study of the techniques of differential and integral calculus. The focus of the course is on functions and the applications of the calculus to the life and social sciences. Trigonometry is not used.

Prerequisite: A grade of "C" or better in MT 1403, or MT 1505

MT 2103 3 hours**Statistics**

An introductory course in statistics with an emphasis on the collection, presentation, and analysis of data; measures of location and dispersion; introductory probability; statistical estimation and hypothesis testing.

Prerequisite: A grade of "C" or better in MT 1403, or consent of instructor

MT 2105 5 hours**Analytic Geometry and Calculus II**

A continuation of MT 1605 including the following topics: applications of the definite integral, logarithmic and exponential functions, trigonometric functions, techniques of integration, approximate integration, polar coordinates, conic section, vectors, and parametric equations.

Prerequisite: A grade of "C" or better in MT 1605

MT 2205 5 hours**Analytic Geometry and Calculus III**

A continuation of MT 2105 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, and infinite series.

Prerequisite: A grade of "C" or better in MT 2105

MT 2303 3 hours
Differential Equations
 A study of separable variables, homogeneous equations, exact equations, integrating factors, linear differential equations, Laplace transform, and applications.
 Prerequisite: A grade of "C" or better in MT 2205

MT 2701, 2, 3, 4 1-4 hours
Independent Studies (Honors) in Mathematics
 The student enrolled for directed studies has two alternatives: (1) investigate a specific topic within the field of mathematics, or (2) assist with tutorial mathematics instruction under the supervision of an instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

Music

MU 0341 1 hour
Applied Piano-Secondary (Level 0)
 Private lessons in piano. Enrollment restricted to pre-college level students. May be repeated.
 Prerequisite: consent of instructor

MU 0401 1 hour
Applied Organ (Level 0)
 Private lessons in pipe organ. Enrollment restricted to pre-college level students with consent of the instructor. May be repeated.
 Prerequisite: none

MU 1003 3 hours
Fundamentals of Music
 A basic study of music, including notation, scales, intervals, chords, and rhythms; intended to provide basic music reading, and writing. Open to all students.
 Prerequisite: none

MU 1021, 1061, 2021, 2031 1 hour
East Central Choral Association
 A performance course open, with consent of the instructor, to all students and community members who have had previous choral experience.
 Prerequisite: none

MU 1041, 1071, 2041, 2061 1 hour
ECC Community Orchestra
 A performance course open, with consent of the instructor, to all students and community members who have had previous instrumental experience.
 Prerequisite: none

MU 1051, 2051 2 hour
College Wind Ensemble
 A performance course open, with the consent of the instructor, to all students and community members, who have had previous instrumental experience.
 Prerequisite: none

MU 1101, 1121, 2101, 2141 2 hour
ECC Singers
 A wide variety of styles from traditional choral concert music to choreographed popular music. Open through audition to all students with previous musical experience.
 Prerequisite: none

MU 1111, 1131, 2111, 2131 2 hour
Jazz Band
 A studio band which prepares and presents concerts, while dealing primarily with music of the jazz idiom. Open by the consent of the director to all college students who are qualified instrumentalists.
 Prerequisite: none

MU 1201 1 hour
Applied Voice (Level 0)
 Pre-college level private lessons in voice. Enrollment open to pre-college age students and college non-music majors. May be repeated.
 Prerequisite: consent of instructor

MU 1211 1 hour
Voice Class (Level I)
 A group lesson experience for the beginning voice student. Required of all first semester voice students. Open to all students.
 Prerequisite: none

MU 1221, 2201, 2221 1 hour
Applied Voice (Levels II, III, IV)
 Private lessons in voice. Enrollment restricted to advanced voice students. Proper placement will be determined by the instructor.
 Prerequisite: completion of previous level

MU 1301, 1311, 1321, 1331 1 hour
Piano Class I, II, III, IV
 A group lesson experience for the beginning piano student. Open to all students regardless of major.
 Prerequisite: none for Piano Class I; completion of previous level for Piano Class II, III, IV

MU 1341, 1351, 1361, 1371 1 hour
Applied Piano-Secondary (Levels I, II, III, IV)
 Private lessons in piano. Open to all students with some previous piano training, with consent of the instructor. Proper placement will be determined by the instructor.
 Prerequisite: MU 1331 or equivalent

MU 1401, 1411, 2401, 2411 1 hour
Applied Organ (Levels I, II, III, IV)
 Private lessons in organ. Open to any college student, with consent of instructor. Proper placement will be determined by the instructor.
 Prerequisite: none for level I, completion of previous level for II, III, IV

MU 1501, 1511, 2501, 2511 1 hour
Applied Instrument (Levels I, II, III, IV)
 Private lessons in string, woodwind, brass, percussion, or guitar. Open to any college student, with consent of instructor. Proper placement will be determined by the instructor.

Prerequisite: none for Level I, completion of previous level for II, III, IV

MU 1603 3 hours
Music Appreciation
 A historical survey of the development of music, intended to provide a background for the understanding and application of music. Recommended for non-music majors.
 Prerequisite: none

MU 1613 (written), 1621 (aural) Music Theory I 3 hours
 A beginning course in music theory, study of intervals, triads, four-part diatonic harmony, connection of triads, embellishing tones, and inversions. Sight singing, aural recognition of all diatonic intervals, melodic phrases, and rhythms are studied. Includes two hours aural theory per week.
 Prerequisite: none

MU 1623 3 hours
Music Appreciation-Honors
 A historical survey of the development of music through the study of compositions. Works studied will include examples of the major musical forms used by composers from the Middle Ages into the 20th century. In addition to class work, supplementary projects will acquaint the student with resources for more in-depth study. Recommended for non-music majors with a strong music background.

MU 1703 (written), 1711 (aural) Music Theory II 3 hours
 A second course in music theory, extending into areas of seventh chords, secondary functions, modulations, and form. Includes two hours aural theory per week.
 Prerequisite: MU 1613 & 1621

MU 1803 3 hours
Music Literature
 A study of music through aural perception and analysis. Music studied will include examples of the major musical forms used by composers from the Middle Ages into the 20th century. In addition to class work, supplementary projects will acquaint the student with preliminary music research sources and written presentation of analysis.
 Prerequisite: MU 1613 & 1621, 1703 & 1711, and 2103 & 2121

MU 1903 3 hours
Popular Music
 A survey of the historical and stylistic development of jazz, rock, folk, and country music, as well as musical theatre. Special attention will be given to listening and research assignments.
 Prerequisite: None

MU 2043 **3 hours**
Music for Children
 Students will be introduced to methods of classroom music with units in music reading, performing skills, music education approaches for K-6, and peer-teaching. Recommended for early childhood and elementary education majors.
 Prerequisite: Music Appreciation (recommended)

MU 2103 (written), 2121 (aural) **3 hours**
Music Theory III
 A third course in music theory. A study of chromatic harmony including borrowed and altered chords, mode mixture, and additional forms. Two hours aural theory per week.
 Prerequisite: MU 1703 & 1711

