

COURSE DESCRIPTIONS

ACCOUNTING

AC 1000-1003 **0.5-3.0 hours** Workshop/Seminar

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

AC 1003 **3.0 hours** Financial Accounting I Lec

A study of basic principles and procedures of double-entry accounting for service and merchandising businesses. Includes the complete accounting cycle, special journals, deferrals, accruals, payroll, other current liabilities and an introduction to receivables and inventories. There will be some basic analysis of financial statements. Most problems will be solved using general ledger and spreadsheet software. Lab is required for all vocational accounting majors and recommended for all other students.
Prerequisite/corequisite: CS1013 and keyboarding skills. Corequisite of AC 1011 is recommended.

AC 1011 **1.0 hours** Financial Accounting I Lab

A laboratory period for Financial Accounting I students to work on assignments under the supervision of an instructor, to reinforce accounting concepts and vocabulary, to complete examinations when necessary, and to study the results of the examinations. To be taken with Financial Accounting I.
Prerequisite: None

AC 1023 **3.0 hours** Financial Accounting II Lec

A short review of the accounting cycle, additional study of receivables and inventories and a concentration on plant and intangible assets, concepts and principles, partnerships, and corporate accounting, which includes corporate statements, bond liabilities, investments and statement of cash flows. Also, accounting ethics and in-depth analysis of the financial statements are covered. Most problems will be solved using general ledger and spreadsheet software. Lab is required for all vocational accounting majors and recommended for all other students.
Prerequisites/corequisite: AC1003, CS1013, and keyboarding skills. Corequisite of AC 1031 is recommended.

AC 1031 **1.0 hours** Financial Accounting II Lab

See course description for AC 1023 (Fin Accounting II Lec). Lab is required for vocational accounting majors and recommended for all other students.
Prerequisite: None

AC 1043 **3.0 hours** Managerial Accounting

The content will include managerial concepts, job order and process cost systems, cost behavior and profit analysis, budgeting, variances, decentralized operations, differential analysis, product pricing, capital investment analysis and standards of ethical conduct for management accountants. Most problems will be solved using general ledger and spreadsheet software. Lab is required for all vocational accounting majors and recommended for all other students.
Prerequisite: Grade of C or higher in AC1023. Corequisite of AC 1051 is recommended.

AC 1051 **1.0 hours** Managerial Accounting Lab

See course description for AC 1043 (Managerial Accounting). Lab is required for vocational

accounting majors and recommended for all other students.

Prerequisite: None

AC 2013 **3.0 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: AC1043 or consent of instructor.

AC 2021 **1.0 hours** Accounting Practicum

A course designed to give students practical working experience through the complete accounting cycle. A computer is used.
Prerequisite: AC1023

AC 2031 **1.0 hours** Accounting Practicum

A course designed to give students practical working experience through the complete accounting cycle. A computer is used.
Prerequisite: AC 1023 and AC 2021

AC 2043 **3.0 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: AC1043

AC 2053 **3.0 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 **3.0 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 **3.0 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 2103 **3.0 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 2123 **3.0 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 **1.0 hours** 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 2701-2705 **1.0-5.0 hours** Independent Study-Accounting

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

AC 2711-2715 **1.0-5.0 hours** Special Topics-Accounting

A study of specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

AIR CONDITIONING

AI 1000-1003 **0.5-3.0 hours** Workshop/Seminar

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

AI 1001 **1.0 hours** 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 1011 **1.0 hours** Introduction to Refrigeration Lec

A study of the theory and historical significance of refrigeration, along with the use and safety of refrigeration hand tools and commonly used materials. One hour lecture; one hour lab.
Prerequisite: None Students must be concurrently enrolled in: AI 1021

AI 1021 **1.0 hours** Introduction to Refrigeration Lab

A study of the theory and historical significance of refrigeration, along with the use and safety of refrigeration hand tools and commonly used materials. One hour lecture; one hour lab.
Prerequisite: None Students must be concurrently enrolled in: AI 1011

AI 1022 **2.0 hours** Applied Electrical Fundamentals Lec

A course which starts with the fundamentals

and processes of electrical wiring for refrigeration components, motors and motor controls. After students acquire a working knowledge of electrical circuits, they apply this to applications with testing boards and refrigeration equipment.

Prerequisite: None Students must be concurrently enrolled in: AI 1031 Two hours lecture; one hour lab.

AI 1023 3.0 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 1031 1.0 hours
Applied Electrical Fundamentals Lab

A course which starts with the basic fundamentals and processes of electrical wiring for refrigeration components, motors and motor controls. After students acquire a working knowledge of electrical circuits, they apply this to practical applications with testing boards and refrigeration equipment.

Prerequisite: None Students must be concurrently enrolled in: AI 1022 Two hours lecture; one hour lab.

AI 1052 2.0 hours
Domestic & Light Commercial Refrigeration Lec

An in-depth study of the selection, installation, servicing, diagnosing and repair of domestic and commercial refrigeration equipment. Students will gain knowledge and experience in food preservation and processing equipment, with special emphasis on restaurant and supermarket type equipment.

Prerequisite: AI 1011, 1021, 1022, 1031, 1131, 1141, 1151, or consent of the instructor. Students must be concurrently enrolled in: AI 1061 Two hour lecture; one hour lab.

AI 1061 1.0 hours
Domestic & Light Commercial Refrigeration Lab

An in-depth study of the selection, installation, servicing, diagnosing and repair of domestic and commercial refrigeration equipment. Students will gain knowledge and experience in food preservation and processing equipment, with special emphasis on restaurant and supermarket type equipment.

Prerequisite: AI 1011, 1021, 1022, 1031, 1131, 1141, 1151 or consent of the instructor. Students must be concurrently enrolled in: AI 1052 Two hour lecture; one hour lab.

AI 1082 2.0 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 1011, 1023, 1031, 1141, 1052, and 1061.

AI 1091 1.0 hours
Air Conditioning Equipment & Installation Lec

An advanced level of study which outlines the fundamental concepts of air conditioning, air distribution and psychrometrics. This information is used in the proper selection, installation and maintenance and adjustment of various systems of comfort cooling equipment, with special emphasis on human comfort. Customer service, ethics and employment skills are discussed.

Prerequisite: AI 1011, 1021, 1022, 1031, 1131, 1141, 1151, 1052, 1061 or consent of the instructor. Students must be concurrently enrolled in: AI 1101 One hour lecture; one hour lab.

AI 1101 1.0 hours
Air Conditioning Equipment & Installation Lab

An advanced level of study which outlines the fundamental concepts of air conditioning, air distribution and psychrometrics. This information is used in the proper selection, installation, maintenance and adjustment of various systems of comfort cooling equipment, with special emphasis on human comfort.

Customer service, ethics and employment skills are discussed.

Prerequisite: AI 1011, 1021, 1022, 1031, 1131, 1141, 1151, 1052, 1061 or consent of the instructor. Students must be concurrently enrolled in: AI 1091 One hour lecture; one hour lab.

AI 1111 1.0 hours
Test Diagnosis & Troubleshooting Lec

A detailed study of the application of technical knowledge and skills required for air conditioning and refrigeration service and repair. The student will learn to use systematic analysis procedures for speed as well as accuracy in diagnosing and troubleshooting equipment.

Prerequisite: AI 1011, 1021, 1022, 1031, 1131, 1141, 1151, 1052, 1061, 1091, 1101 or consent of the instructor. Students must be concurrently enrolled in: AI 1121 One hour lecture; one hour lab.

AI 1121 1.0 hours
Test Diagnosis & Troubleshooting Lab

A detailed study of the application of technical knowledge and skills required for air conditioning and refrigeration service and repair. The student will learn to use systematic analysis procedures for speed as well as accuracy in diagnosing and troubleshooting equipment.

Prerequisite: AI 1011, 1021, 1022, 1031, 1131, 1141, 1151, 1052, 1061, 1091, 1101 or consent of the instructor. Students must be concurrently enrolled in: AI 1111 One hour lecture; one hour lab.

AI 1123 3.0 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 1131 1.0 hours
Systems & Components Lec

An introductory course covering basic electrical theory and the application of electricity relating to residential, commercial and industrial refrigeration systems; and the 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: None Students must be concurrently enrolled in: AI 1141 One hour lecture; one hour lab.

AI 1133 3.0 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 1141 1.0 hours
Systems & Components Lab

An introductory course covering basic electrical theory and the application of electricity relating to residential, commercial and industrial refrigeration systems; and the 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: None Students must be concurrently enrolled in: AI 1131 One hour lecture; one hour lab.

AI 1143 3.0 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 1151 1.0 hours
Refrigerants & Environment

A study of the various types of refrigerants, their characteristics and applications, skills in handling refrigerants, pressure-temperature relationships, refrigerant oils, moisture and noncondensable gases, with special emphasis on the environmental impact of the refrigeration industry and compliance with the Environmental Protection Agency (EPA) regulations.

Prerequisite: None One hour lecture.

AI 1153 3.0 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 3.0 hours
Oil Heat & 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 3.0 hours
LP, Electric Heat & 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 1183 3.0 hours
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 1193 3.0 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 1203 3.0 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 3.0 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 area of installation, maintenance, and diagnosis of problems.

Prerequisite: AI 1203 or consent of instructor.

AI 1302 2.0 hours
Introduction to HVAC Lec

Prerequisite: None

a heightened sense of creativity.
Prerequisite: none

AR 1313 3.0 hours
Drawing II
A continuation of Drawing I focusing on refinement of observational and compositional skills, and development of an individual approach to drawing problems.
Prerequisite: AR 1303

AR 1323 3.0 hours
Drawing III
A continuation of Drawing II, concentrated practice in observational drawing. Emphasis will be placed on compositional skills necessary to create finished works of art with an individual style.
Prerequisite: AR 1313

AR 1333 3.0 hours
Studio in Drawing
Independent study into the exploration of style and content through drawing, perhaps relating to other fields or processes such as painting and printmaking.
Prerequisite: None

AR 1403 3.0 hours
Painting I
An introduction to the materials and techniques of oil painting intended to develop technical and expressive abilities. Development of compositional and observations skills will be stressed.
Prerequisite: none

AR 1413 3.0 hours
Painting II
A continuation of Painting I, in which the student will further develop technical abilities in oil painting, stressing color and spatial relationships, and a refinement of observational skills. Deeper exploration into personal expression and painting as communications.
Prerequisite: AR 1403

AR 1423 3.0 hours
Painting III
A continuation of Painting II, and advanced study into the medium of oil painting as a means of personal expression and visual communication.
Prerequisite: AR 1413

AR 1433 3.0 hours
Studio in Painting
Independent study into the personal exploration of style through painting. More emphasis on narrative content than in lower levels.
Prerequisite: AR 1423

AR 1503 3.0 hours
Figure Drawing I
An introduction to drawing from the human figure. An analysis of structure and how it relates to overall form. Emphasis on observational skills to achieve correct proportion, and sensitivity to the subtleties of the human figure.
Prerequisite: none

AR 1513 3.0 hours
Figure Drawing II
A continuation of Figure Drawing I, drawing from the human figure. Refining observational and compositional skills through a more personal approach to the subject matter.
Prerequisite: AR 1503

AR 1523 3.0 hours
Figure Drawing III
A continuation of Figure Drawing II, an advanced study in drawing the human figure. Emphasis will be on technical skill, individual expression and attempts to define one's style.
Prerequisite: AR 1513

AR 1533 3.0 hours
Studio in Figure Drawing
Advanced study in drawing the human figure, with emphasis on exploration through the use of different media and definition of personal style.
Prerequisite: AR 1523

AR 1603 3.0 hours
Fundamentals of Graphics 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 3.0 hours
Fundamentals of Graphics 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 3.0 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 3.0 hours
Art History II
A historical study of art tracing the development of art from the 18th century through contemporary times. Emphasis is placed on individual artists and art movements.
Prerequisite: none

AR 1723 3.0 hours
Commercial Illustration I
Explore the variety of drawing and painting methods and materials used by professional designers and illustrators. Refining will enhance creative expression of drawing and painting techniques and the investigation of various media. Students will be introduced to a variety of design and illustration techniques and procedures.
Prerequisite: None

AR 1733 3.0 hours
Commercial Illustration II
A continuation of Commercial Illustration I. Emphasis is on gaining proficiency with media, developing the ability to create illustrations and produce them in print form.
Prerequisite: AR 1723

AR 2003 3.0 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 3.0 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 2023 3.0 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 2043 3.0 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 2103 3.0 hours
Printmaking I
An introduction to the history, materials, and techniques of printmaking intended to develop technical and expressive abilities. Relief and Intaglio processes will be covered, as well as monotype. Other areas to be covered included executing an edition of prints, matting and framing for presentation.

Prerequisite: none

AR 2113 3.0 hours
Printmaking II
A continuation of Printmaking I with further study into the Intaglio process, and the introduction to Lithography. The student will have the option of working in the woodcut and monotype processes.
Prerequisite: AR 2103

AR 2123 3.0 hours
Printmaking III
A continuation of Printmaking II in which the student will choose two of the four printmaking processes to work in. Emphasis on increased technical skills and development of aesthetic imagery.
Prerequisite: AR 2113

AR 2133 3.0 hours
Studio in Printmaking
Independent intensive exploration into the process of choice. The student will create a "suite" of prints, working in a series.
Prerequisite: AR 2123

AR 2203 3.0 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 3.0 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 2223 3.0 hours
Photography III
A continuation of Photography II with advanced study in black and white photographic methods, composition, and dark room techniques.
Prerequisite: AR 2213

AR 2303 3.0 hours
Ceramics I
An introduction to clay as a medium of expression using ancient and modern techniques of forming clay objects. Hand building, wheel throwing, and alternative forming methods will be introduced. Firing techniques including oxidation, reduction, raku, and primitive methods are taught.
Prerequisite: None

AR 2313 3.0 hours
Ceramics II
A continuation of Ceramics I approaching clay in a more personal way focusing on the development of an individual approach to the medium. Emphasizing aesthetics related to contemporary and historical trends in clay. Individual projects focusing on experimentation and research into clay body and glaze calculation techniques will be emphasized.
Prerequisite: AR 2303 or consent of instructor.

AR 2323 3.0 hours
Ceramics III
A continuation of Ceramics II. Advanced studies designed to allow concentration on clay as a medium of individual expression. Emphasis is on individual research and production methods. Course of study will include preparation for scholastic continuation in ceramics.
Prerequisite: AR 2313 or consent of instructor.