MU 2203 (written), 2211 (aural) **3 hours**
Music Theory IV
 A continuation of MU 2103 & 2121 to more complex areas of chromatic harmony and analytical techniques for major trends in 20th century composition.
 Prerequisite: MU 2103 & 2121

MU 2301, 2311, 2321, 2331 **1 hour**
Applied Piano (Levels I, II, III, IV)
 Private lessons in piano. Open to all students with considerable training and music major level piano skills. Proper placement will be determined by the instructor.
 Prerequisite: none for Level I, completion of previous level for II, III, IV

MU 2701, 2, 3, 4 **1-4 hours**
Independent Studies in Music
 The student enrolled for directed studies will investigate a specific topic within the field of music. Enrollment usually restricted to sophomore level music major courses. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

Nursing - Associate Degree

NR 0100, 1, 2, 3 **5-3 hours**
Workshop/Seminar
 Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
 Prerequisite: none

NR 1014 **4 hours**
Fundamentals of Nursing Lecture
 A course designed to introduce the student to the nature of man and his response to illness. Abdellah's Nursing Problems are used to show the human as a whole as well as various alterations that may occur as a result of illness. The primary focus is to develop a high degree of skill in performing commonly prescribed therapeutic and nursing regimes. Normal nutrition and pharmacology are introduced. Pediatrics is integrated. Four hours lecture per week.
 Prerequisite: MT 1303 or higher, BI 1303 & 1312, CH 1203, 1212 or CH 1303 & 1312, admission to program.

Corequisite: NR 1022; BI 2102, 2112; PY 1103; history/government elective; MT 1011 (optional)
 Placement: fall semester, first year

NR 1022 **2.5 hours**
Fundamentals of Nursing Lab
 Opportunities are provided for students to perform skills and apply knowledge acquired in NR 1014. Includes initial practice sessions in the college laboratory and clinical experience in community healthcare facilities. Eight hours practicum per week.
 Prerequisite: MT 1303 or higher, BI 1303 & 1312, CH 1203, 1212 or CH 1303, 1312, admission to program.
 Corequisite: NR 1014; BI 2102, 2112; PY 1103
 Placement: fall semester, first year

NR 1035 **5 hours**
Nursing of Adults and Children I Lecture
 A course designed to give the student an opportunity to apply previously learned scientific knowledge and nursing skills in caring for adults and children with common medical and surgical conditions. Pathophysiology, therapeutic nutrition, and teaching learning principles are introduced. Application of the nursing process is broadened to include assessment of the patient's total needs and preparation of more comprehensive nursing care plans.
 Five hours lecture per week.
 Prerequisite: NR 1014, 1022; BI 2102, 2112; PY 1103
 Corequisite: NR 1045; BI 2202, 2203; PY 2403, PE course
 Placement: spring semester, first year

NR 1045 **5 hours**
Nursing of Adults and Children I Lab
 General hospitals and other health care agencies are utilized for observation and/or practice in caring for adults and children clients/patients. Knowledge acquired in NR 1035 is applied, with emphasis on physical assessment and patient/client teaching.
 Sixteen hour practicum per week
 Prerequisite: NR 1014, 1022; BI 2102, 2112; PY 1103
 Corequisite: NR 1035; BI 2202, 2203; PY 2403
 Placement: spring semester, first year

NR 1052 **2 hours**
Mental Health Nursing Lecture
 A course designed to increase the student's understanding of the psychosocial component of man. Communication skills are enhanced as well as therapeutic use of self in the nurse-client relationship. Knowledge and skills in the nursing process are broadened as the student learns factors and behaviors significant in psychiatric assessment, intervention, and evaluation. Four hours lecture per week. Eight-week course.
 Prerequisite: NR 1014, 1022, 1035, 1045; BI 2102, 2112, 2202, 2203; PY 1103, 2403
 Corequisite: NR 1063; PR 2103, PE elective
 Placement: summer session, first year

NR 1063 **3 hours**
Mental Health Nursing Lab
 Mental health facilities and the college laboratory are utilized for students to utilize communication skills and apply knowledge acquired in NR 1052. Fifteen hours practicum per week.
 Prerequisite: NR 1014, 1022, 1035, 1045; BI 2102, 2112, 2202, 2203; PY 1103, 2403
 Corequisite: NR 1052, NR 2012
 Placement: summer session, first year
 Course completed in eight-week session.

NR 2012 **2.5 hours**
Maternal, Neonatal and Women's Health Nursing
 A course designed to provide the student with basic knowledge of quality women's healthcare. This includes the reproductive process, care & management of maternal health and the infant for the first 30 days of life. Teaching client self-care and monitoring, preventive care and management of high risk situations included.
 Prerequisite: NR 1014, 1022, 1035, 1045, 1052, 1063; BI 2102, 2112, 2202, 2203; PY 1103, 2403; PR 2103
 Corequisite: NR 1063, 2022, 2032, 2042, 2991; BI 2402, 2412; EN 1223
 Placement: fall semester, second year
 Completed in eight-week session.

NR 2022 **2.5 hours**
Maternal, Neonatal and Women's Health Nursing
 Opportunities are provided for students to utilize the nursing process as it relates to the skills and knowledge acquired in NR 2012. Sixteen hours practicum per week occurs in a hospital and community settings.
 Prerequisite: NR 1014, 1022, 1035, 1045, 1052, 1063; BI 2102, 2112, 2202, 2203; PY 1103, 2403
 Corequisite: NR 2012, 2032, 2042, 2991; BI 2402, 2412; EN 1223
 Placement: fall semester, second year

NR 2032 **2 hours**
Nursing of Adults and Children II Lecture
 A course designed to strengthen and increase the student's ability to identify the pathophysiological processes as they affect the adult/child's ability to maintain his regulatory, immunosuppressive and mobility needs. The student will utilize the nursing process in providing patient/family centered care with emphasis on setting short and long term goals. The course is planned to help the student recognize the adult/child's physical, psychosocial and developmental needs. Students will deliver nursing care in a safe and prudent manner. Four hours lecture per week.
 Prerequisite: NR 1014, 1022, 1035, 1045, 1052, 1063; BI 2102, 2112, 2202, 2203; PY 1103, 2403; PR 2103
 Corequisite: NR 2012, 2022, 2042, 2991; BI 2402, 2412; EN 1223
 Placement: fall semester, second year
 Completed in eight-week session.

NR 2042 **2.5 hours**
Nursing of Adults and Children II Lab
 Clinical practice opportunities are provided in healthcare facilities for students to administer nursing care to adults and children as it relates to the skills and knowledge acquired in NR 2032. Emphasis is placed upon utilization of community resources. Sixteen hours practicum per week.
 Prerequisite: NR 1014, 1022, 1035, 1045, 1052, 1063; BI 2102, 2112, 2202, 2203; PY 1103, 2403
 Corequisite: NR 2032, 2012, 2991; BI 2402, 2412; EN 1223
 Placement: fall semester, second year

NR 2045 **5 hours**
Nursing of Adults and Children III Lecture
 A course designed to provide the student with the opportunity to utilize the nursing process in complex nursing care situations, including critical care and management areas. Management and leadership skills are introduced and applied in various settings. Students will direct and deliver nursing care in a prudent and safe manner for patients in an episodic setting through the different nursing modalities. Five hours lecture per week.
 Prerequisite: NR 1014, 1022, 1035, 1045, 1052, 1063, 2012, 2022, 2032, 2042, 2991; BI 2102, 2112, 2202, 2203, 2402, 2412; PY 1103, 2403; PR 2103
 Corequisite: NR 2055, 2991; EN 1333
 Placement: spring semester, second year

NR 2055 **5 hours**
Nursing of Adults and Children III Lab
 Opportunities are provided for students to apply knowledge acquired throughout the curriculum, but with emphasis on organization and delivery of health care in an episodic setting through the different nursing modalities. Sixteen hours practicum per week.
 Prerequisite: NR 1014, 1022, 1035, 1045, 1052, 1063, 2012, 2022, 2032, 2042, 2991; BI 2102, 2112, 2202, 2203, 2402, 2412; PY 1103, 2403; PR 2103
 Corequisite: NR 2045, 2991; EN 1333
 Placement: spring semester, second year

NR 2991 **1 hour**
Nursing Trends/Employment Skills
 A study of selected topics related to the development of nursing practice and education; current issues; trends; ethical and legal aspects; professional organizations/eight weeks. This course is designed to provide students with the basic skills necessary to conduct a self-directed job search. Areas of review include self-assessment, employer research, application, references, resumes, interviewing, follow-up and employer expectations.
 One hour discussion per week/eight weeks.
 Prerequisite: NR 1014, 1022, 1035, 1045, 1052, 1063, 2012, 2022, 2032, 2042; BI 2102, 2112, 2202, 2203, 2402, 2412; PY 1103, 2403; PR 2103
 Corequisite: NR 2045, 2055; EN 1333
 Placement: spring semester, second year

MT 1011 **1 hour**
Medication Calculations for Allied Health
 This course is primarily designed to provide the student enrolled in an Allied Health program with a review of basic mathematics as well as methods of medication dosage calculations using metric, apothecary, and household measures. Specific intravenous (IV) flow rates and pediatric formulas are also presented.
 Prerequisites: None
 * Not intended for transfer. Enrollment limited to students enrolled in EM 1112 EMT-Paramedic or NR 1014 Fundamentals of Nursing.

* Students must be 19 years of age or older in order to be eligible to take the RN license exam (RN-NCLEX).

Office Occupations

OF 0001 **1 hour**
WordStar
 Instructs the student in the features of WordStar word processing software using the IBM Personal Computer. Topics include create, edit, format, print, save documents, text move, and mail merge.
 Prerequisite: none
 Offered when demand is indicated.

OF 0011 **1 hour**
Microsoft Word for IBM PC
 Instructs the student in the basic and advanced editing features of the popular word processing program, Microsoft Word, on the IBM personal computer. Topics include create, edit, format, print, save, spelling corrections, and mail merge.
 Prerequisite: Keyboarding skills
 Offered when demand is indicated.

OF 0021 **1 hour**
Microsoft Works/IBM
 Instructions for the computer-experienced student with the integrated features of Microsoft Works. Topics include the features of word processing, database, and spreadsheet documents; and additional experience utilizing macros and merges, copying between files, using the spell-checker, and activating the calculator.
 Prerequisite: Keyboarding skills

OF 0033 **3 hours**
Desktop Publishing
 Instruction in major features used in desktop publishing. Students will produce professional quality fonts and images, learn editing, page layout, and graphic techniques of desktop publishing.
 Prerequisite: previous word processing experience preferred

OF 0100, 1, 2, 3 **.5-3 hours**
Workshop/Seminar
 Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
 Prerequisite: none

OF 1011 **1 hour**
Keyboarding
 Designed for the student who has not typed before. Includes beginning instruction on the keyboard and numbers only using a microcomputer.
 Prerequisite: none

OF 1013 **3 hours**
Keyboarding/Formatting (Typewriting I)
 A study of the keyboard and techniques of touch typewriting, development of basic skills, and the arrangement of typewritten material. Individualized instruction using microcomputer.
 Prerequisite: none

OF 1021 **1 hour**
Keyboard Skillbuilding I (Non-Majors)
 A course to increase speed and accuracy on the computer keyboard. Designed for students not presently enrolled in a typewriting class. The students will be guided by the software after a diagnosis is made of the student's keyboarding ability based on his/her speed and accuracy. Drill work will be scored immediately by the software.
 Prerequisite: keyboarding skills

OF 1023 **3 hours**
Document Production (Typewriting II)
 A course in further development of typewriting skills, with special attention given to improving accuracy and increasing speed. Major emphasis is given to producing mailable copy on tables, correspondence, and rough draft reports under timed conditions. Individualized instruction using microcomputer.
 Prerequisite: OF 1013 or speed of at least 40 wpm for five minutes with a maximum of three errors.

OF 1031 **1 hour**
Keyboard Skillbuilding II (Non-Majors)
 A continuation of Keyboard Skillbuilding I for further speed and accuracy development on the computer keyboard. Designed for students not presently enrolled in a typewriting class. The student will be guided by the software after a diagnosis is made of the student's keyboarding ability based on his/her speed and accuracy. Drill work will be scored immediately by the software.
 Prerequisite: keyboarding skills

OF 1033 **3 hours**
Advanced Document Production (Typewriting III)
 Further development of accuracy and speed in producing mailable documents. Emphasis is placed upon decision making, high production standards, & desktop publishing. Individualized instruction using micro-computer.
 Prerequisite: OF 1023

OF 1043 **3 hours**
Shorthand Theory (Speedwriting or Gregg) (Shorthand I)
 A study of shorthand theory and shorthand dictation at moderate rates. Attention is given to punctuation, spelling, word usage, and reading

shorthand notes rapidly. Beginning transcription is also introduced. Individualized instruction.
Prerequisite or Corequisite: OF 1013

OF 1053 3 hours
Shorthand Speed Development (Speedwriting or Gregg) (Shorthand II)

A course emphasizing the development of shorthand speed. Stenographic skills of punctuation, spelling, vocabulary, and transcribing techniques are stressed. Specifically designed for students who have completed one semester of shorthand instruction. The course is also helpful to students who want to review shorthand theory. Individualized instruction.
Prerequisite: OF 1013, 1043 or consent of instructor

OF 1073 3 hours
Shorthand Transcription (Speedwriting or Gregg) (Shorthand III)

A transcription course designed to increase the quantity and quality of transcribing reports, memos, manuscripts, and letters in conformity with occupational standards. Continued attention is given to maintaining speed, punctuation, word usage, and spelling. Individualized instruction.
Prerequisite: OF 1053 and OF 1023