AR 2333 3.0 hours
Studio in Ceramics
A continuation of Ceramics III. A self directed learning experience for students. Emphasis is on continued individual research and production methods. Course of study will include preparation for scholastic continuation in ceramics.
Prerequisite: AR 2323

AR 2403 Sculpture I 3.0 hours

An introduction to sculpture stressing the elements of sculptural form. Various materials and construction methods used in the sculptural field of study are emphasized. Prerequisite: none

AR 2413 Sculpture II 3.0 hours

A continuation of the study of the elements of sculptures stressing the creative use of materials and construction methods. Prerequisite: AR 2403

AR 2701-2705 Independent Study-Art 1.0-5.0 hours

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

AR 2711-2715 Special Topics-Art 1.0-5.0 hours

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

AUTO TECHNOLOGY
AT 1001 Introduction to Auto Technology 1.0 hours

The first course in the degree plan sequence of courses for Auto Technology majors. Topics include the safe use of chemicals, hand tools, power tools, protective clothing and equipment, fore and shop safety including EPA and OSHA regulations. Also covered in this unit are shop operations, customer relations, repair orders, shop manuals, work habits, career opportunities and duties of a technician. Intro to Auto Technology is a prerequisite to all other units. It is taught at the beginning of the fall semester only.

AT 1022 ASE Brakes 2.0 hours

Basic theory, operation, diagnosis and repair of drum, disc, hydraulics, power and ABS brake systems are taught in this unit. Prerequisite: AT 1001

AT 1043 ASE Suspension/Steering 3.0 hours

Basic theory, operation, diagnosis and repair of steering systems, front suspension, rear suspension, tires and wheel alignment and balance are taught in this unit. Prerequisite: AT 1001

AT 1065 ASE Manual Drive 5.0 hours

Basic theory, operation, diagnosis and repair of clutches, manual transmissions/transaxles, drive shafts, CV joints, differentials, and four wheel drive are taught in this unit. Prerequisite: AT 1001

AT 1083 ASE Auto Transmission/Transaxle 3.0 hours

Basic theory, operation, diagnosis and repair of automatic transmissions, automatic transaxles and trans/transaxle service are taught in this unit. Prerequisite: AT 1001

AT 1104 ASE Engine Repair 4.0 hours

This unit includes instruction in basic theory, operation, diagnosis and repair of the complete automotive engine including rebuilding, engine lubrication, and cooling systems. Prerequisite: AT 1001

AT 2036 ASE Electrical Systems 6.0 hours

Basic theory, operation, diagnosis and repair of basic electrical circuits, batteries, starting systems, charging systems, lighting systems, gauges, and accessories are taught in this unit. Prerequisite: AT 1001

AT 2056 ASE Engine Performance 3.0 hours
ASE Engine Performance

Basic theory, operation, diagnosis and repair of basic and electronic computerized ignition systems, basic and injected fuel systems, exhaust systems, emission systems, tune-up, and engine performance are taught in this unit. Prerequisite: AT 1001

AT 2073 ASE Heating & Air Conditioning 3.0 hours

Basic theory, operation, diagnosis and repair of the auto heating and air conditioning systems including Freon recovery are taught in this unit. Prerequisite: AT 1001

AT 2701-2705 Independent Study-Auto Technology 1.0-5.0 hours

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

AT 2711-2715 Special Topics-Auto Technology 1.0-5.0 hours

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

BIOLOGY
BI 1003 Nutrition 3.0 hours

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 Ecology of Wildlife & Man 3.0 hours

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 Medical Terminology 2.0 hours

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 1113 Medical Terminology I 3.0 hours

An introduction to medical terminology focusing on the building and understanding of anatomical and pathological terms through identification and interpretation of roots, prefixes and suffixes. Students will pronounce, spell, define and interpret text on basic terms used in reporting on body systems, medical specialties, disease and procedural activities. The course will address basic medical terminology and abbreviations. Prerequisite: None

BI 1123 Medical Terminology II 3.0 hours

An introduction to pharmacology, and diagnostic procedures. Emphasis will be placed on pharmacological terminology, and associating drugs with the conditions for which they are commonly prescribed. Interpretation of common laboratory and diagnostic tests will also be addressed. Prerequisite: BI 1113

BI 1202 Health 2.0 hours

A general course designed to develop proper attitudes and practices which will contribute to the fine art of living. Health problems which require community action are given consideration. The course is intended for the elementary education majors. A portion of this course

is devoted to methods of teaching health. Prerequisite: None

BI 1203 Introduction Life Science 3.0 hours

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 General Biology Lec 3.0 hours

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 take an additional course in the biological sciences. Three hours of lecture and two two-hour laboratory periods per week. Prerequisite: None

BI 1312 General Biology Lab 2.0 hours

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 take an additional course in the biological sciences. Three hours of lecture and two two-hour laboratory periods per week. Prerequisite: None

BI 1313 Introduction to Botany Lec 3.0 hours

An introduction to the plant kingdom involving the study of the basic biological principles of plant life. Topics will include plant classification, evolution of species, life cycles and plant anatomy. Study begins at the molecular and cellular level and ends with study of the entire organism. Laboratory is designed to enhance classroom lecture. This involves microscopy of tissues, study of organs by dissection, germination of seeds, and biochemical experimentation for a greater understanding of complex processes like photosynthesis. Prerequisite: None

BI 1322 Introduction to Botany Lab 2.0 hours

An introduction to the plant kingdom involving the study of the basic biological principles of plant life. Topics will include plant classification, evolution of species, life cycles and plant anatomy. Study begins at the molecular and cellular level and ends with study of the entire organism. Laboratory is designed to enhance classroom lecture. This involves microscopy of tissues, study of organs by dissection, germination of seeds, and biochemical experimentation for a greater understanding of complex processes like photosynthesis. Prerequisite: None

BI 1323 Principals of Biology Lec 3.0 hours

An introductory course concerned with the behavior of molecules, cells, organisms, and populations in an ecosystem- bound and evolving world. This course is intended for all biology related fields, pre-health and allied health sciences, and agriculture related disciplines. This course is intended to be taught as a University level biology course. Prerequisite: None

BI 1332 Principals of Biology Lab 2.0 hours

An introductory course concerned with the behavior of molecules, cells, organisms, and populations in an ecosystem- bound and evolving world. This course is intended for all biology related fields, pre-health and allied health sciences, and agriculture related disciplines. This course is intended to be taught as a University level biology course. Prerequisite: None

BI 1403 Invertebrate Zoology 3.0 hours

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 two two-hour laboratory period per week. This course is recommended for students majoring in life sciences and related fields.
Prerequisite: BI 1323 & BI 1332 Corequisite: BI 1412

BI 1412 Invertebrate Zoo Lab **2.0 hours**

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 two two-hour laboratory period per week. This course is recommended for students majoring in the life sciences and related fields.
Prerequisite: BI 1323 & BI 1332

BI 1603 General Botany Lec **3.0 hours**

An introduction to the plant kingdom, structure, physiology, life histories, economics 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 1323 & BI 1332, or consent of instructor. Corequisite: BI 1612

BI 1612 General Botany Lab **2.0 hours**

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 1323 & 1332, or consent of instructor.

BI 1701 Introduction to Respiratory Therapy **1.0 hours**

A course intended to introduce a prospective student the Respiratory Care profession. Includes the student of topics, techniques, and issues that are a part of the 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 1802 Introduction to Human Anatomy & Physiology Lec **2.0 hours**

A survey of the structure and function of the human body. The micro and macroscopic structure and the function of each system will be studied. The course is intended for students enrolled in an LPN program, and the Emergency Medical Technician (EMT) program. The integument, skeletal, muscular, nervous, endocrine, circulatory, digestive, respiratory, urinary and reproductive system will be studied. Two lectures and two lab periods per week and the laboratory session will support the lecture activity.
Prerequisite: None

BI 1812 Introduction to Human Anatomy & Physiology Lab **2.0 hours**

A survey of the structure and function of the human body. The micro and macroscopic structure and the function of each system will be studied. The course is intended for students enrolled in an LPN program, and the Emergency Medical Technician (EMT) program. The integument, skeletal, muscular, nervous, endocrine, circulatory, digestive, respiratory, urinary and reproductive system will be studied. Two lectures and two labs per week and the laboratory session will support the lecture activity.
Prerequisite: None

BI 1902 Introduction to Human Physiology Lec **2.0 hours**

A study of the function of the cell, nervous, skeletal, muscular, cardiovascular, immune, excretory, digestive, respiratory and reproductive system. The course is intended to compliment Intro to Human Anatomy and Physiology, and provide a complete view of normal body functions. The primary targets

are students bridging from LPN to an RN program.
Prerequisite: BI 1802 & BI 1812. Corequisite: BI 1912

BI 1912 Introduction to Human Physiology Lab **2.0 hours**

A study of the function of the cell, nervous, skeletal, muscular, cardiovascular, immune, excretory, digestive, respiratory and reproductive system. The course is intended to compliment Intro to Human Anatomy & Physiology, and provide a complete view of normal body functions. The primary targets are students bridging from LPN to an RN program.
Prerequisite: BI 1802 & 1812.

BI 2001 Biology Science Lab **1.0 hours**

This course emphasizes and addresses the Key Skills that are identified in "Core Competencies and Key Skills" for Missouri school (1991).
Prerequisite: None

BI 2003 Genetics Lec **3.0 hours**

A study of the principles of heredity and biological evolution as applied to plants and animals.
Prerequisite: MT 1403, BI 1323 & BI 1332. Corequisite: BI 2012

BI 2012 Genetics Lab **2.0 hours**

A study of the principles of heredity and biological evolution as applied to plants and animals.
Prerequisite: MT 1403, BI 1323 & BI 1332.

BI 2102 Human Anatomy & Physiology I Lec **2.0 hours**

Part one of a two-semester course where gross micro- and macro- scopic 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 1323 & 1312, 5 hours of college level chemistry including a lab, or consent of instructor. College courses in math are useful. Corequisite: BI 2112

BI 2112 Human Anatomy & Physiology I Lab **2.0 hours**

Part one of a two-semester course where gross micro- and macro- scopic 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 1323 & 1332, 5 hours of college level chemistry including a lab, or consent of instructor. College courses in math are useful.

BI 2202 Human Anatomy & Physiology II Lec **2.0 hours**

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 1323 & 1332, 5 hours of college level chemistry including a lab, or consent of instructor. College courses in math are useful. Corequisite: Either BI 2203 or BI 2212

BI 2203 Human Anatomy & Physiology II Lab **3.0 hours**

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 1323 and 1332, 5 hours of college level chemistry including a lab, or consent of instructor. College courses in math are useful.

BI 2212 Human Anatomy & Physiology II Lab **2.0 hours**

Part two of a two-semester study. Systems studied are digestive, respiratory, circula-

tory, 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 1323 & 1332, CH 1203 & 1212, or CH 1303 & 1312, or consent of instructor. College courses in math are useful.

BI 2213 Marine/Coastal Biology Lec **3.0 hours**

An introductory course involving fundamental biological and ecological principles of coastal and marine organisms interacting with abiotic selective forces. This is a course that is open to students who have completed one or more biology courses that have a laboratory component.
Prerequisite: None

BI 2222 Marine/Coastal Biology Lab **2.0 hours**

An introductory course involving fundamental biological and ecological principles of coastal and marine organisms interacting with abiotic selective forces. This is a course that is open to students who have completed one or more biology courses that have a laboratory component.
Prerequisite: None

BI 2302 Vertebrate Morphology Lec **2.0 hours**

A study of the 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 1323 & 1332 or consent of instructor. Corequisite: BI 2303

BI 2303 Vertebrate Morphology Lab **3.0 hours**

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 1323 & 1332 or consent of instructor.

BI 2403 Microbiology Lec **3.0 hours**

An introduction to microorganisms, their morphology, physiology, classification, and importance. Three hours lecture and three hours laboratory per week.
Prerequisite: BI 1323 & 1332, or consent of instructor. Corequisite: BI 2411

BI 2411 Microbiology Lab **1.0 hours**

An introduction to microorganisms, their morphology, physiology, classification, and importance. Three hours lecture and three hours laboratory per week.
Prerequisite: BI 1323 & 1332, or consent of instructor.

BI 2503 General Ecology Lec **3.0 hours**

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: BI 1323 & 1332, or consent of instructor. Corequisite: BI 2512

BI 2512 General Ecology Lab **2.0 hours**

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: BI 1323 & 1332, or consent of instructor.

BI 2603 Pathophysiology **3.0 hours**

This course will give a basic introduction to body disfunction in disease. The vector, or cause of the disease and its impact on body function will be studied. Topics will be covered will include etiology, epidemiology, vectors, and chronic disease as well as genetic anomalies will be addressed using a systemic approach.
Prerequisite: BI 2102 & 2112, or BI 2202 & 2203 or 2212.

BI 2701-2705 Independent Studies-Biology **1.0-5.0 hours**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

BI 2711-2715 Special Topics-Biology **1.0-5.0 hours**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

BI 2802 Practicum in Biology **2.0 hours**

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 Alpine Biology **3.0 hours**

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's Pingree Park Campus.
Prerequisite: None

BUILDING CONSTRUCTION

BC 0100-1003 Workshop/Seminar **0.5-3.0 hours**

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

BC 1014 Blueprint Reading & Layout **4.0 hours**

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 1024 Survey and Layout **4.0 hours**

A study of the theory involving basic surveying equipment, Chaining, differential leveling, grade operations, layout of buildings and construction layouts.
Prerequisite: None

BC 1033 Concrete **3.0 hours**

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 Carpentry **3.0 hours**

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

BC 1045 Carpentry **5.0 hours**

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

BC 1055 Electricity **5.0 hours**

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

BC 1064 Plumbing **4.0 hours**

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

BC 1073 Welding **3.0 hours**

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

BC 1084 Commercial Carpentry **4.0 hours**

Study of the basic theory and application of commercial building construction fundamentals.
Prerequisite: BC 1033

BC 1093 Sheet Metal & Prevention Building Maintenance **3.0 hours**

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 Energy Efficient Building **3.0 hours**

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

BC 1114 Residential Construction Procedures **4.0 hours**

A course dealing with advanced building construction fundamentals including concrete, carpentry, plumbing, and electricity.
Prerequisite: BC 1045

BC 1123 Farm & Home Shop Construction **3.0 hours**

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 Home Maintenance **3.0 hours**

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

BC 1143 Repair & Construction of Farm Machine Buildings **3.0 hours**

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

BC 1153 Blueprint Reading/Architectural Drawing **3.0 hours**

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

BC 2701-2705 Independent Study-Building Construction **1.0-5.0 hours**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

BC 2711-2715 Special Topics-Building Construction **1.0-5.0 hours**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

BUSINESS TECHNOLOGY

BT 0100-1003 Workshop/Seminar **0.5-3.0 hours**

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

BT 1011 Keyboarding **1.0 hours**

Designed for the student who has not typed before. Includes beginning instruction on the keyboard and numbers only using a micro-computer.
Prerequisite: None

BT 1013 Keyboarding/Formatting **3.0 hours**

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

BT 1021 Keyboard Skillbuilding I **1.0 hours**

A course to increase speed and accuracy 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

BT 1023 Document Production **3.0 hours**

A course in further development of typewriting skills, with special attention given to improving accuracy and increasing speed. Major emphasis is given to producing mail able copy on tables, correspondence, and rough draft reports under timed conditions. Individualized instruction- using microcomputer.
Prerequisite: BT 1013 or speed of at least 40 wpm for five minutes with a maximum of three errors.