OF 1083 3 hours
Business Writing Skills

A course in the improvement of basic language skills through the study of sentence structure, punctuation, capitalization, spelling, and other grammatical areas as they pertain to the business world in particular.
Prerequisite: none

OF 1093 3 hours
Filing and Records Management

A study of ARMA filing rules and their application to alphabetic, numeric, subject, and geographic filing. Attention is given to the selection and organization of filing systems, equipment and suppliers, microrecords and automated records, retention and disposition of records, and administrative duties. A unit will be included on managing files with database software on the microcomputer.
Prerequisite or Corequisite: OF 1013

OF 1113 3 hours
Office Procedures

A study of office skills and knowledge applicable to office professionals. Special attention is given to human relations, organization and maintenance of an office, work efficiency, setting priorities, and employment standards.
Prerequisite: OF 1013

OF 1133 3 hours
Machine Transcription

A course designed to develop proficiency in machine transcription. Through study and supervised practice on transcribing equipment, both keyboarding and transcribing skills are merged and further ability developed in proofreading, editing, spelling, punctuation, grammar, word usage, good judgment, and

decision-making as applied to business letters, memorandums, tables, and reports. Individualized instruction using microcomputer.
Prerequisite: OF 1083 and OF 1013
Prerequisite or Corequisite: OF 1023

OF 1143 3 hours
Business Communications

A study of communication needs in business both oral and written, with emphasis on interoffice communication, letters, and reports. Special attention is given to organization, mechanics, and the business vocabulary.
Prerequisite: Either EN 1223 or 1003, or OF 1083

OF 1173 3 hours
WordPerfect

Instructs the student in the features of WordPerfect software. Topics covered include create, edit, format, print, and save documents while using the spelling dictionary, multi-column layout, graphics, mail merge, macros, and table format features.
Prerequisite or corequisite: Keyboarding skills

OF 1183 3 hours
Introduction to Medical Transcription

The beginning lessons introduces the student to the transcription process and equipment. Students then learn to format various medical reports. These include history and physical, operative record, pathology report, radiology report, consultation report and discharge summary. Students will learn to apply typing rules to medical records, identify standard abbreviations for medical terms, and identify metric measures and laboratory measures used in the transcription cases.

OF 2013 3 hours
Business Mathematics

A course in business and financial applications of mathematics such as discounts, markups, interest, installment buying and credit cards, payroll, depreciation, taxes, etc. Intended for students in office, business, and other A.A.S. degree programs. Course is taught as a group but individualized instruction may be arranged.
Prerequisite: none

OF 2033, 2133 3 hours
Internship and Seminar

Supervised work experience in an actual office situation putting to use the skills and related knowledge learned in previous courses. Supervision on the job will be led by office personnel. Coordination of work experience to classroom learning will be done by the instructor. Time will be arranged. A 50-minute seminar will be held each week to discuss work experiences of interns and the latest trends in office equipment and techniques gathered through assigned readings in current publications.
Prerequisite: enrollment in the Office Occupations Program and consent of instructor

OF 2043 3 hours

Legal Typewriting

A course specializing in the typing of a wide range of legal documents and correspondence into mailable form. Continued emphasis on speed and accuracy. Individualized instruction using microcomputer.
Prerequisite: OF 1023 or consent of instructor

OF 2053 3 hours
Legal Shorthand (Speedwriting or Gregg)

A course specializing in the dictation and transcription of various legal documents and correspondence into mailable form. Legal terminology will be emphasized. Individualized instruction using microcomputers.
Prerequisite: OF 1073 or consent of instructor

OF 2063 3 hours
Legal Office Procedures

A course specializing in the organization, functions, and duties in a legal office. Special attention is given to office and client financial records, law office files, litigation, and preparing court and noncourt documents.
Prerequisite: OF 1013

OF 2073 3 hours
Medical Office Procedures

A self-paced course specializing in the organization, functions, and duties in a medical office. Special attention is given to patient records, financial responsibilities, medical abbreviations, and professional activities. Simulation exercises will be included in the course. Individualized instruction.
Prerequisite: OF 1023, 1083, 1183, and BI 1112

OF 2083 3 hours
Medical Transcription

A specialized course in medical terminology transcription for students who are proficient in typewriting and medical terminology, and who have a working knowledge of transcription equipment. Individualized instruction using microcomputers.
Prerequisite: OF 1023, 1083, 1183 and BI 1112

OF 2103 3 hours
Office Microcomputer Applications

Students will have hands-on microcomputer experience in every class. Topics include learning to use LOTUS 1-2-3 (spreadsheets and graphics), to use a database, to use DOS commands and to use the computer 10-key pad.
Prerequisite: keyboarding skills

OF 2113 3 hours
Office Simulations and Problem Solving

Students will use microcomputer application software to generate, manipulate, and analyze data; to solve information management problems; and to present this data to help management solve business problems. These microcomputer simulations give students an opportunity to work as office personnel for different departments in companies.
Prerequisite: OF 2103

OF 2123 **3 hours**
Office Management
 Office Management includes a study of management principles and practices as they relate to office administration with emphasis on human resources—Supervision, salary, and benefits. Additional topics include managing of the work environment, planning, organizing, and controlling administrative office operations, managing office technology, examining individual, small group, and superior/subordinate work relationships.
 Prerequisite: OF 2113 or consent of the instructor

OF 2661, 2672, 2683 **1-3 hours**
Independent Studies in Office Occupations
 Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

Philosophy/Religion

PR 1003 **3 hours**
Introduction to Philosophy
 A course which introduces the student to some of the major areas of philosophic inquiry concerning human experiences and the nature of the reality through the reading and discussion of representative selections from contemporary and classical writings.
 Prerequisite: none

PR 1103 **3 hours**
Introduction to Logic
 A study of techniques for distinguishing between adequate and inadequate arguments. The course will introduce several techniques that may be used to evaluate arguments. Primary emphasis will be on learning to use the techniques of propositional and monadic predicate calculi in evaluation arguments.
 Prerequisite: none

PR 1203 **3 hours**
History of Modern Philosophy
 A study of the historical development in the awareness and solutions to western philosophic problems from the teachings of the great philosophers, with emphasis upon their importance for us today.
 Prerequisite: none

PR 1303 **3 hours**
Living World Religions
 An introductory survey course of the major Eastern and Western religions of the world today, with emphasis on the similarities and differences in their basic teachings and practices, historical backgrounds, and lives of their founders.
 Prerequisite: none

PR 2103 **3 hours**
Contemporary Ethical Problems
 A course concerned with moral action—deciding whether acts are good or bad, right or wrong. It begins with a study of why people act the way

they do and considers different approaches to moral conduct. Discussions center on such modern problems as mercy killing, abortion, capital punishment, and sexual, medical, and business ethics.
 Prerequisite: none

PR 2403 **3 hours**
Biblical Literature I: Old Testament
 A critical-historical survey of the Old Testament as literature. Emphasis is placed upon the different modern approaches to Biblical understanding and criticism, especially as it applies to the Exodus Event in the history of Israel through the Division of the Kingdom. The course is designed to help the student appreciate the Bible as great literature from a critical point of view.
 Prerequisite: none

PR 2503 **3 hours**
Biblical Literature II: Old Testament
 A critical-historical survey of the Old Testament as literature. Emphasis is placed upon the different modern approaches to Biblical writings after the Division of the Kingdom until the end of the Old Testament period. The course is designed to help the student appreciate the Bible as great literature from a critical point of view.
 Prerequisite: none

PR 2603 **3 hours**
Biblical Literature III: New Testament
 A critical-historical survey of the New Testament as literature. Special emphasis is placed upon the different modern approaches to Biblical understanding and criticism, and upon the different literary types of writings found in the New Testament itself, especially the Gospels and Letters of Paul. The course is designed to help the student appreciate the Bible as great literature from a critical point of view.
 Prerequisite: none

PR 2701, 2, 3 **1-3 hours**
Topics in Philosophy/Religion
 An intensive study of various topics in philosophy, individual philosophers, or philosophical schools. The study will include extensive reading, discussion, and an in-depth paper. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: none

Physical Education

PE 1002 **2 hours**
Fitness for Life
 A basic introduction to lifestyle habits that promote the awareness and development of a fit and healthy life. Class will be divided into classroom as well as activities. This two hour course fulfills the P.E. requirement.
 Prerequisite: none

PE 1011, 1021, 2011, 2021 **1 hour**
Aerobic Dance
 An exercise program choreographed and set to music for continuous rhythmic activity. Selected conditioning exercises and dance movements are designed to allow students to work toward improved cardiovascular fitness. May be taken at the beginning, intermediate or advanced levels.
 Prerequisite: none for PE 1011, completion of previous level for 1021, 2011, and 2021 or consent of instructor

PE 1051, 1061 **1 hour**
Archery
 A basic introduction to the fundamental skills and safety rules of archery activities. May be taken at the beginning or intermediate levels.
 Prerequisite: none for PE 1051, completion of previous level for 1061 or consent of instructor

PE 1081 **1 hour**
Intro to Fitness Center/Aerobic Circuit Training
 A course designed to introduce the student to an exercise program which combines Aerobic Training with the benefits of Circuit Weight Training. Providing a sound effective workout for all major muscle groups.
 Prerequisite: None

PE 1091 **1 hour**
Backpacking
 Introduction to backpacking as a lifetime recreational activity. Instruction in techniques, safety, equipment, trip planning and map and compass skills. Field trips are required.
 Prerequisite: none

PE 1121, 1131 **1 hour**
Basketball
 Introduction to the fundamental skills, strategies and rules of basketball. May be taken at the beginning or intermediate levels.
 Prerequisite: none for PE 1121, completion of previous level for 1131 or consent of instructor

PE 1161, 1171 **1 hour**
Bowling
 Introduction to the fundamental skills, strategies and rules of bowling. May be taken at the beginning or intermediate levels.
 Prerequisite: none for PE 1161, completion of previous level for 1171 or consent of instructor

PE 1181 **1 hour**
Intermediate Fitness Center
 A course designed to provide an opportunity for students to continue to participate in an individualized program of exercise. In addition to aerobic circuit training, students will be instructed in use of equipment designed to improve Cardio-respiratory fitness.
 Prerequisite: PE 1081

PE 1201 **1 hour**
Canoeing
 Introduction to river canoeing as a lifetime recreational activity. Instruction in safety, canoeing techniques, trip planning, equipment

and map and compass skills. Field trips are required.
Prerequisite: None

PE 1231, 1241, 2231, 2241 **1 hour**
Martial Arts

A modern eclectic martial art utilizing techniques from a variety of systems concentrating on footwork, pressure points, blocks, and self-defense. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: none for 1231, completion of previous level for 1241, 2231, 2241 or consent of instructor

PE 1271 **1 hour**
Folk and Square Dance

Instruction in the steps, positions, formations and dance patterns of square dancing and international and American folk dancing.
Prerequisite: none

PE 1281 **1 hour**
Advanced Fitness Center

A course designed to develop an individual program of exercise based on the concepts and guidelines for each component of fitness: Muscle strength and endurance, flexibility, body composition, and cardio-respiratory endurance. Students will select the exercise programs and establish goals for the components they wish to improve.
Prerequisite: PE 1081, PE 1181

PE 1301, 1311, 2301, 2311 **1 hour**
Golf

An introduction to the fundamental skills and rules of golf activities. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: none for 1301, completion of previous level for 1311, 2301 and 2311 or consent of instructor

PE 1341, 1351, 2341, 2351 **1 hour**
Karate

Basic principles and practices of traditional Japanese karate through participation in systemically organized patterns of assertive/reactive exercises. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: none for 1341, completion of previous level for 1351, 2341, and 2351 or consent of instructor

PE 1381, 1391, 2381, 2391 **1 hour**
Physical Fitness

An introduction to various lifelong fitness activities tailored to the individual student's age and fitness category. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: none for 1381, completion of previous level for 1391, 2381 and 2391 or consent of instructor

PE 1421 **1 hour**
Racquet Sports

Introduction to the fundamental skills, strategies and rules of racquet sport. Includes table tennis, badminton, and pickleball.
Prerequisite: none

PE 1451 **1 hour**
Racquetball

Introduction to the fundamental skills, strategies and rules of racquetball.
Prerequisite: none

PE 1461 **1 hour**
Self-Defense for Women

Introduction to the physical skills and strategies used in self-defense along with lectures on prevention of physical attack.
Prerequisite: none

PE 1502 **2 hours**
Personal Health and Wellness

Emphasis is placed on relating course content to lifestyle to foster a better understanding of the major health issues of today. Current issues include, but are not limited to: emotional health, chemical use and abuse, human sexuality, major diseases, physical fitness, nutrition, aging, death and dying.