BT 1031 Keyboard Skillbuilding II **1.0 hours**

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

BT 1033 Advanced Document Production **3.0 hours**

A course based on integrated projects and in-basket exercises. Emphasis is placed upon decision making, setting priorities and high production standards. Business document composition skills will also be refined. Skill-building software is included. Individualized instruction-using microcomputer.
Prerequisite: BT 1023

BT 1043 Speedwriting I **3.0 hours**

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: BT 1013

BT 1053 Speedwriting II **3.0 hours**

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 short-hand theory. Individualized instruction.
Prerequisite: BT 1013, 1043 or consent of instructor.

BT 1061 1.0 hours
Medical/Dental Office Software

Introduces the student to the best selling commercial medical office software program. This software familiarizes the student with computerized account management and trains the student to perform the duties necessary to manage a medical office electronically. Designed for those in health careers or others interested in medical office management software.
Prerequisite: None

BT 1071 1.0 hours
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.

BT 1081 1.0 hours
Word MOUS

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.

BT 1083 3.0 hours
Business Communications I

Topics include: communicating with customers in a business environment, communicating globally, ethics, and the fundamentals of composing and editing business documents.
Prerequisite: None

BT 1101 1.0 hours
The Internet

This course is designed to introduce students who want to know how to use the Internet in a productive and satisfying way to access services, resources, and information, and to communicate electronically with others. The focus is in learning how to use the Internet in a step-by-step manner.
Prerequisite: None

BT 1111 1.0 hours
Web Page Design

This course introduces the basics of HTML and JAVA, and good web page design. Learn the basic HTML document elements.
Prerequisite: None

BT 1113 3.0 hours
Technology & Procedures

The course emphasizes the following topics: work efficiency, setting priorities, time management, information retrieval and management, decision-making competencies, human relations techniques, ethical behavior, meetings, travel, and financial documents.
Prerequisite: Keyboarding skills

BT 1131 1.0 hours
Voice Recognition

This course is designed to use voice recognition software to create personal and business documents.
Prerequisite: BT 1013 or the equivalent

BT 1141 1.0 hours
Advanced Internet Topics

Students will learn how to use advanced Internet tools and techniques. Some of the topics include advance search techniques and tools, advanced e-mail features, download data and programs, different types of mailing lists, and e-commerce.
Prerequisite: BT 1101 or consent of the instructor.

BT 1143 3.0 hours
Business Communications II

A study of the communication needs in business, the oral and written, with emphasis on inter-company communication, letters, and reports. Special attention is given to organization, mechanics and the business vocabulary.

Prerequisite: None

BT 1173 3.0 hours
Word MOUS Expert

Instructs the student in the features of word processing software. Topics covered include create, edit, format, print, and save documents while using the spelling dictionary, multi-page report, graphics, mail merge, macros, and table format features.
Prerequisite or Corequisite: Keyboarding skills.

BT 1183 3.0 hours
Introduction to Medical Transcription

The beginning lessons introduce the student to the transcription process and equipment. Students then learn to transcribe various medical reports. These include history and physical, operative record, pathology report, radiology report, consultation report and discharge summary.
Prerequisite: BT 1013 and BI 1113

BT 1213 3.0 hours
Desktop Publishing

Students learn Adobe PageMaker desktop publishing software features. Students apply page layout and graphic techniques to design and produce a variety of professional publications including brochures, newsletters, flyers, posters, and business cards.
Prerequisite: none

BT 1223 3.0 hours
Voice Recognition Applications

This self-paced course is designed to develop computer-inputting skills by voice and to improve language skills. Students will review punctuation, capitalization, number usage, and word usage principles. They will learn to edit documents and then input the edited documents into the computer using voice recognition software.
Prerequisite: BT 1013 Keyboarding/Formatting or the equivalent.

BT 2013 3.0 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 AAS degree programs. Course is taught as a group but individualized instruction may be arranged.
Prerequisite: MT 0103

BT 2033 3.0 hours
Internship I

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.
Prerequisite: enrollment in the Business Technology Program and consent of instructor.

BT 2043 3.0 hours
Legal Document Production

This is a course designed for legal secretarial majors. It includes creating legal documents using specialized software. Legal terminology is studied. Skillbuilding software is used. Individualized instruction.
Prerequisite: BT 1023 or consent of instructor.

BT 2053 3.0 hours
Legal Speedwriting

A course specializing in the dictation and transcription of various legal documents and correspondence into mail able form. Legal terminology will be emphasized. Individualized instruction-using microcomputers.
Prerequisite: BT 1043 or consent of instructor

BT 2063 3.0 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: BT 1013

BT 2073 3.0 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, coding, and professional activities. Computer software will be used to learn these procedures. Preparing health insurance forms will be stressed using the computer. Individualized instruction.
Prerequisite: BT 1023, 1083, and BI 1112 or BI 1113.

BT 2083 3.0 hours
Medical Transcription

A specialized course in medical terminology transcription for students who are proficient in keyboarding and medical terminology, and who have a working knowledge of transcription equipment. Individualized instruction-using microcomputers.
Prerequisite: BT 1023, 1083, 1183 and BI 1113

BT 2093 3.0 hours
Legal Transcription

This course is designed to prepare students for activities performed by a transcriptionist in a law firm or other legal setting where documents are to be converted from the spoken word to printed form. Special attention will be given to legal terminology, legal procedures, grammar, punctuation, number expression, word division, word choice and spelling so that legal documents can be prepared accurately and efficiently.
Prerequisite: BT 1023 and BT 1083

BT 2103 3.0 hours
Business Technology I

Students learn MOUS core level skill proficiency using Excel spreadsheet program, Access database management program, and PowerPoint presentation graphics program. They demonstrate their software proficiency by successfully completing business project.
Prerequisite: Keyboarding skills.

BT 2113 3.0 hours
Integrated Applications

This course provides hands-on experience in integrating information generated by two or more Microsoft Office suite programs (Word, Excel, Access, PowerPoint, Outlook) to produce solutions to meet the needs of the business community. The projects simulate real world practices and a realistic work environment.
Prerequisite: BT 2103 and BT 2143

BT 2123 3.0 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: BT 2113 or consent of the instructor.

BT 2133 3.0 hours
Internship II

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.
Prerequisite: enrollment in the Business Technology Program and consent of instructor.

BT 2143 3.0 hours
Business Technology II

Students will complete business projects in which they demonstrate a comprehensive knowledge of Outlook electronic calendar and email management program capabilities, an advanced proficiency in Excel spreadsheet software capabilities, and thorough understanding of Windows operating system capabilities.
Prerequisite: None

BT 2153 3.0 hours
Internet Collaborations

Students will complete hands-on collabora-

tive business projects using Microsoft Office programs and Internet technology. Students will use the Internet to hold real-time, online discussions, collaborative meetings, and live video conferences. Topics include text, voice, and video conferencing tools and methods used in business for desktop collaboration.
Prerequisite: None

BT 2163 3.0 hours
eBusiness

This course provides an overview of the principles of electronic commerce, the growth of ebusiness, the difference and similarities between ebusiness and traditional commerce, and the essentials of planning and starting an ebusiness. Many real-world ebusiness examples are used to illustrate the importance ebusiness plays in the growth, survival, and success of businesses.
Prerequisite: None

BT 2173 3.0 hours
Microcomputer Publisher

Students design and produce high-quality, professional documents using templates, customized content, graphics, and more using Microsoft Publisher software. Topics include designing a newsletter, preparing a tri-fold brochure, using web features, creating business forms, and integrating files.
Prerequisite: None

BT 2183 3.0 hours
Advanced Medical Transcription

An advanced course in medical transcription for students who are proficient in the medical transcription process. Students will transcribe medical reports from twelve specialty areas. Students will select and use appropriate general and specialty reference materials and edit medical reports to conform with AAMT style guidelines. Individualized instruction.
Prerequisite: BI 1113, BT 1183, BT 2083, BT 1023, BT 1083

BT 2701-2705 1.0-5.0 hours
Independent Study-Business Technology

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

BT 2711-2715 1.0-5.0 hours
Special Topics-Bus Technology

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

BUSINESS

BU 0100-1003 0.5-3.0 hours
Workshop/Seminar

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

BU 1003 3.0 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 3.0 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 3.0 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 3.0 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 3.0 hours
Principles of Finance

A broad introduction to the operations, 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 3.0 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 3.0 hours
Business & Industry Management 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 1103 3.0 hours
Elementary Human Resource Management

This course will examine the functions of a human resources department as well as the challenges and opportunities facing human resource managers. This course will explore the attitudes and necessary skill of managers and supervisors in solving human problems and developing a skilled an motivated workforce.
Prerequisite: None

BU 1113 3.0 hours
Principles of Industrial Management

This course is designed to study the basic relationship of business functions necessary for the success of a company engaged in a manufacturing environment. This includes the study of customer service; inventory control and manufacturing; and purchasing controls. This course will also be a preparation course for the Inventory Management Certification examination.
Prerequisite: None

BU 1123 3.0 hours
Analyzing Financial Statements

This course will teach students to analyze financial information in conjunction with making commercial loan credit decisions. The course will utilize various financial ratios and other decision making processes used by commercial bankers.
Prerequisite: None

BU 1193 3.0 hours
Dynamics/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.
Prerequisite: None

BU 2012 2.0 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 3.0 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 2014 4.0 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 2023 3.0 hours
Business & Industry Management Internship

Actual work experience in a business or industry with periodic discussions of the problems involved in applying classroom principles to the job.
Prerequisite: BU 1063 and enrollment in Business Management Program and consent of instructor.

BU 2033 3.0 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 sales, international dimensions of legal environment, anti-trust and employment implications.
Prerequisite: None

BU 2043 3.0 hours
Business Simulation & 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 3.0 hours
Concept-Quality & Productivity

A course which introduces the concepts of quality and productivity, demonstrating that quality improvements enhance productivity and competitive position.
Prerequisite: None

BU 2073 3.0 hours
Technology to Improve Quality

A course which includes elements of a successful Quality Circle Program through a hands-on approach.
Prerequisite: None

BU 2083 3.0 hours
Introduction to Total Quality Management

This course is a comprehensive in-depth introduction to total quality management techniques and requirements. This course uses a direct straightforward approach that incorporates theories and principles of total quality and applies these principles to real-world settings.
Prerequisite: BU 1053

BU 2093 3.0 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 2103 3.0 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 2113 3.0 hours
Money & Banking

As a banker, your stock is money. This course presents a fundamental treatment of how money functions in the U.S. and world economies. The course will include the concept of and illustration of a bank's role in the nation's payment mechanism. The course will also explain how various types of financial institutions operate, the workings of monetary and fiscal policies, and the functions and powers of the Federal Reserve. Prerequisite: None

BU 2123 3.0 hours
Basic Investments

This course is an introduction to investment securities. The course will provide general knowledge of the securities markets and basic investment analysis. Prerequisite: None

BU 2133 3.0 hours
Inventory & Production Control

This course is an application of management planning and control techniques related to the production process. Upon completion of this course, students will be able to apply important concepts and implement procedures for master planning, capacity planning, inventory management and control, and scheduling, and control of operations. A simulation using MAPICS software will be used to provide practical experience in these topics. Prerequisite: None

BU 2143 3.0 hours
Small Business Management

This course is designed for those who may want to start and operate their own business, as well as those who are already business owners, but wish to strengthen their entrepreneurial and management skills through development of a small business plan. Upon completion of this course, students should be able to evaluate the opportunities and risks involved in the small business; apply the techniques involved in starting a new venture including the legal aspects and development of a business plan; and explain the techniques and principles of planning, organizing, directing, and controlling the operating venture. Prerequisite: None

BU 2153 3.0 hours
Group Dynamics

This course is a study of interactions in small groups. The study includes interpersonal sensitivity, communication, decision making, development of group structure and norms, and will explore their importance in the business organization. Prerequisite: None

BU 2203 3.0 hours
Market Research

Upon completion of this course, students should understand the role of marketing research, the stages of the research process, research degrees for collecting primary data, measurement, concepts, sampling and field-work, and data analysis and interpretation. Students will conduct a marketing research project utilizing a computerized database. The emphasis of the course will be equally on (1) research techniques and technical skills involving research design, quantitative analytical methods, and software and (2) marketing analysis-with emphasis on cases, practical applications, and decision making in real world marketing contexts. Each student in a team format will conduct a research project. The research project will require a hands-on-application of the principles and methods covered in the course. Prerequisite: BU 1013, or consent of instructor.

BU 2701-2705 1.0-5.0 hours
Independent Study-Business

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester

hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

BU 2711-2715 1.0-5.0 hours
Special Topics-Business

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

CHEMISTRY

CH 1003 3.0 hours
Introduction to Chemistry (applied)

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 0203 with a grade of "C" or better, or a math placement score equivalent to enter MT 1303.

CH 1103 3.0 hours
Introduction to Chemistry Lec

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. Corequisite: CH 1112

CH 1112 2.0 hours
Introduction to Chemistry Lab

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 3.0 hours
Chemistry for the Health Science Lec

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: MT 1303 Corequisite: CH 1212

CH 1212 2.0 hours
Chemistry for the Health Science Lab

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: MT 1303

CH 1303 3.0 hours
General Chemistry I Lec

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: MT 1403 (or higher) or placement score to enter MT 1605 and either CH 1103 & 1112 or high school chemistry. Corequisite: CH 1312

CH 1312 2.0 hours
General Chemistry I Lab

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: MT 1403 (or higher) or placement score to enter MT 1605 and either CH 1103 & 1112 or high school chemistry.