PE 1521, 1531 **1 hour**
Skiing

Instruction in the fundamental skills of Alpine skiing. Classes are taught at Hidden Valley Ski Area. May be taken at the beginning or intermediate levels.
Prerequisite: none for 1521, completion of previous level for 1531 or consent of instructor

PE 1561, 1571 **1 hour**
Soccer

Introduction to the fundamental skills, strategies and rules of soccer. May be taken at the beginning or intermediate levels.
Prerequisite: none for 1561, completion of previous level for 1571 or consent of instructor

PE 1601, 1611 **1 hour**
Softball

An introduction to fundamental skills, strategies and rules of softball. May be taken at the beginning or intermediate levels.
Prerequisite: none for 1601, completion of previous level for 1611 or consent of instructor

PE 1641, 1651 **1 hour**
Tennis

Instruction in the fundamental skills, strategies and rules of tennis. May be taken at the beginning or intermediate level.
Prerequisite: none

PE 1671, 1681 **1 hour**
Volleyball

Instruction in the fundamental skills, strategies and rules of power volleyball. May be taken at the beginning or intermediate level.
Prerequisite: none for 1671, completion of previous level for 1681 or consent of instructor

PE 1711, 1721, 2711, 2721 **1 hour**
Strength Training

Introduction in the fundamental techniques, skills and safety rules required in an overall fitness/body conditioning program. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: none for 1711, completion of previous level for 1721, 2711, and 2721 or consent of instructor

PE 1791, 1801, 2791, 2801 **1 hour**
Varsity Baseball

A course in individual skills, team strategy and conditioning to prepare a team for intercollegiate competition. May be taken at the beginning, intermediate and advanced levels.
Prerequisite: permission from coach and completion of previous level for 1801, 2791 and 2801

PE 1831, 1841, 2831, 2841 **1 hour**
Varsity Basketball

A course in individual skills, team strategy and conditioning to prepare a team for intercollegiate competition. May be taken at the beginning, intermediate and advanced levels.
Prerequisite: permission from coach and completion of previous level for 1841, 2831 and 2841

PE 1871, 1881, 2871, 2881 **1 hour**
Varsity Soccer

A course in individual skills, team strategy and conditioning to prepare a team for intercollegiate competition. May be taken at the beginning, intermediate and advanced levels.
Prerequisite: permission of coach and completion of previous level for 1881, 2871, and 2881

PE 1911, 1921, 2911, 2921 **1 hour**
Varsity Softball

A course in individual skills, team strategy and conditioning to prepare a team for intercollegiate competition. May be taken at the beginning, intermediate and advanced levels.
Prerequisite: permission of coach and completion of previous level for 1921, 2911, and 2921

PE 1951, 1961, 2951, 2961 **1 hour**
Varsity Volleyball

A course in individual skills, team strategy and conditioning to prepare a team for intercollegiate competition. May be taken at the beginning, intermediate and advanced levels.
Prerequisite: permission of coach and completion of previous level for 1961, 2951 and 2961

PE 1402 **2 hours**
Introduction to Physical Education

An introductory professional course for the physical education major and minor, designed to provide the opportunity to explore the history, scope, values and philosophy of physical education, professional responsibilities and career opportunities.
Prerequisite: none

PE 2053 3 hours**Physical Education for Children**

This course will introduce the student to a children's physical education program that is designed for every child and to prepare them to guide learning experiences that are positive and appropriate for all levels of skill. Students will learn the values, purpose and outcomes of quality physical education. Through a study of teaching styles and management methods, students will be introduced to the tools they will need to teach movement concepts, skill themes, fitness, games, gymnastics and dance.

Prerequisite: none

PE 2202 2 hours**Care and Prevention of Athletic Injuries**

A study of the treatment of wounds, shock, poisoning, fractures, unconsciousness, stoppage of breathing, and the care and prevention of athletic injuries. Designed for physical education majors.

Prerequisite: none

PE 2302 2 hours**Coaching Baseball**

A physical education major course in organization and management of a competitive baseball program to include individual techniques, team play, rules and problems with coaching baseball. Includes "little league" applications.

Prerequisite: none

PE 2402 2 hours**Coaching Basketball**

A course in organization and management of a competitive basketball program. Topics include systems of offense and defense, game rules, training schedules and problems arising during training and the regular playing season.

Prerequisite: PE 1121, 1131, 1831, 1841, 2831 or 2841, or consent of instructor

PE 2502 2 hours**Coaching Volleyball**

A study of the organization and management of a school volleyball program to include individual techniques, offensive and defensive strategy, rules and problems in coaching volleyball.

Prerequisite: PE 1671, 1681, 1951, 1961, 2951 or 2961, or consent of instructor

PE 2701, 2702 1-2 hours**Independent Studies in Physical Education**

A course involving independent study (usually by physical education majors) in the various aspects of the physical education curriculum. This could include (1) specialized study in one area of physical education, (2) assisting with instruction or administration of class, (3) assisting with operation of varsity sports, or (4) assisting with organization or administration of intramural sports. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated. This course does not fulfill a P.E. requirement.

Prerequisite: consent of instructor

Physics

PH 1003 3 hours**Physical Science I**

An introductory course in cosmology. Topics of study include the development of scientific methods, including astronomy, as well as various aspects of the organization and evolution of the universe. Studies include earth and our own solar system, stars, and the universe as a whole. The origin and future of life on earth, and the possibilities for extraterrestrial life are examined in view of the forces shaping the universe. Recommended for non-science majors.

Prerequisite: none

PH 1023 (lec), 1032 (lab) 5 hours**Physical Science III**

A lecture/demonstration course covering topics in physics, chemistry, geology, and astronomy. Recommended for elementary education majors.

Prerequisite: MT 1303 with a grade of "C" or better, or a math placement score equivalent to enter MT 1403, or consent of the instructor

PH 1103 (lec), 1112 (lab) 5 hours**Introductory Physics**

A study of mechanics, heat, sound, light, electricity, and physical properties of matter. A non-calculus course which features problem-solving and laboratory work. Three hours lecture and two lab periods per week.

Prerequisite: DF 1083, MT 1303, or satisfactory score on the ACT

PH 1703 (lec), 1712 (lab) 5 hours**College Physics I**

A study of mechanics, properties of matter, and thermodynamics. Not recommended for math, physical science, or engineering students.

Prerequisite: MT 1402 and 1403, 1505, or equivalent

PH 1803 (lec), 1812 (lab) 5 hours**College Physics II**

A continuation of PH 1703 & 1712, including a study of electricity, magnetism, light, and atomic physics. Not recommended for math, physical science, or engineering students.

Prerequisite: PH 1703 & 1712

PH 2103 (lec), 2112 (lab) 5 hours**General Physics I**

A study of the mechanics of solids, liquids, and gases, and of heat and sound. A course intended for the student who plans to major in mathematics, the physical sciences, or engineering. Three hours lecture and two two-hour laboratory periods per week.

Prerequisite or Corequisite: MT 2105

PH 2203 (lec), 2212 (lab) 5 hours**General Physics II**

A study of electricity, magnetism, light, and modern physics. Three hours lecture and two two-hour laboratory periods per week.

Prerequisite: PH 2103 & 2112

Prerequisite or Corequisite: MT 2205

PH 2701, 2, 3 1-3 hours**Independent Studies (Honors) in Physics**

The student enrolled for independent studies has two alternatives: (1) investigate a specific topic within the field of physics, or (2) assist in the laboratory, stockroom, or with individualized instruction under the supervision of an instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

Political Science

PS 1103 3 hours**Introduction to Political Science**

A course which introduces the student to the theory and content of politics. Basic concepts and approaches to the study of political activity are discussed. PS 1103 complies with the provisions of Section 170.011 Rs Mo. requiring the study of state and federal constitutions.