CH 1403 3.0 hours
General Chemistry II Lec

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. Corequisite: CH 1412

CH 1412 2.0 hours
General Chemistry II Lab

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 2.0 hours
Quantitative Analysis Lec

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. Corequisite: CH 2112 or CH 2113

CH 2112 2.0 hours
Quantitative Analysis Lab

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 CH 1403, CH 1412, and MT 1403 or higher level math course.

CH 2113 3.0 hours
Quantitative Analysis Lab

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 2303 3.0 hours
Organic Chemistry I Lec

A study of the basic principles of organic chemistry including acid-base theory, carbocation 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. Corequisite: CH 2312

CH 2312 2.0 hours
Organic Chemistry I Lab

A study of the basic principles of organic chemistry including acid-base theory, carbocation 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 3.0 hours
Organic Chemistry II Lec

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 Corequisite: CH 2412

CH 2412 **2.0 hours**
Organic Chemistry II Lab
 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 2701-2705 **1.0-5.0 hours**
Independent Study-Chemistry
 A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hour per week. May be repeated.
 Prerequisite: None

CH 2711-2715 **1.0-5.0 hours**
Special Topics-Chemistry
 A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
 Prerequisite: None

COMMUNICATION, MEDIA AND THEATRE

CT 1003 **3.0 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 1013 **3.0 hours**
Interactive Lateral Thinking
 Course covers three areas of 10 lessons each in interactive thinking skills: breadth, organization, interaction, and action. Class work solely consists of group discussions in which students learn to apply skills toward solving a common problem. Skills focus on such skills as planning, prioritizing, alternatives, analyzing, focusing, examining both sides, evidence structure, being wrong: mistakes vs. prejudice, expand, contract, input, etc. Interaction concentrates upon communication through cooperation and negotiations between people focused upon a common goal.
 Prerequisite: None

CT 1023 **3.0 hours**
Lateral Thinking II
 Another "user-friendly" thinking course that emphasizes creative thinking skills: breadth, information and feeling, and creativity. Class work consists of group discussions covering: information, questions, ready made, yes, no, and PO (provocative operation), stepping stone, random input, evaluation, etc. Creativity concentrates on methods to create new ideas and perspective. Group discussion and problem solving are the primary components in daily classwork.
 Prerequisite: None

CT 1103 **3.0 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 **3.0 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 **3.0 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 **4.0 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 **4.0 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 **4.0 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 1372 **2.0 hours**
Deaf History Culture
 Prerequisite: None

CT 1403 **3.0 hours**
Beginning Acting
 A course designed to introduce the student to the basics of acting.
 Prerequisite: None

CT 1912 **2.0 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 **2.0 hours**
Stagecraft
 Study of fundamentals of properties and scenic construction, stressing terminology and practical production experience.
 Prerequisite: None

CT 2012 **2.0 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 **2.0 hours**
Advanced Stage Makeup
 A study in the principles and techniques of three-dimensional makeup. Exercises include preparation and application of beards, latex, putty, scar wax, and balding. Procedures and steps followed will be documented by each makeup artist.
 Prerequisite: CT 1912 or consent of instructor

CT 2102 **2.0 hours**
Voice and Diction
 A study of respiration, phonation, resonance, articulation, and diction for the stage.
 Prerequisite: None

CT 2112 **2.0 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 2403 **3.0 hours**
Acting I
 An extensive study in the theories and techniques of acting.
 Prerequisite: None

CT 2503 **3.0 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 **3.0 hours**
Forensics
 A course in intercollegiate debate and speech competition.
 Prerequisite: consent of instructor

CT 2613 **3.0 hours**
Forensics
 A course in intercollegiate debate and speech competition.
 Prerequisite: CT 2603 and consent of instructor

CT 2623 **3.0 hours**
Forensics
 A course in intercollegiate debate and speech competition.
 Prerequisite: CT 2603, 2613 and consent of instructor

CT 2633 **3.0 hours**
Forensics
 A course in intercollegiate debate and speech competition.
 Prerequisite: CT 2603, 2613, 2623 and consent of instructor.

CT 2701-2705 **1.0-5.0 hours**
Independent Study-Communication/Media/Theatre
 A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
 Prerequisite: None

CT 2711-2715 **1.0-5.0 hours**
Special Topics-Communication
 A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
 Prerequisite: None

CT 2801 **1.0 hours**
Communication/Media/Radio/TV/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 2802 **2.0 hours**
Communication/Media/Radio/TV/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 **3.0 hours**
Communication/Media/Radio/TV/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 - 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 1.0 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

CT 2902 2.0 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.

CT 2903 3.0 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 0100-1003 0.5-3.0 hours
Workshop/Seminar
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: None

CS 1001 1.0 hours
Introduction to PC APPLE/Macintosh
An introductory course in personal computers to acquaint the student with the operations 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 micro-lab. Each student uses the microcomputer for approximately fifteen hours.
Prerequisite: Keyboarding skills recommended.

CS 1003 3.0 hours
Microcomputer Applications
A course designed to develop skills to use microcomputers to manage information. The student will complete in depth hands-on assignments using application software in spreadsheets, database management, word processing, presentations, and the operating system. These assignments will develop students' ability to locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic, and other sources in preparation for solving problems and making informed decisions. Keyboarding skills are recommended.
Prerequisite: None

CS 1011 1.0 hours
Introduction to PC/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 1013 3.0 hours
Introduction to Computer & Information Systems
This course is an introduction to the tools for managing information. An information system includes people, procedures, hardware, software, and data. These components are used

to develop students' ability to locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic, and other sources in preparation for solving problems and making informed decisions. The students will complete hands-on introduction to managing information using application software for word processing, presentations, spreadsheets, and database management. Keyboarding skills are recommended.
Prerequisite: None

CS 1031 1.0 hours
Microsoft Windows
A course designed to introduce the student to 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.
Prerequisite: CS 1011. Keyboarding required. Experience needed with microcomputers and application software.

CS 1041 1.0 hours
Introduction to Excel MOUS
A course designed to introduce the student to 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 1043 3.0 hours
Visual Basic (Microsoft)
This course covers programming Windows applications using Visual Basic. Topics include programming in a graphical user interface; coding variables, expressions, error handling routines, and calling functions; writing object- and event-oriented applications; working with data management controls; and multiple document interface and class module programming. This course will help the student prepare for the Microsoft Certified Professional Exam.
Prerequisites: CS 1003 Microcomputer Applications and CS 1073 Internet Programming or consent of instructor. Keyboarding skills are recommended.

CS 1051 1.0 hours
Advanced Excel MOUS Expert
A course designed for students familiar with the spreadsheet capabilities. Topics include managing data files, producing graphs, and developing simple macros.
Prerequisite: CS 1041, or consent of instructor.

CS 1054 4.0 hours
Visual Basic Microsoft
This course covers programming Windows applications using Visual Basic. Topics include programming in a graphical user interface; coding variables, expressions, error handling routines, and calling functions; writing object- and event- oriented applications; working with data management and controls; and multiple document interface and class module programming. This course will help the student prepare for the Microsoft Certified Professional Exam.
Prerequisites: CS 1003, CS 1013, and CS 1073 or consent of instructor.

CS 1061 1.0 hours
Introduction to Access
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 1011. Keyboarding recommended.

CS 1063 3.0 hours
Microcomputer Operations
A course designed 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, Operating System and its func-

tions, networking environment, and peripheral coordination.
Prerequisite: None

CS 1071 1.0 hours
Advanced Access MOUS
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 1061, or consent of instructor.

CS 1073 3.0 hours
Internet Programming
A course designed for programming Internet applications. The student will learn to design and implement programs that can be accessed from web browsers. It will include planning, creating, testing, improving and publishing web-based applications. Pre/Corequisite: CS 1003 Microcomputer Applications or consent of instructor. Keyboarding skills are recommended.
Prerequisite: None

CS 1081 1.0 hours
PowerPoint MOUS
A course designed to introduce the student to presentation software capabilities on the microcomputer system. Through lecture, demonstration, handouts, and hands-on experiences, the student will use presentation software as a tool to create computer presentations. Topics covered will be: Fundamentals of Presentation Software, How to Build a Presentation, and Explore the Capabilities of Presentation Software/Graphics.
Prerequisite: CS 1011, keyboarding required. Experienced needed with microcomputer and application software.

CS 1083 3.0 hours
Java Programming
This course covers computer programming techniques and structure using the Java language. It will emphasize programming concepts and methodologies. It is recommended for those who already have some programming experience.
Prerequisites: CS 1043 Visual Basic (Microsoft) or consent of instructor. Keyboarding skills are recommended.

CS 1091 1.0 hours
Introduction to Networks
A course designed to introduce the student to the basic concepts of networks. Through lectures, demonstrations, handouts, and hands-on experiences the student will learn networking concepts, vocabulary, and applications. Topics covered will be: network concepts, configurations, installation and trouble shooting of networks (Lantastic, etc.).
Prerequisite: CS 1013, keyboarding recommended. Experience needed with microcomputers and application software.

CS 1113 3.0 hours
Unix/Linux
A course designed to introduce the fundamentals of the Linux operating system to the PC user. It includes the installation of a Linux system, setting up user accounts, and file systems. It will also cover troubleshooting and resolving installation and configuration problems.
Prerequisites: CS 1003 Microcomputer Applications, CS 1063 Microcomputer Operations or consent of instructor.

CS 1123 3.0 hours
Education Computers & Technology
This course will provide students with the knowledge to incorporate computers and technology in the classroom. The students will complete hands-on assignments using application software in spreadsheets, database management, word processing, presentations, and the desktop operating system to develop useful technology- supported learning activities. These assignments will develop the students' ability to locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic, and other

sources in preparation for solving problems and making informed decisions. The student will be introduced to computer hardware, software selection, multimedia tools, and evaluation of educational software. Keyboarding skills are recommended.
Prerequisite: None

CS 1153 3.0 hours
Network I (Cisco)
The Network I course is designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment or further education and training in the computer networking field. Instruction includes, but is not limited to, networking, network terminology and protocols, network standards, local area networks (LANs), Open System Interconnection (OSI) model, cabling, cabling tools, routers, network devices, Ethernet, and Internet Protocol (IP) addressing.
Prerequisite: None

CS 1163 3.0 hours
Network 2 (Cisco)
The Network 2 course provides students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment or further education and training in the computer networking field. Instruction includes, but is not limited to, wide area networks (WANs), transmission control protocol/internet protocol (TCP/IP), IP addressing, routers, router configuration, and routing protocols. Particular emphasis is given to understanding the nature of and components of networks that make up LANs and WANs.
Prerequisite: CS 1153

CS 1221 1.5 hours
Current Issues
A course to familiarize the student with key architectural constructs of the Windows operating system and explain how constructs are related; explain the differences between the user interface design guidelines of the Microsoft Windows operating systems; define key architectural constructs of OLE and explain how those constructs are related; and define key architectural constructs of Windows Open Services Architecture (WOSA) including Open Database Connectivity (ODBC), Messaging API (MAPI), and Telephony API (TAPI). This course will help the student prepare for the Microsoft Certified Professional Exam. Suggested that this class be taken the semester before the Internship.
Prerequisite: None

CS 1224 4.0 hours
Windows NT Microsoft
A course designed to provide the student with a working knowledge of the concepts and fundamentals needed to administer a local area network using the Windows NT operating system. Topics covered will include planning, installing, configuring, optimizing and troubleshooting a Microsoft NT Server. This is an advanced course concentrating on one operating system environment. This course will help the student prepare for the Microsoft Certified Professional exam.
Prerequisites: CS 1063 and CS 2153, or consent of instructor.

CS 1233 3.0 hours
Operating Systems (Microsoft)
A course designed to familiarize students with the workstation operating system software. Topics include the commands and procedures to interact and control your workstation's operating system environment and peripheral coordination. Students will gain the knowledge and skills needed to install, configure, customize, optimize, maintain, and troubleshoot the workstation operating system. This course will help the student prepare for the Microsoft Certified Professional Exam.
Prerequisite: None

CS 1243 3.0 hours
Network Server I (Windows 2000)
A course to familiarize the student with the skills needed to manage a network using Microsoft operating system. This course will provide the skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot Microsoft operating system.

This course will help the student prepare for the Microsoft Certified Professional exam.
Prerequisites: CS 1063 Microcomputer Operations and CS 2153 Networking Essentials or consent of instructor.

CS 1253 3.0 hours
Network 3 (Cisco)
The Network 3 course provides students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment or further education and training in the computer networking field. Instruction includes, but is not limited to, a review of the Open System Interconnection (OSI) and Reference Model, as well as a study of the OSI layer functions. New material includes: local area network (LAN) switching, virtual LANs (VLANs), LAN design, interior gateway routing protocol (IGRP), access control lists (ACLs), Novell Internet Packet Exchange (IPX), and network management. Particular emphasis is given to students being able to demonstrate the ability to apply material from previous semesters to a network and be able to explain how and why a particular strategy is employed.
Prerequisites: CS 1153, CS 1163

CS 1263 3.0 hours
Network 4 (Cisco)
The Network 4 course provides students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment or further education and training in the computer networking field. Instruction includes, but is not limited to, point-to-point protocols (PPPs), integrated services digital network (ISDN), dial-on-demand routing (DDR), frame relays and network management. The student will prepare for the CCNA exam and have the option to prepare for the Network+ Certification Exam. Studies from previous semesters (Network 1, 2 and 3) will be incorporated into a practical final exam.
Prerequisites: CS 1153, CS 1163, CS 1253

CS 2003 3.0 hours
Database Structure (Access MOUS)
This course covers how to plan, create, and maintain Access databases. The course includes retrieving information by creating queries, developing professional looking reports, create customized forms, and work with macros and Access Basic. Advanced tasks include creating input masks, importing data, creating parameter queries, linking multiple tables, creating custom forms and reports, creating macros, switchboards, custom menus, and create Access Basic functions and event procedures.
Prerequisite: CS 1003 Microcomputer Applications or consent of instructor. Keyboarding skills are recommended.

CS 2033 3.0 hours
Systems Development & Design
A course designed to study the basic steps and techniques used in the analysis, design, and development of projects. The student will learn to locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic and other sources needed to solve the problems and make informed decisions for the completion of a successful project. The course will also cover the use of a project management tool to control the project.
Prerequisite: none

CS 2073 3.0 hours
CIS Internship
This course is a supervised work experience in an information technology environment using the skills and related knowledge learned in previous courses. The instructor will do coordination of work experience to classroom learning. Time will be arranged to discuss this experience. This course should be taken in the last semester of the student's degree/certificate completion.
Prerequisites: enrollment in the Computer Information Systems Program and consent of the instructor.

CS 2083 3.0 hours
CIS Internship
This course is a supervised work experience in an information technology environment using the skills and related knowledge learned

in previous courses. The instructor will do coordination of work experience to classroom learning. Time will be arranged to discuss this experience. This course should be taken in the last semester of the student's degree/certificate completion.
Prerequisites: enrollment in the Computer Information Systems Program and consent of the instructor.

CS 2132 2.0 hours
Hardware A+
A course designed to prepare students for Hardware A+ Certification Exam. The student will review the concepts and procedures for configuring, installing and upgrading, performing diagnostics, repairing and doing preventive maintenance on microcomputers. The student will also review the concepts for DOS/Windows operating system. Co/
Prerequisites: CS 1063 and CS 2142, or consent of instructor.

CS 2133 3.0 hours
Support A+
The student will learn techniques for working with and supporting end users. These techniques include: how to respond to requests from end users for hardware and software support, preparing a training session and developing a training manual. This course will help the student prepare for the CompTIA A+ Certification.
Prerequisites: CS 1063 Microcomputer Operations or consent of the instructor.

CS 2163 3.0 hours
Network Server II (Windows 2000)
A course to familiarize the student with the skills needed to manage the BackOffice software of the Microsoft operating system. It will provide the skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot a Microsoft BackOffice operating system environment. This course will help the student prepare for the Microsoft Certified Professional Exam. This is an advanced course concentrating on the Microsoft BackOffice operating system environment.
Prerequisites: CS 1243 Network Server or consent of instructor.

CS 2183 3.0 hours
Enterprise Applications (E-Commerce)
A course designed to develop enterprise applications using the latest technologies. Students must have experience in Visual Basic programming and database development. It includes web application development, database application development, component programming, and E-commerce application development.
Prerequisites: CS 1043 Visual Basic (Microsoft) and CS 2003 Database Structures (Access MOUS) or consent of instructor. Keyboarding skills are recommended.

CS 2701-2705 1.0-5.0 hours
Independent Study-Computer Information Systems
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

CS 2711-2715 1.0-5.0 hours
Special Topics-CIS
A study of a specific nature directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

CONTINUING EDUCATION

CE 0000 0.0 hours
Continuing Education

Prerequisite: None

CE 0100-1003 0.5-3.0 hours
Continuing Education

Prerequisite: None

CE 0200 **Continuing Education** **3.0 hours**

Prerequisite: None

CE 0300 **Continuing Education** **3.0 hours**

Prerequisite: None

CE 0400 **Continuing Education** **3.0 hours**

Prerequisite: None

CE 0500 **Continuing Education** **3.0 hours**

Prerequisite: None

CRIMINAL JUSTICE

CJ 1000-1003 **Workshop/Seminar** **0.5-3.0 hours**
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: None

CJ 1013 **Introduction to Criminal Justice** **3.0 hours**
An introduction to the criminal justice system in America. This course stresses the inter-relatedness 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 **Criminal Law & Procedures** **3.0 hours**
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 **Rules of Criminal Evidence** **3.0 hours**
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 **Juvenile Procedures** **3.0 hours**
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.
Prerequisite: CJ 1013

CJ 2013 **Introduction to Corrections** **3.0 hours**
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 **Criminal Investigation I** **3.0 hours**
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 & 1033

CJ 2033 **Criminal Investigation II** **3.0 hours**

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 **Police Patrol & Service** **3.0 hours**
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 **Police Supervision & Administration** **3.0 hours**
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 ideas, 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 **Street Survival** **3.0 hours**
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 **Criminal Justice Practicum** **3.0 hours**
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 2083 **Criminal Justice Practicum** **3.0 hours**
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: CJ 2073, or consent of instructor

CJ 2701-2705 **Independent Study-Criminal Justice** **1.0-5.0 hours**
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

CJ 2711-2715 **Special Topics-Criminal Justice** **1.0-5.0 hours**
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

DF 0100-1003 **Workshop/Seminar** **0.5-3.0 hours**
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: None

DF 1001 **Blueprint Reading** **1.0 hours**
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 1012 **2.0 hours**

Engineering Drawing Lec
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 1021 **Engineering Drawing Lab** **1.0 hours**
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 1022 **Descriptive Geometry Lec** **2.0 hours**
A study of the graphic analysis and solution of typical three-dimensional space problems through the application of the principles of multi-view projections. Fundamental problems are related to points, lines, planes, intersections, and development of plane and curved surfaces, revolutions, and vector geometry.
Prerequisite or Corequisite: DF 1012, 1021. Corequisite: DF 1031

DF 1031 **Descriptive Geometry Lab** **1.0 hours**
A study of the graphic analysis and solution of typical three-dimensional space problems through the application of the principles of multi-view projections. Fundamental problems are related to points, lines, planes, intersections, and development of plane and curved surfaces, revolutions, and vector geometry.
Prerequisite or Corequisite: DF 1012 & 1021.

DF 1032 **Principles of Power Lec** **2.0 hours**
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. Corequisite: DF 1041
Prerequisite: None

DF 1041 **Principles of Power Lab** **1.0 hours**
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
Prerequisite: None

DF 1043 **Technical Computations** **3.0 hours**
A study and application of basic numerical and algebraic skills including significant figures and linear equations.
Prerequisite: none

DF 1053 **Materials & Processes** **3.0 hours**
A survey of current engineering materials and the various processes used to shape them. Materials studied include a review of ferrous and nonferrous metals, plastics, rubbers, composites, woods, 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. Adaptation of these processes through the use of computers, etc., are also discussed.
Prerequisite: None

DF 1055 **Materials & Processes** **5.0 hours**
A survey of current engineering materials and the various processes used to shape them. Materials studied include a review of ferrous and nonferrous metals, plastics, rubbers, and ceramics. Emphasis is placed on the advantages and limitations of the various casting, forging, machining, grinding, forming, molding, welding, heat treating, and powder metallurgy processes used to shape materials.

Adaptation of these processes through the use of computers, etc., are also discussed.
Prerequisite: None

DF 1063 3.0 hours
Machine Drawing Lec

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 1012 & 1021. Corequisite: DF 1072

DF 1072 2.0 hours
Machine Drawing Lab

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 1012 & 1021

DF 1083 3.0 hours
Applied Algebra & Trigonometry

A study of applied topics in algebra such as logarithms, functions, graphs and equation solving combined with a study of topics in geometry and trigonometry such as angles, triangles, and vectors.
Prerequisite: DF 1043 or MT 0203 or consent of instructor

DF 2013 3.0 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 & 1072.

DF 2023 3.0 hours
Tool & 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 & 1072

DF 2033 3.0 hours
Technical Physics

A study of mechanics, heat, sound, light, electricity, and physical properties of matter. A non-calculus 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. Corequisite: DF 2042

DF 2042 2.0 hours
Technical Physics Lab

A study of mechanics, heat, sound, light, electricity, and physical properties of matter. A non-calculus 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 3.0 hours
Statics & 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 3.0 hours
Technical Writing

Introduction to the practical aspects of preparing reports. 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: EN 1223

DF 2073 3.0 hours
Architectural Drawing Lec

An introduction to the fundamental principles of residential design, building materials, methods of construction, design standards, room arrangements, and energy efficient design.
Prerequisite: DF 1012 & 1021 Corequisite: DF 2082

DF 2082 2.0 hours
Architectural Drawing Lab

An introduction to the fundamental principles of residential design, building materials, methods of construction, design standards, room arrangements, and energy efficient design.
Prerequisite: DF 1012 & 1021

DF 2092 2.0 hours
Civil Drawing Lec

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 1012 & 1021 Corequisite: DF 2101

DF 2101 1.0 hours
Civil Drawing Lab

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 1012 & 1021

DF 2102 2.0 hours
Structural Drawing Lec

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 1012, 1021, and 2053 Corequisite: DF 2111

DF 2111 1.0 hours
Structural Drawing Lab

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 1012, 1021 & 2053

DF 2122 2.0 hours
Technical Illustration Lec

A course to develop the understanding and skill 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 1012 & 1021 Corequisite: DF 2131

DF 2131 1.0 hours
Technical Illustration Lab

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 1012 & 1021

DF 2132 2.0 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 1012 & 1021

DF 2143 3.0 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 1012, 1021, 1022 & 1031, or consent of instructor.

DF 2153 3.0 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 2701-2705 1.0-5.0 hours
Independent Study-Drafting & Design

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

DF 2711-2715 1.0-5.0 hours
Special Topics-Drafting

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

ECONOMICS

EC 2103 3.0 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 3.0 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 2701-2705 1.0-5.0 hours
Independent Study-Economics

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

EC 2711-2715 1.0-5.0 hours
Special Topics-Economics

A study of specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

EDUCATION

ED 1011 1.0 hours
Career Planning

A course designed to involve students in a complete computer-based career information and planning system which has been designed to meet the career and educational planning needs of students; help students identify their interests, abilities, experiences, and work-related values and to understand the relationship of these self-variables to the complex world of work. They may also access large databases which contain up-to-date information about occupations and educational opportunities.
Prerequisite: None

ED 1012 Career Planning **2.0 hours**

A course designed to involve students in a complete computer-based career information and planning system which has been designed to meet the career and educational planning needs of students; help students identify their interests, abilities, experiences, and work-related values and to understand the relationship of these self-variables to the complex world of work. They may also access large databases which contain up-to-date information about occupations and educational opportunities.
Prerequisite: None

ED 1031 Field Experience **1.0 hours**

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

ED 1032 Field Experience **2.0 hours**

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

ED 1042 Exploring the Field of Education **2.0 hours**

This course is an introduction to teacher education. Students will explore teaching as a profession and career. A review of the different teaching certifications along with the steps to achieving a degree in education are covered in this course. Students will receive literacy training to be used during tutoring sessions. This course consists of two training sessions prior to the beginning of the semester and a 50-minute class session for 16 weeks at an assigned class time. Students will participate in 6 hours of observation at local public school classrooms and complete a minimum of 30 hours working one hour/week one-on-one with an adult or child in volunteer tutoring in addition to their class sessions.
Prerequisite: None

ED 1053 Introduction to Early Care & Education **3.0 hours**

An introduction to the profession of early care and education including historical foundations and familiarity with a broad range of current programs and trends. Students will examine the qualities and skills necessary for working with young children and receive an overview of appropriate curriculum. Students will learn to observe and record the behavior, the teacher, and the environment of young children. Students will learn strategies to work effectively with families to meet the needs of the child. This course will provide 40 hours of training for a CDA.
Prerequisite: None

ED 1153 Child Health, Nutrition & Safety **3.0 hours**

Study of health and nutritional needs of children birth to eight years old. Topics include health assessment, first aid, safety, basic nutrition, nutrition education, meals and snacks for children. Involves application to children care and education settings. This course will provide 40 hours of training for a CDA.
Prerequisite: None

ED 1253 Early Childhood Growth & Development **3.0 hours**

Study of the human development from conception to age six. Covers physical, social, emotional and intellectual development with emphasis on interrelationship of growth and behavior of young children as well as the development of an intelligent philosophy of adult-child relationships. This course will

provide 40 hours of training for a CDA.
Prerequisite: None

ED 2033 Foundations of Education **3.0 hours**

This course is designed to develop a multi-dimensional perspective on the American Public Education System. It examines historical, philosophical, sociological, legal, and political factors, which have influenced and continue to influence American educational practices. The examination of teaching as a career, particularly the major provision of recent legislation addressing educational reforms is a major area of emphasis. Observations and practical experiences provide first-hand introduction to these specific areas.
Prerequisite: ED 1042

ED 2143 Introduction to Teaching & Assessment **3.0 hours**

This course is an introduction to the profession of teaching. Students will explore the role of a teacher through lectures, class discussions, readings, projects and observations in the school environment. Observations and practical experiences provide first-hand introduction to teaching. This course consists of two 75-minute class sessions each week at the assigned class time. Students will participate in the Junior Achievement Program in local public school classrooms for 12 hours in addition to their class sessions. Co- or prerequisite: ED 2033

ED 2211 Preservice Portfolio **1.0 hours**

This course is the teacher education mid-preparation benchmark exit course. Students will refine reflective skills and develop their own philosophy of education. Students will complete a 2-year preservice teacher portfolio and take the C-Base. This course consists of one 50-minute class session each week at the assigned class time. Co- or prerequisite: ED 2143

ED 2213 Early Literacy-HeadsUp! Reading **3.0 hours**

The research-based principles and practices for providing children birth through age five a strong foundation in early reading and writing within a developmentally appropriate approach. This course consists of 44 clock hours of classroom instruction, delivered live, via the HeadsUp! Network, an interactive satellite network.
Prerequisite: None

ED 2233 Health for School Age Child **3.0 hours**

A general course designed to develop proper attitudes and practices regarding health and wellness issues relating generally and specifically to the population in an elementary school. Health problems which require community action are given consideration. Course satisfies the state certification requirement for elementary education certification.
Prerequisite: ED 1042 and sophomore standing.