Prerequisite: none

PS 1203 3 hours**U.S. Government I: National & State**

An introduction to the basic principles and structures of American national, state, and local governments. Emphasis will be placed upon the federal system; constitutional development and interpretation; civil liberties; political parties; the executive, legislative, judicial branches; and federal administrative agencies. PS 1203 complies with the provisions of Section 170.011 Rs Mo. requiring the study of state and federal constitutions.

Prerequisite: none

PS 1303 3 hours**U.S. State & Local Government**

An introduction to the basic principles and structures of American, state, and local government with emphasis on Missouri. State government structure and politics, state-local relationships will be considered as will county, municipal, special district and school district governments. The political and administrative problems of metropolitan areas will be given special attention. Meets Missouri component of Section 170.011 Rs Mo. requiring the study of state and federal constitutions.

Prerequisite: none

PS 2103 3 hours**International Relations**

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

Prerequisite: none

PS 2203 3 hours**Introduction to Public Administration**

A study of the analysis of concepts and functions of administrative organizations. Included is a study of internal dynamics of governmental

agencies: management, supervision, financial control, personnel supervision, and democratic accountability.

Prerequisite: none

PS 2701, 2, 3 1-3 hours
Independent Studies (Honors) in Political Science

The student enrolled for directed studies has two alternatives: (1) investigate a specific topic in the field of political science, or (2) assist with tutorial political science instruction under the supervision of an instructor. For each semester enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.

Prerequisite: consent of instructor

Psychology

PY 1103 3 hours
General Psychology

A course designed to provide the student with a broad, general introduction to the field of psychology. It is a study of behavior designed to present an account of the significant concepts and findings of contemporary psychology. The course should provide a clear description of the bodies of knowledge in the core areas of psychology.

Prerequisite: none

PY 1203 3 hours
Experimental Methods

A course designed to explore the various techniques and methods used to identify the factors related to human behavior and mental processes. The emphasis is on research methods rather than statistical concepts, tests, or specific content areas. The course is required of all psychology majors.

Prerequisite: PY 1103

PY 2103 3 hours
Personal and Social Adjustment

A study of the everyday task of coping with ourselves, our environment, and the people we encounter. Emphasis will be placed on coping with problems, obstacles, and depressions.

Prerequisite: PY 1103 or consent of instructor

PY 2203 3 hours
Child Psychology

A study of development from conception to adolescence emphasizing both current and historical approaches to research and theory, genetic and environmental influences on development, and the sequence and timing of physical, mental, and personality development throughout the years of life from conception through adolescence.

Prerequisite: PY 1103 or consent of instructor

PY 2403 3 hours
Human Development

A course designed to provide the student with a broad, general introduction to human development. The entire life span will be covered including those concepts and principles basic to an understanding of human development.

Development will be studied using an integrated approach from the biological, psychological, sociological, and cultural perspectives.

Prerequisite: PY 1103 or consent of instructor

PY 2503 3 hours
Adolescent Psychology

A broad, general introduction to human development and, specifically, adolescent development. Adolescence will be viewed in the entire life cycle and in the social, cultural, political, and historical contexts. An integrated approach involving biological, psychological, and cultural perspectives will be used.

Prerequisite: PY 1103 or consent of instructor

PY 2701, 2, 3 1-3 hours
Independent Studies in Psychology

Course content and hours arranged by instructor. May be repeated.

Prerequisite: PY 1103 and consent of instructor

PY 2703 3 hours
Family Services Practicum

This practicum is designed to give selected Social and Behavioral Science students practical experience with the Missouri Department of Social Services. Selected students will work under the direct supervision of the County Director of the Missouri Department of Social Services; Division of Family Services. Students can expect a wide variety of exposure to child abuse/neglect investigations; foster care, preventive services and community involvement.

Prerequisite: PY 1003 and consent of instructor.

PY 2703 3 hours
Child Care Practicum

This practicum is designed to give selected students practical experience in the area of child care. Each student will work directly with a professional in the field of child care.

Prerequisite: PY 1003 AND consent of instructor.

PY 2803 3 hours
Child Abuse Practicum

A course designed to give selected behavioral science students the opportunity to gain practical experience in the treatment of child abuse. Those students selected for this course will work in a treatment program under the direct supervision of a therapist.

Prerequisite: PY 1103 and consent of instructor

PY 2823 3 hours
Mental Health Practicum

This practicum will give selected Social and Behavioral Science students practical experience in the mental health field. Each student will be involved in a Community Psychiatric Rehabilitation Center located in Washington, MO. The CPRC includes residential services, a transitional employment program, psychosocial rehabilitation services and community support services.

Prerequisite: PY 1103 and consent of instructor

PY 2833 3 hours

Probation and Parole Practicum

This practicum is designed to give selected Social and Behavioral students practical experience with individuals who are on probation and/or parole with the Missouri Department of Human Resources. Selected students will work under the direct supervision of a Probation and Parole Officer with the state of Missouri.

Prerequisite: PY 1103 and consent of instructor

PY 2843 3 hours
Special Education Practicum

This practicum is designed to give selected students the opportunity to gain practical experience with persons with developmental disabilities. Each student will work directly with the Franklin County Board for the Handicapped and the different programs offered to persons with developmental disabilities.

Prerequisite: PY 1103 and consent of instructor

PY 2853 3 hours
IS Crisis Intervention Practicum

This practicum is designed to give selected students practical experience in the area of crisis intervention. Each student will work directly with Phoenix Place, inc. This facility aids individuals who may be homeless, from a dysfunctional family situation, and/or in need of assistance in coping with a stressful situation.

Prerequisite: PY 1103 AND consent of instructor.

Real Estate

RE 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to professional continuing education or anticipated employment.

Prerequisite: none

RE 0103 3 hours
Broker's Class

A course designed for the practicing real estate professional. This 48-clock-hour course covers license law, ethics, math and finance, ownership, brokerage considerations, valuations, taxes, and economics. The course prepares the student for the Missouri Real Estate Brokerage Exam.

RE 1014 4 hours
Principles of Real Estate (Salesman's Class)

The study of the nature of real estate and its ownership, titles, legal descriptions, contracts, leases, taxation, and values. A total of 60 clock hours is required. The purpose of this class is to prepare students to pass the Missouri Real Estate Salesperson licensing examination.

Prerequisite: none

RE 2023 3 hours
Real Estate Appraisals

An introduction to real estate appraisals, the study of the nature of real property, property values, general and local trends, site evaluation, building cost estimates, depreciation, and estimates on remodeling and modernization. Certification by

the Independent Fee Appraisers Association may be necessary before employment. Offered evenings only.
Prerequisite: none

Retailing

All retailing courses are currently inactive.