ED 2701-2705 Independent Study-Education **1.0-5.0 hours**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

ED 2711-2715 Special Topics-Education **1.0-5.0 hours**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

ED 2991 Career Management **1.0 hours**

This course is designed to provide students with the basic skills to manage their careers effectively. Topics covered include self assessment, conducting a job search; interviewing techniques; employment, correspondence, networking and research; acquiring web based skills; and resume and portfolio development for job search and career advancement. The course is required for all vocational degrees

and certificates, should be taken the last or next to last semester prior to graduation, and is coordinated through the Career Services Office
Prerequisite: None

EMERGENCY MEDICAL TECHNOLOGY

EM 0100-1003 Workshop/Seminar **0.5-3.0 hours**

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

EM 1010 Pediatric Trauma Symposium **0.5 hours**

This one-day symposium is designed to enhance existing knowledge and skill in the care of the pediatric trauma victim. This class is presented for all levels of prehospital and hospital healthcare providers. Speakers will include local pediatric healthcare experts.
Prerequisite: None

EM 1011 BLS/Healthcare Providers **0.5 hours**

This 8 hours course is designed to educate the professional rescuer or healthcare provider in techniques of Basic Life Support to include one- and two-man CPR in the adult patient, CPR for children and infants, pediatric safety, as well as relief of Foreign Body Airway Obstruction in all age groups. Course also covers use of barrier devices in rescue breathing and use of the Automated External Defibrillator. Upon completion, an American Heart Association BLS card will be issued.
Prerequisite: None

EM 1013 First Responder **3.0 hours**

This course provides emergency medical training at a basic level. A variety of skills are covered including Basic Life Support, patient assessment, splinting and bandaging. Clinical is not required. Upon completion, the student will be eligible to sit for the National Registry certification exam for First Responders.
Prerequisite: None

EM 1014 EMT Refresher **4.0 hours**

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 1020 PHTLS Refresher **0.5 hours**

This 8 hour course is designed to refresh and update the prehospital care professional in theories and techniques of management of the trauma victim. Participants should be experienced prehospital or emergency care providers. Renewal is recommended every 3 years. A NAEMT PHTLS Provider certificate will be issued on successful completion.
Prerequisite: current PHTLS Provider status

EM 1021 BLS Instructor **1.0 hours**

This 16 hour course meets the American Heart Association requirements for qualification as a CPR Instructor. Teaching-learning theory as well as AHA standards and guidelines will be discussed. Students will have opportunities to practice skills learned. Course is taught in two 8-hour days. Students are required to pass skills and written examinations over both provider and instructor information, and must teach first monitored CPR class within 90 days to receive AHA BLS instructor card.
Prerequisite: None

EM 1029 Emergency Medical Technician **9.0 hours**

A course which provides training in the emergency care of the sick and injured. The course

includes didactic, practical, and off-campus experiences. Those completing the course are eligible to take the National Registry examination to become registered and licensed as an EMT. Students must be 18 by the last day of the class.
Prerequisite: BLS for healthcare providers.

EM 1031 1.0 hours
ACLS (Advanced Cardiac Life Support)
This 16 hour course is designed to educate the advanced level healthcare provider in the theory and techniques of managing the critically ill adult cardiovascular emergencies will be taught. Upon successful completion, an American Heart Association ACLS Provider card will be issued. Students must be advanced level practitioners or enrolled in a course of study leading to appropriate licensure.
Prerequisite: current BLS for Healthcare Providers Card.

EM 1036 6.0 hours
Introduction to Paramedic Technician
This course is designed as a preparatory course for any student who will be enrolling in an upcoming paramedic class, or any EMT wishing to enhance current skills. The student will receive instruction in math, science, pathophysiology, assessment, documentation, and additional emergency medical training which will enhance existing job skills and provide a sound knowledge base for entrance into the paramedic training program. This course includes 100 hour ambulance clinical component to be completed outside of the classroom.
Prerequisite: Current Missouri EMT License.

EM 1040 5.0 hours
ACLS Refresher
This 8 hour course is designed to refresh and update skills and knowledge regarding the management of the critically ill cardiovascular patient. Course should be repeated every 2 years, according to American Heart Association standards. An AHA ACLS Provider card will be issued on successful completion.
Prerequisite: current BLS for Healthcare Providers and ACLS Provider card

EM 1041 1.0 hours
Pre-Hospital Trauma Life Support
This 16 hour course is designed to instruct the prehospital care professional in theories and techniques of management of the trauma victim. Participants should be experienced prehospital or emergency care providers. Renewal is recommended every 3 years. An NAEEM PHTLS Provider certificate will be issued on successful completion.
Prerequisite: None

EM 1112 12.0 hours
Paramedic I
A course which provides education in emergency care and advanced life support techniques for the sick and injured. Course includes didactic, skills laboratory, and practical experiences. Topics this semester include: health & wellness, pathophysiology, general pharmacology, legal issues, bioethics, airway management and advanced assessment. Offered fall semester, evenings only.
Prerequisites: EM 1036, BI 1802, BI 1812, high school diploma or GED, BLS for Healthcare Providers, two letters of recommendation, demonstration of English and math competencies, and successful completion of pretest. Application to program and pretesting must be completed by June 15 prior to first class.

EM 1144 4.0 hours
Paramedic Refresher
A course designed to meet one-third of the requirements for relicensure as a paramedic. Content covers the core requirements for paramedic continuing education as described by the National Registry of EMTs. Didactic and practical experiences will be provided. May be repeated. Internet-based course is available. This class may also be taken for re-entry requirements or preparation for repeat of initial licensure examinations.
Prerequisite: Must be a currently licensed EMS provider at any level or previously licensed paramedic.

EM 1152 2.0 hours

Paramedic Refresher Clinical
Opportunities are provided for paramedics to enhance practical skills through supervised hospital and/or EMS agency clinical experiences. May be repeated.
Prerequisite or Corequisite: EM 1144

EM 1153 3.0 hours
EMS Educator Workshop
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 students are illustrated. Practice is provided in the use and development of lesson plans, visual aids, evaluations, internet content, and other teaching devices. Each student's application of teaching procedure is critically discussed and evaluated.
Prerequisite: None

EM 1212 12.0 hours
Paramedic II
A course which provides education in emergency care and advanced life support techniques for the sick and injured. Second course in a series which prepares the student for competent practice as a entry-level paramedic. Course includes didactic skills laboratory, and practical experiences. Topics this semester include: cardiology, pulmonology, neurology, endocrinology, toxicology, and trauma assessment and treatment. Offered spring semester, evenings only.
Prerequisites: EM 1112 in the preceding semester Corequisite: EM 1222, EM 1031, EM 1020

EM 1222 2.0 hours
Paramedic II Clinical
Opportunities are provided for students to apply knowledge and skills learned in the classroom. Students will work with approved clinical preceptors in hospital and clinical settings.
Prerequisites: EM 1112 in the preceding semester. Corequisite: EM 1212

EM 1304 4.0 hours
Paramedic III Lec
A course which provides education in emergency care and advanced life support techniques for the sick and injured. Third course in a series which prepares the student for competent practice as an entry-level paramedic. Course includes didactic, skills laboratory, and practical experiences. Topics this semester includes: OB/GYN/Neonatal, pediatrics, geriatrics, psychiatry, assessment-based management, and ALS scene management. Offered summer session, evenings only.
Prerequisites: EM 1112, EM 1212, EM1222 Corequisite: EM 1312.

EM 1312 2.0 hours
Paramedic III Clinical
Opportunities are provided for students to apply knowledge and skills learned in the classroom. Students will work with experienced field preceptors in the prehospital setting to perform patient assessment and hone clinical skills.
Prerequisites: EM 1112, EM 1212, EM 1222 Corequisite: EM 1304

EM 1323 3.0 hours
Paramedic IVA-Field Management
A course which provides education in emergency care and advanced life support techniques for the sick and injured. Fourth course in a series which prepares the student for competent practice as an entry-level paramedic. Course includes seminar-based meetings in preparation for National Registry Examinations, career management, and continuing opportunities to apply knowledge and skills in the clinical and field settings. On successful completion of all four semesters and field internship, student will be eligible to take the National Registry Examination to become registered and licensed as a paramedic. Offered fall semester only.
Prerequisites: EM 1112, EM 1212, EM 1222, EM 1304, EM 1312 Corequisite: EM 1333

EM 1333 3.0 hours
Paramedic IVB Field Internship/Evaluation
The final course in the paramedic curriculum, the internship is the summative evaluation of the student's didactic, practical, clinical and

field experiences. Students will manage 50 prehospital responses while being evaluated by an experienced preceptor at an approved EMS agency.
Prerequisites: EM 1112, EM 1212, EM 1222, EM 1304, EM 1312 Corequisite: EM 1323

EM 1341 1.0 hours
Paramedic Field Internship Continuation
A completion of the paramedic field internship (EM 1333). Students are granted one additional semester to complete any remaining clinical objectives required for course completion and preparation for National Registry testing. Students are expected to have completed all hospital and field clinical and internship requirements by the end of the spring semester.
Prerequisite: None

EM 1351 1.0 hours
Pediatric Advanced Life Support
The 16 hour provider course is designed to educate the advanced level healthcare provider in the theory and techniques of managing the critically ill pediatric patient. The algorithm approach to management of pediatric emergencies will be taught. Course should be repeated every two years, according to the American Heart Association standards. An AHA PALS Provider card will be issued upon successful completion.
Prerequisite: Advanced level provider or student preparing for appropriate licensure; BLS for Healthcare Providers.

EM 1705 5.0 hours
Independent Study-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

EM 1710 10.0 hours
Independent Study-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

EM 2701-2705 1.0-5.0 hours
Independent Study-EMT
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

EM 2711-2715 1.0-5.0 hours
Special Topics-EMT
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

ENGINEERING

EG 1101 1.0 hours
Introduction to Programming on Unix
This course will provide students with an understanding of the Unix operating system, and an introduction to basic programming skills.
Prerequisite: None

EG 1103 3.0 hours
Engineering Drawing & Descriptive Geometry
A study of the graphic analysis and solution of typical three-dimensional space problems through the application of the principles of multiview 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 **3.0 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 2103 **3.0 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 2203 **3.0 hours**
C++ Program Engineers
 Basic programming techniques and programming structure, debugging and verification of programs, data representation, and computer solution of problems using C++. The programs will be based on concepts and problems relevant to engineers and scientists. Introductory concepts in program design, software engineering, and numerical analysis will be used to enhance understanding of the programming development process.
 Prerequisites: MT 1403 and MT 1413 or MT 1505 or consent of instructor.

EG 2211 **1.0 hours**
C++ Program/Engineers Lab
 Basic programming techniques and programming structure, debugging and verification of programs, data representation, and computer solution of problems using C++. The programs will be based on concepts and problems relevant to engineers and scientists. Introductory concepts in program design, software engineering, and numerical analysis will be used to enhance understanding of the programming development process.
 Prerequisite: MT 1403 and MT 1413 or MT 1505, or consent of instructor.

EG 2303 **3.0 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 2403 **3.0 hours**
Circuit Theory II
 An analysis of steady state AC circuits, phasornotation, polyphase circuits, complex frequency and frequency response, magnetically coupled circuits.
 Prerequisite: EG 2303 with a grade of C or better.

EG 2503 **3.0 hours**
Data Structures
 A continuation of the development of structured programming concepts and their use in program development. Stacks, queues, linked list, arrays, trees, sorting and searching will be taught together with their use in implementations of a number of algorithms.
 Prerequisite: EG 2202 & 2211, or consent of instructor.

EG 2603 **3.0 hours**
Thermodynamics
 Energy transformations and the relation of energy to the status of matter. Fundamental laws, concepts, and modes of analysis which underlie all applications of energy conversion in engineering.
 Prerequisite: EG 2202 & 2211, MT 2205, PH 2103 & 2112 or consent of instructor.

EG 2701-2705 **1.0-5.0 hours**
Independent Study-Engineering
 A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
 Prerequisite: None

EG 2711-2715 **1.0-5.0 hours**
Special Topics-Engineering
 A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
 Prerequisite: None

ENGLISH

EN 0103 **3.0 hours**
College Content Reading Skills
 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 0133 **3.0 hours**
Introduction to Writing
 A developmental writing course for students who need to improve their writing skills before attempting a college-level composition course. The course is designed to improve students' skills in basic grammar, usage, and punctuation and to give students practice in applying these skills in personal writing and in short units of expository prose. Not intended for transfer or degree credit.
 Prerequisite or Corequisite: EN 0103 or EN 0202 depending on reading placement test scores. This prerequisite or corequisite will be waived for students scoring at a satisfactory level on a reading placement test.

EN 0141 **1.0 hours**
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 0202 **2.0 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: A satisfactory score (at least ninth-grade level) on a reading placement test.

EN 0222 **2.0 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 0243 **3.0 hours**
ESL Communications
 A course designed to help non-native English speakers improve their academic speaking and listening skills.
 Prerequisite: score under 550 on TOEFL

EN 1213 **3.0 hours**
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 EN 0133 or a satisfactory score on the Asset Exam and Writing Sample.

EN 1223 **3.0 hours**
English Comp 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 writing placement test (Writing Sample score of 4 or above) or a grade of 'C' or better in EN 0133 Introduction to Writing.

EN 1233 **3.0 hours**
English Comp 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 in 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

EN 1301 **1.0 hours**
Library Research Skills
 A programmed course designed to introduce students to the library making it possible for them to use its resources effectively. The course is taught over the Internet.
 Prerequisite: none

EN 1333 **3.0 hours**
English Comp 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: A 'C' grade or better in EN 1223.

EN 1343 **3.0 hours**
English Comp 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

EN 1403 **3.0 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: EN 1223

EN 1413 **3.0 hours**
World Literature I
 The first of two courses designed to strength students' skills in the discussion of literary classics and in their writing about great literature.
 Prerequisite: Consent of instructor.

EN 1423 **3.0 hours**
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: EN 1413 or consent of instructor.

EN 1503 **3.0 hours**
Poetry
 A study of literature concentrating on the forms, techniques, and themes of poetry. Emphasis is placed upon analysis and interpretation.
 Prerequisite: None

EN 1603 **3.0 hours**
Fiction
 A study of literature concentrating on the short story.
 Prerequisite: None

EN 1613 **3.0 hours**
World Fiction
 This course will examine the history and development of the short story as a form in

various parts of the world as well as the social/political/historical contexts for individual stories. Research of the cultures from which the various stories originate will add a global awareness to the objectives of the study of literature.
Prerequisite: None

EN 1703 3.0 hours
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: None

EN 1803 3.0 hours
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 pleasure of the novel and not just a survey.
Prerequisite: None

EN 1903 3.0 hours
Classical Mythology
A study of the ancient mythology and religion of the Greeks and others shown in literature past and present.
Prerequisite: None

EN 2033 3.0 hours
Literature for Children
A study of literature written for children from preschool to sixth grade. The course is designed 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

EN 2102 2.0 hours
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

EN 2103 3.0 hours
Survey of British Literature: Beginning-1784
A survey of English literature from the Anglo-Saxon period through the Age of Reason.
Prerequisite or Corequisite: EN 1223 or consent of instructor.

EN 2113 3.0 hours
Survey British Literature: Romanticism-Present
A survey of English literature from the romantic period to the present.
Prerequisite or Corequisite: EN 1223 or consent of instructor.

EN 2203 3.0 hours
Survey American Literature: Colonial-1865
A survey of American literature from the colonial period to the Civil War.
Prerequisite or Corequisite: EN 1223 or consent of instructor.

EN 2213 3.0 hours
Survey American Literature: 1865-Present
A survey of American literature from the Civil War to the present.
Prerequisite or Corequisite: EN 1223 or consent of instructor.

EN 2303 3.0 hours
Latino/Latina Literature
A study of selected readings from Latino/Latina authors writings, particularly drama, prose, poetry, and essay. All readings are in English.
Prerequisite: None

EN 2313 3.0 hours
Creative Writing

A course in imaginative writing involving student production of poems, stories, and plays.
Prerequisite: EN 1223 or consent of instructor

EN 2403 3.0 hours
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: None

EN 2503 3.0 hours
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: None

EN 2603 3.0 hours
Shakespeare on Stage
Selected Shakespearean plays are studied in conjunction with video tapes of the plays. Spring semester only.
Prerequisite: None

EN 2701-2705 1.0-5.0 hours
Independent Study-English
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

EN 2711-2715 1.0-5.0 hours
Special Topics-English
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

FIRE TECHNOLOGY

FT 0100-1003 0.5-3.0 hours
Workshop/Seminar
Introductory level course designed to upgrade or develop specific skills relative to current or anticipate employment.
Prerequisite: None

FT 1013 3.0 hours
Basic Fire Protection & 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 5.0 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 firefighter in NFPA Standard 1001-1987 were used in the development of this package. The course is divided into 18 subject areas as required by NFPA 1001. Offered evenings only.
Prerequisite: None

FT 1023 3.0 hours
General Building Construction
A study of 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 5.0 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 4.0 hours
Fire Service Hydraulics & Equipment
This course is designed to acquaint firefighters, 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 3.0 hours
Fire Department Organization & 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 3.0 hours
Codes & 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

FT 1073 3.0 hours
Fire Fighting Strategies & Tactics
This course will prepare the firefighter in the development of strategies and tactics that are used to function at emergency calls. The student will recognize the need for strategies and tactics to take control of an emergency incident. Students will also be required to participate in tabletop exercises designed to demonstrate taking control of various emergency scenarios.
Prerequisite: None

FT 1154 4.0 hours
Fire Service Instruction I&II
A study of the knowledge and skills necessary to be a fire service instructor. This course is broken into two separate sections: Instructor I & II. In the first portion of the course instructional techniques will be discussed and developed. In the second portion of the course the student will learn how to develop a lesson plan and evaluate students through exams. At the conclusion of this course students will be able to take the state certification exams for Fire Service Instructor I and II.
Prerequisite: FT 1025

FT 2023 3.0 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 3.0 hours
Inspection & 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 2044 4.0 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 and methods of fire setting, recognizing and preserving evidence, arson laws, types of arson fires, court testimony, reports, and records.
Prerequisite: None

FT 2063 3.0 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.
Prerequisite: None

FT 2064 4.0 hours
Fire Officer I

Fire Officer I studies the requirements, responsibilities, and skills required to become an effective company officer. The course is subdivided into five sections consisting of: fitting into the organization, handling interpersonal relationships, managing individual performance, managing pre-incident and fire ground procedures, and administration safety, health and legal guidelines. State certification exam will be given at the completion of this course.
Prerequisite: Fire Instructor I

FT 2701-2705 1.0-5.0 hours
Independent Study-Fire Technology

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

FT 2711-2715 1.0-5.0 hours
Special Topics-Fire Technology

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

FRESHMAN STUDIES

FS 0000 0.0 hours
Freshman Assessment

Prerequisite: None

FS 0001 1.0 hours
Returning Learners Orientation

This class is designed exclusively for adults planning to pursue a degree at East Central College. Its purpose is to acquaint them with the programs and services available at the college. The course meets for four consecutive days for a total of 16 hours. Sessions are held in April, June, and November. 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, as well as math and English assessment.
Prerequisite: None

FS 1001 1.0 hours
Orientation-Student Success

A required orientation to the College for all degree and certificate 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 12 or more college credits from another college or university with a 2.0 GPA.)
Prerequisite: None

FOREIGN LANGUAGE

FRENCH

FR 1104 4.0 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 4.0 hours
Elementary French II

A continuation of FR 1104.
Prerequisite: FR 1104 or 2 years high school French

FR 2104 4.0 hours
Intermediate French I

A multimedia 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 content 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 4.0 hours
Intermediate French II

A continuation of FR 2104.
Prerequisite: FR 2104.

FR 2701-2705 1.0-5.0 hours
Independent Study-French

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

FR 2711-2715 1.0-5.0 hours
Special Topics-French

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

GERMAN

GR 1104 4.0 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 4.0 hours
Elementary German II

A continuation of GR 1104.
Prerequisite: GR 1104 or 2 years high school German

GR 2114 4.0 hours
Intermediate German I

An intermediate course in German stressing language skills. Review of grammar and additional vocabulary will strengthen the knowledge of German. It will be an introduction to literature, art, music, history, and culture.
Prerequisite: GR 1104 and GR 1204, or 4 years of high school German, or permission of the instructor.

GR 2124 4.0 hours
Intermediate German II

A course designed to continue the student of the German language and culture at the intermediate level. It encourages the understanding of both differences and similarities among cultures and reinforces all four skills of language learning: comprehension, writing, speaking, and reading.
Prerequisites: German 1104, 1204, 2114 (Intermediate Level I), or 4 years of high school German or consent of instructor.

GR 2701-2705 1.0-5.0 hours
Independent Study-German

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

GR 2711-2715 1.0-5.0 hours

Special Topics-German
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

SPANISH

SP 1104 4.0 hours
Elementary Spanish I

An introduction to the essential grammatical structures, vocabulary and pronunciation of Spanish. Emphasis upon the development of pivotal skills; listening comprehension, speaking, reading and writing. Acquisition of cultural awareness. Course conducted in Spanish as far as practicable.
Prerequisite: None

SP 1204 4.0 hours
Elementary Spanish II

A continuation of SP 1104 that completes the introduction to essential structures and further develops pivotal communication skills. Course conducted in Spanish as far as practicable.
Prerequisite: SP 1104, its equivalent or 2 or 3 high school units, or permission of the instructor.

SP 2114 4.0 hours
Intermediate Spanish I

An intermediate course that systematically reviews basic grammar and introduces complex structures; incorporates reading of authentic texts—both cultural and literary; and refines conversation and listening comprehension skills.
Prerequisite: SP 1204; its equivalent or 4 high school units or permission of the instructor.

SP 2124 4.0 hours
Intermediate Spanish II

An intermediate course which continues basic grammar review and introduces complex structures; incorporates reading of authentic texts—both cultural and literary; and refines conversation and listening comprehension skills.
Prerequisite: SP 2114

SP 2204 4.0 hours
Special Readings/Peninsular

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 2303 3.0 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 2701-2705 1.0-5.0 hours
Independent Study-Spanish

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

SP 2711-2715 1.0-5.0 hours
Special Topics-Spanish

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

GEOGRAPHY

GE 1003 3.0 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

**GE 2701-2705 1.0-5.0 hours
Independent Study-Geography**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

**GE 2711-2715 1.0-5.0 hours
Special Topics-Geography**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

GEOLOGY

**GL 1103 3.0 hours
Introduction to Physical Geology Lec**

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 1112 2.0 hours
Introduction to Physical Geology Lab**

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 2701-2705 1.0-5.0 hours
Independent Study-Geology**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

**GL 2711-2715 1.0-5.0 hours
Special Topics-Geology**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

GRAPHIC DESIGN

**GD 1003 3.0 hours
Fundamentals of Multimedia**

This course covers the basic concepts of the Multimedia Design industry. This course will give students hands-on exposure to all the industry standard software and hardware used in the field of multimedia. Students will explore Digital Illustration, Digital Photography and Imaging, Digital Video Web Page Design, Interactive Media, Audio Editing and 3D Modeling and Animation. If you are new to the ever-growing industry of multimedia design, this is a perfect place to start
Prerequisite: none

**GD 1103 3.0 hours
QuarkXPress**

This course covers the basic concepts and tools of desktop publishing by using QuarkXPress software.
Prerequisite: None

**GD 1111 1.0 hours
Working with MAC OS**

A course designed to introduce the student to the MAC O/S, through lecture, demonstration, and hands-on experience.
Prerequisite: None

**GD 2103 3.0 hours
Digital Imaging I**

This class offers an introduction to the con-

cepts, processes, and hardware and software which are fundamental in creating, editing, and displaying electronic images. Basic and intermediate skills will be taught using Adobe PhotoShop. Student will also be exploring color separation, optimizing images for the Web, animated GIF construction and preparation of image for both print and electric output.
Prerequisite: none

**GD 2113 3.0 hours
Digital Imaging II**

This course will present to students more sophisticated studio techniques in digital imaging, intermediate/advance working skills using Adobe PhotoShop, introduction to the uses of third party filtering systems, as well as building a breath taking digital portfolio.
Prerequisite: GD 2103

**GD 2123 3.0 hours
Digital Illustration I**

This course offers an introduction to the industry standard tools used to create graphical designs and text used in both the print and electronic based commercial media. Students will gain beginning/intermediate skills using Adobe Illustrator-the leading vector based illustration tool. Students will be gaining hands on experience with digital drawing tablets and multi-electronic output will also be addressed.
Prerequisite: none

**GD 2133 3.0 hours
Digital Illustration II**

A continuation of Digital Illustration I - Students will be taking their skills in Adobe Illustrator to the intermediate/ advanced levels. An emphasis on layout, design, color schemes, page composition and typography will be applied. Students will explore creative combinations of vector and raster based images. The class will wrap up with "how to build a breath-taking digital portfolio."
Prerequisite: GD 2123

**GD 2143 3.0 hours
Principles of Production**

This course provides a hands-on study of print production mechanics and techniques. Emphasis is placed on offset printing preparation, paper characteristics, inks, darkroom procedures and bindery.
Prerequisite: none

**GD 2303 3.0 hours
Web-Based Design & Publishing**

This course introduces students to the world of web page design. Starting at ground zero, a quick introduction to how the web works is then followed by how a web page or site is developed. Students will explore basic HTML script writing then go on to learn how to utilize industry standard WYSIWYG HTML programs such as Adobe GoLive. Students will build a web site containing static images rollover animations, animated GIFs, digital audio and digital video clips. Navigation and information design will also be emphasized.
Prerequisite: none

**GD 2304 4.0 hours
Multimedia Production I**

This course creates for students a "real life" production work situation. Students will be dealing with real "clients" and fulfilling responsibilities as account executive, production manager, graphic artist, multimedia author as well as other essential job titles. They will deal with issues like budgets, deadlines, hardware/software troubleshooting, time management, prioritization, and marketing.
Prerequisite: GD 1003, AR 1103, GD 2103, GD 2123, Of 1213

**GD 2313 3.0 hours
Animation for Web I**

A continuation of GD 2303, this course takes students to an intermediate/advanced level of web page design. Students will be covering DHTML and JAVA programming. An emphasis will be placed on animation and audio for the web using Macromedia FLASH.
Prerequisite: GD 2303

**GD 2324 4.0 hours
Multimedia Production II**

A continuation of Multimedia Production I

- this course creates for students a "real life" production work situation. Students will be dealing with real "clients" and fulfilling responsibilities as account executive, production manager, graphic artist, multimedia author as well as other essential job titles. They will deal with issues like budgets, deadlines, hardware/software troubleshooting, time management, prioritization, and marketing.
Prerequisite: GD 2304

**GD 2403 3.0 hours
Digital Video Techniques I**

This course introduces students to the technology used to create and edit digital video. Students will gain hands on experience shooting and editing video footage using both digital and analog video cameras. Editing will be done using Adobe Premiere on a Macintosh G3 DV workstation. Edited video will be output to a Digital VCR. Audio edition will also be addressed.
Prerequisite: none

**GD 2414 4.0 hours
Developing Interactive Multimedia I**

This course introduces students to the concepts of interactive media design, the ergonomics of interface design, and the essential flow of information design. Students will be gaining beginning/intermediate working skills with the industry standard software for interactive media design-Macromedia Director. Students will also learn how to effectively map out an interactive project using storyboards and flowcharts. Basic 2D animation will be explored a well.
Prerequisite: none

**GD 2423 3.0 hours
Design Principles for Multimedia**

This course explores color and design for the digital artist's use in composition.
Prerequisite: GD 2103, GD 2123 or permission of instructor.

**GD 2424 4.0 hours
Developing Interactive Multimedia II**

A continuation of Developing Interactive Multimedia I - this class takes students to the intermediate/advanced levels of working with Macromedia Director. More emphasis will be placed on project content and usability. Optimization of Director based projects for delivery on the web using Shockware will also be covered. Students will be urged to explore the possibility of building an interactive CD-ROM/Web based resume.
Prerequisite: GD 2414

**GD 2433 3.0 hours
Digital Video Techniques II**

A continuation of Digital Video Techniques I - this course will emphasize content and production quality as well as optimization for delivery over the Internet. Integration and animation of 2D graphics, photographs and 3D objects will also be explored. Students will be using Adobe Premier as well as Adobe AfterEffects to accomplish high quality digital video projects.
Prerequisite: GD 2403

**GD 2443 3.0 hours
Navigation & Script Writing**

This course is designed to introduce students to the concepts of information design, intuitive interface design and functional script writing.
Prerequisite: GD 1003, GD 2414, and GD 2424

**GD 2453 3.0 hours
Project Management & Planning**

This course is designed to give students the tools for planning and managing larger multimedia projects.
Prerequisite: GD 1003, GD 2414, and GD 2424, or permission of instructor.

**GD 2454 4.0 hours
Multimedia Production III**

A continuation of Multimedia Production II - this course creates for students a "real life" production situation. Students will be dealing with real "clients" and fulfilling responsibilities as an account executive, production manager, graphic arts, multimedia author as well as other essential job titles. They will deal with issues like budgets, deadlines, hardware/software troubleshooting, time management,

prioritization, and marketing.
Prerequisite: GD 2304 and GD 2324

GD 2603 3.0 hours
Multimedia Design Internship
This course includes a supervised work experience in the Multimedia Design field. A minimum of 150 clock hours is required. The work experience and criteria will be coordinated between the college instructor, student and cooperating employer.
Prerequisite: This course should be taken in the student's last semester.

GD 2613 3.0 hours
Graphic Design Internship
This course includes a supervised work experience in the graphic design field. A minimum of 150 clock hours is required. The work experience and criteria will be coordinated between the college instructor, student, and cooperating employer.
Prerequisite: This course should be taken in the student's last semester.