RT 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: none

RT 2003 3 hours
Display Project

A study of visual and promotional merchandising activities that are vital to the success of a retail firm. Topics include promotional activities, public relations, construction and evaluation of displays and promotional budgets.
Prerequisite: none

RT 2013 3 hours
Consumer Behavior

A study and analysis of consumer buying habits and motives. Attention is given to the dominant position of the consumer in the marketing mechanism and his or her behavior in the marketplace. Recognition of motivation and the reactions of consumers and related business influences is also covered.
Prerequisite: none

RT 2023 3 hours
Merchandising I - Starting Your Own Business

An introduction to the principles of retailing. Emphasis is on the development, interpretation, and use of fundamental management and merchandising skills. Topics include: establishing a retail store, merchandise planning, salesmanship, display, promotion, advertising, personnel, finance, and control. Particular attention is given to problem-solving through use of common retailing problems chosen to raise some of the major issues confronting retailing and retailers today.
Prerequisite: none

RT 2033 3 hours
Merchandising II

A study of the problems inherent in merchandising including: buying, control, pricing for profit, planning sales, model stocks, and promotions. Arithmetic skills are stressed.
Prerequisite: none

RT 2043, 2053 3 hours
Retailing Internship

An individualized program aimed at giving students an opportunity to balance their knowledge of a retail organization through experience in most functional areas of retail businesses.
Prerequisite: retailing major

RT 2661, 2672, 2683 1-3 hours
Independent Studies in Retailing

Course content will be arranged by the instructor to meet individual needs of the student. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

Small Engine Repair

SE 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: none

SE 1015 5 hours
Small Engine and Garden Equipment Repair (2 cycle)

A course designed to provide students with an introduction to small gasoline powered engines from both a theoretical and practical point of view. Emphasis is placed upon procedures for repair and replacement of engine parts and components. Small engine cooling, lubricating, electrical, and starting systems are studied. Engine overhaul and machine procedures are discussed in detail, and lab work includes the disassembly, measuring, and reassembly of engine components. Small engine tune-up is also covered.
Prerequisite: none

SE 1025 5 hours
Small Engine and Garden Equipment Repair II
(4 cycle)

See description for SE 1015.
Prerequisite: none

Sociology

SO 1103 3 hours
General Sociology

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.
Prerequisite: none

SO 1203 3 hours
American Social Problems

A study of selected 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: none

SO 2103 3 hours
Human Relations

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: none

SO 2203 3 hours
Marriage and the Family

A study of the family, society, and the individual. The course includes background on American family patterns; premarital behavior; marriage and variations in family forms; and problems of the family today. Special emphasis is given to marriage and the family as a kind of human relationship.
Prerequisite: consent of instructor

SO 2303 3 hours
Introduction to Social Work

A study of philosophy, historical development and perspectives of social work.
Prerequisite: SO 1103

SO 2701, 2, 3 1-3 hours
Independent Studies (Honors) in Sociology

Course content and hours arranged by instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
Prerequisite: consent of instructor

Teacher Aide (Assistant)

TA 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar

Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: none

TA 2013 3 hours
Teacher Aide Seminar

A seminar designed to acquaint the prospective teacher aide with the responsibilities and requirements of the teaching assistant or the teacher's aide clerk and to discover how the teacher aide fits into the instructional team. The student prepares through the seminar to do an internship in one of the district schools. A college staff member moderates the seminar which serves to tie coursework and experience together.
Prerequisite: none

TA 2021, 2032, 2043 1-3 hours
Teacher Aide Internship

A supervised work experience in an educational setting in the college district to provide a realistic view of the varied duties of a teacher aide.
Prerequisite: TA 2013 and consent of instructor

TA 2661, 2672, 2683 1-3 hours
Independent Studies in Teacher Aide
 Course content will be arranged by the instructor to meet individual needs of the student. For each semester enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

TA 2991 1 hour
Teacher Aide Job Placement
 A course designed to assist teacher aide students in obtaining jobs suitable to their training and interests.
 To be taken the last semester of study.

Welding

WL 0100, 1, 2, 3 .5-3 hours
Workshop/Seminar
 Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
 Prerequisite: none

WL 1001 1 hour
Personal Welding
 A course designed to introduce the student to his or her home welder and its related functions.
 Prerequisite: none

WL 1011, (lec), 1014 (lab) 4 hours
Introduction to Welding
 An introduction to oxygen-acetylene brazing, cutting, and electric arc welding. The study of safety in oxyacetylene and electric arc welding is also included.
 Prerequisite: none

WL 1021 (lec), 1024 (lab) 4 hours
Welding II — All Position SMAW
 A continuation of Welding I, stressing all-position shielded metal arc welding (SMAW). The study of the weldability of metals, joint design, filler metal selection, plasma arc cutting and carbon arc gouging is also included.
 Prerequisite: WL 1011, 1014

WL 1031 (lec), 1034 (lab) 4 hours
Welding III
 A course which stresses the development of skills in SMAW of groove welds in the 1G, 2G, 3G, 4G, and 45 positions; the study of welding codes and standards and testing and inspecting of welds will also be covered.
 Prerequisite: WL 1011, 1014, 1021, 1024 or consent of instructor

WL 1041 (lec), 1046 (lab) 5 hours
Welding IV - GMAW
 A course which stresses the development of skills in the GMAW of fillet and groove welds in the flat, horizontal, vertical and overhead positions. GMAW and FCAW equipment, setup and operation and shielding gasses are among the topics to be discussed.
 Prerequisite: WL 1011, 1014, 1021, 10234, 1031, 1035 or consent of instructor

WL 2011 (lec), 2016 (lab) 5 hours
Welding V - GTAW
 A course which stresses the development of skills in the GTAW of fillet and groove welds in the flat, horizontal, vertical and overhead positions. GTAW equipment, setup and operation, shielding gasses and automation and robotics are among the topics to be discussed.

Prerequisite: WL 1011, 1014, 1021, 10234, 1031, 1035, 1041, 1046 or consent of instructor

WL 1053 3 hours
Welding VI - Blueprint Reading
 A course which includes the fundamentals of print reading, welding symbols, and related information on a blueprint in construction and various welding fields.
 Prerequisite: none
 1035, 1041, 1046 or consent of instructor

WL 1661, 1672, 1683 1-3 hours
Welding X - Independent Studies in Welding
 Course content and hours arranged by the instructor. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. May be repeated.
 Prerequisite: consent of instructor

WL 2021 (lec), 2026 (lab) 5 hours
Welding VII - Pipe Welding
 A course which stresses the development of pipe welding skills in the 2G, 5G, and 6G positions. making templates and using them on pipe joints and saddles is also included.
 Prerequisite: WL 1011, 1014, 1021, 10234, 1031

WL 2031 (lec) 1 hour
Welding VIII - Advanced Graduate Projects
 Under the supervision of the instructor the student will build a project which will require the knowledge and skills from all previous welding courses. The student will also be required to write a research paper.
 Prerequisite: WL 1011, 1014, 1021, 10234, 1031, 1035, 1041, 1046, 2021, 2026 and have completed English requirements for degree