GD 2701-2705 1.0-5.0 hours
Independent Study-Graphic Design
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

GD 2711-2715 1.0-5.0 hours
Special Topics
A study of a specific nature directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

HISTORY

HI 0000 0.0 hours
Supp Instruction
Prerequisite: None

HI 1103 3.0 hours
US 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 3.0 hours
US 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 3.0 hours
US History (Special Focus)
Organized study of selected topics in American History.
Prerequisite: None

HI 1403 3.0 hours
Missouri & Mississippi Valley History
A course on aspects of Missouri and 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 3.0 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 3.0 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 3.0 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 3.0 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 3.0 hours
Foundations of World Civilization V
(Special Focus) Organized study of selected topics in world civilization.
Prerequisite: None

HI 2603 3.0 hours
Foundations of World Civilization VI
Japan. An interdisciplinary topical study of Japan from prehistoric 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 humanities.
Prerequisite: None

HI 2613 3.0 hours
Foundations of World Civilization VII-East Asia to 1800
China and Japan East Asian Civilization to 1800 is designed as a survey of the history and civilization of East Asia, especially China and Japan, until 1800. Special emphasis will be placed on geography, economics, politics, culture, and religious movements. This course will fulfill a humanities requirement.
Prerequisite: None

HI 2623 3.0 hours
Foundations of World Civilization VIII-East Asia Since 1800
China and Japan. East Asian Civilization Since 1800 is designed as a survey of the history and civilization of East Asia, especially China and Japan, from 1800. Special emphasis will be placed on geography, economics, politics, culture, and religious movements. This course will fulfill a humanities requirement.
Prerequisite: None

HI 2701-2705 1.0-5.0 hours
Independent Study-History
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

HI 2711-2715 1.0-5.0 hours
Special Topics-History
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

HI 2802 3.0 hours
Heritage Studies Lec
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 2803 3.0 hours
Heritage Studies Tour
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 3.0 hours
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 their world areas of Asia, Africa, and Latin America both in terms of domestic conflicts and as arenas for superpower conflict.
Prerequisite: None

HOSPITALITY MANAGEMENT

HM 0100-1003 0.5-3.0 hours
Workshop/Seminar
Prerequisite: None

HM 1002 2.0 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 1011 1.0 hours
Food Safety & Sanitation
Food safety and sanitation deal with proper food handling procedures, common errors in food handling and the negative impact when the system breaks down. The course explains basic biology of microbial growth, correct food handling, sanitizing and maintaining clean food contact surfaces and food storage. Completion of the course will earn a "safe food handling certificate".
Prerequisite: None

HM 1012 2.0 hours
Culinary Development & Basic Cost Control
The proud profession of the Culinarian is deep in history, tradition and detail. This course provides two elements relating to that foundation- Professional history and development, and Basic costing. Culinary Development deals with the structure of the kitchen and restaurant as well as individuals well known through history. Students learn professional expectations in the professional kitchen as well. Basic to all Food & Beverage operations is knowing how to value the cost of goods for sale. This course provides foundational tools in identifying and using fundamental costing elements in food, beverage and labor, as well as learning how to utilize ratios for determining recipe extensions, pricing strategies and other kitchen formulas.
Prerequisite: None

HM 1013 3.0 hours
Customer Service
This course explores the various successful techniques involved in establishing effective communications and functional relationships with the customer.
Prerequisite: None

HM 1021 1.0 hours
Equipment Identification, Function & Use
Equipment Identification, Function and Use is a survey of equipment commonly found in a modern commercial kitchen. The student will learn it's intended use, detailed cleaning and general maintenance. Due to the extreme cost devoted to equipment in today's kitchen, this course trains students how to keep each piece working at optimal function and in a clean

sanitary fashion.
Prerequisite: None

HM 1023 3.0 hours
Purchasing & Product Identification
Purchasing and Product Identification is the study of different food products in their purchased raw/purchased form and how to accurately purchase need product in accurate amounts for production. The product identification portion will demonstrate the size, season, packing, and general information on quality identification based on categories of produce (vegetables and fruits), groceries and dry goods, dairy products, meats, fish, poultry, and other usable products in the line of food production.
Prerequisite or Corequisite: HM 1012, HM 1011

HM 1044 4.0 hours
Basic Culinary Methods and Techniques
The course will provide a foundational level of the basics of professional cooking. Students completing Basic Culinary Methods and Techniques will learn about knife skills, basics of stocks and sauces, and the four primary methods of cooking: Dry Heat without fats or oils, Dry Heat with fats or oils, Moist Cookery, and Combination Cookery. This course will provide the basics necessary to proceed with careers in Culinary Arts, Restaurant Management, or Lodging Management.
Prerequisite or Corequisite: HM 1012, HM 1011, HM 1021, HM 1023

HM 1052 2.0 hours
Restaurant Operations Practical I
The course will utilize skills learned in basic foods classes and allow practice through operating a mock restaurant at the college. One meal per day will be served for the general public and the students will be responsible for preparing and serving the food.
Prerequisite or Corequisite: HM 1044

HM 1103 3.0 hours
Fundamentals of Baking
The course will provide a foundational level of the basics baking. The study of yeast raised breads, quick breads, cakes, pies and basic pastries will be covered along with the products used in their making. The student will be exposed to lecture and extensive hands on work in the bakery lab.
Prerequisite or Corequisite: HM 1044

HM 1122 2.0 hours
Menu Planning
This course is the study of the development and use of menus in the effective function of a foodservice operation. Common to all foodservice establishments is the use of the product offerings, and their posting in the form of a menu. Menu Planning will explore the development based on the establishment's concept, target market appeal, and profitability. Students will learn the creative process and produce an actual working menu for their own concept vision.
Prerequisite or Corequisite: HM 1044

HM 1133 3.0 hours
Intermediate Culinary Methods & Techniques
A continuation of Basic Culinary Methods and Techniques, this course goes in more depth with the different types of cooking methods concentrating on less quantity production and more technique in individual plated items. Also included are, pantry work (salads and luncheon items) and breakfast foods.
Prerequisite or Corequisite: HM 1044, HM 1142

HM 1142 2.0 hours
Dining Room Management & Table Service
Dining Room Management and Table Service identifies the different types of service found in the restaurant industry today. Students will learn proper service techniques using each style of service and the critical interaction between the kitchen and dining room. Lecture will include American service, French Haute service, Russian and English service. The student will learn these service types through hands on activities by serving meals in the restaurant area.
Prerequisite or Corequisite: HM 1044, HM 1133

HM 1203 3.0 hours
Culinary Internship
The course is an internship. Minimum work hours under an ACF Certified Chef de Cuisine or higher or equivalent experience and qualifications. Work hours are to be completed with 40 clock hour segments per week. This internship also meets the beginning criteria for ACF Apprenticeships (full apprenticeship consists of 6000 work hours within 3 years).
Prerequisite or Corequisite: HM 1133, HM 1103

HM 2004 4.0 hours
Quantity Food Production I
Survey of basic 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 2012 2.0 hours
Sanitation/Food Handling Certification
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 3.0 hours
Hospitality Management Internship I
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 2044 4.0 hours
Quantity Food Production II
Continuation of HM 2004. Topics to be covered include baking (breads, cakes, pastries), cold food preparation, garde-manger work, breakfast cooking, and banquet service. Students are required to plan and serve a year-end banquet.
Prerequisite: HM 2004

HM 2053 3.0 hours
Hospitality Management Internship II
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 2063 3.0 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 cost control, purchasing, legal problems, furniture and decor for clubs, restaurants and related institutions.
Prerequisite: None

HM 2073 3.0 hours
Destination World Geography
Destination World Geography is a course which presents the world's principal geographic areas from a tourist perspective. Destinations receive a detailed treatment concerning modes of transportation, cultural patterns, lodging options, climate, typical visitor profiles and attractions.
Prerequisite: None

HM 2083 3.0 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 3.0 hours
Hotel & 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 3.0 hours
Airline Reservations & 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 3.0 hours
Convention Sales & 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, visitor's bureaus, exhibit design, transportation, and destination management.
Prerequisite: None

HM 2122 2.0 hours
Garde Manger
This is an intermediate course in skill development as well as providing the fundamental understanding of Garde Manger. Areas covered combine classical elements of Garde Manger such as forcemeats, cold platter work, salads, cold appetizers, and general pantry products. Students will learn from lecture, demonstrations and hands on practice of processes.
Prerequisite: HM 1044 Basic Culinary Methods and Techniques.

HM 2123 3.0 hours
Food & 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 2132 2.0 hours
Advanced Baking and Confections
This is an advanced course that builds on skills and theory learned in Fundamentals of Baking. Areas to be covered include: classical and modern desserts and pastries, chocolate use in confections and desserts, pulled sugars and other classical confections.
Prerequisite: HM 1103 Fundamentals of Baking.

HM 2142 2.0 hours
Meat & Fish Identification & Fabrication
A deep awareness of specific types, cuts, and fabrications of meats and fish. This course will advance skills learned in Purchasing and Product Identification. Students will learn and demonstrate how to get maximum usable yield when processing primal cuts of meat or full fish.
Prerequisite: HM 1023 Purchasing & Product Identification, HM 1044 Basic Culinary Methods and Techniques.

HM 2152 2.0 hours
Elements of Banquets & Catering
This course challenges the culinary student to learn about the banquet process from start to

finish in the capacity of menu developer, food preparation and food service. As an advanced course it draws on all elements to learn successful banquet and catering operations. Prerequisite: HM 1133 Intermediate Culinary Methods and Techniques, HM 1142 Dining Room Management & Table Service.

HM 2153 3.0 hours
Fundamentals of Restaurant Operation Management

The course includes aspects of management methods and styles, marketing, motivational techniques, hiring, management structure and other business elements unique to the food and beverage industry. Students will also become acquainted with the business plan and how it benefits a new business.

Prerequisite: HM 1133 Intermediate Culinary Methods and Techniques, HM 1142 Dining Room Management and Table Service, HM 1122 Menu Planning, CS 1013 Introduction to Computer Information Systems.

HM 2203 3.0 hours
Advanced Culinary & Restaurant Operations

This is an advanced course for culinary arts majors. In utilizing skills and knowledge learned throughout the program the students, as a working team, will operate a fine dining restaurant. This includes alterations to the present menu, food preparation and service, and maintaining a positive financial balance on their activities.

Prerequisite: HM 1133 Intermediate Culinary Methods and Techniques, HM 1142 Dining Room Management and Table Service, HM 2132 Advanced Baking and Confections.

HM 2213 3.0 hours
Financial Aspects of Food & Beverage Cost Cont

This course looks at the financial portion of operating a restaurant, and more specifically the Profit and Loss Statement. A critical segment of the culinary manager's job is maintaining costs in line with revenues. Students will learn to read the P&L statement, how formulas are made, location of data and most important how the outcomes can be managed. Prerequisite: None

HM 2222 2.0 hours
Beverage Management

Skills and knowledge acquired from Bar Management directly relate to a better understanding of the whole operation of a food and beverage operation. Areas of study include responsible service of alcoholic and non-alcoholic beverages, types of different spirits, beers and wines, the study of viticulture and viniculture for wines, and maintaining proper beverage management methods for profitable operations. Prerequisite: None

HM 2231 1.0 hours
Culinary Arts Comprehensive

This is an evaluation for students graduating within the semester. It is a structured three-part exam and performance evaluation of learned skills and knowledge over the term of the program. Part one is a written comprehensive exam using the guidelines of the American Culinary Federation's certification exam. Part two is a basic knife skills and mise-en-scene evaluation, and part three is a skills evaluation of cooking and culinary ability. Prerequisite: None

HM 2701-2705 1.0-5.0 hours
Independent Study-Hospitality

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

HM 2711-2715 1.0-5.0 hours
Special Topics-Hospitality

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

INDUSTRIAL ENGINEERING

IE 1112 2.0 hours
Industrial Power Systems Lec

A study of hydraulic, and pneumatic industrial power systems. The course will cover all areas of hydraulic and pneumatic systems, parts, troubleshooting and interpreting schematics. Corequisite: IE 1121 Prerequisite: None

IE 1121 1.0 hours
Industrial Power Systems Lab

A study of hydraulic, and pneumatic industrial power systems. The course will cover all areas of hydraulic and pneumatic systems, parts, troubleshooting and interpreting schematics. Prerequisite: None

IE 1123 3.0 hours
Industrial Computer Applications

A software application course to prepare those with a technical interest in the uses of computers in industry. Standard applications such as DOS, Windows Basic, spreadsheet, data base, and word processing for technical objectives will be covered. We will also cover Industrial Data Highway Systems and the uses of digital pictures. Prerequisite: None

IE 1133 3.0 hours
Industrial & Control Systems Wiring

This course is designed to have students work with industrial wiring procedures, standards and regulations. We will cover NEC code, JIC standards and manufacture specification covering industrial wiring. We will do panel layout, high and low voltage installation, AC, DC wiring and sensor installation. We will also review conduit, cable tray and wireway installation. Prerequisite: None

IE 1143 3.0 hours
Industrial Electricity

This is an introductory course in basic industrial electricity. This course introduces and develops the concept necessary for understanding the use of electrical components and circuitry. Prerequisite: None

IE 1153 3.0 hours
Motor Controls

This course covers the control devices used in modern industrial electrical motor control systems. The course starts with electrical tools, electrical instruments, safety, electrical symbols, line diagrams. We address various types of motor controls in industry, manual starters, magnetic contactors, reversing circuits, reduce- voltage starting, accelerating and decelerating methods and troubleshooting. Corequisite: IE 1143 Industrial Electricity or consent of instructor. Prerequisite: None

IE 2103 3.0 hours
Introduction to Manufacturing Processes

This course is a study of basic industrial systems which will cover hydraulic, pneumatic, mechanical (bearings, gearing, belt drives, chain and sprockets coupling, clutches and brakes), electrical controls (relay logic, PLC's and variable frequency drive). The course will also cover measuring equipment, blue print reading, material flow, and equipment up keep. Prerequisite: None

IE 2113 3.0 hours
Maintenance Practices

A study of basic industrial maintenance and repair techniques with emphasis in the mechanical area covering bearing, gearing, gear reducers, belt drives, chain and sprockets, coupling, clutches and brakes, lubrication and variable speed drives. We will also cover areas of preventive maintenance and methods used such as vibration analysis, balancing and infrared testing. Prerequisite: None

IE 2173 3.0 hours
Industrial Systems Troubleshooting

Integrated system troubleshooting procedures

are demonstrated. Methods to determine root cause of system malfunction with the use of modern diagnostic equipment are covered. The integrated industrial system is defined as one incorporating mechanical, hydraulic, pneumatic and electrical systems and monitored by a microprocessor-based controller.

Prerequisite: IE 1112/21, IE 2113, and IE 1153 or IE 1112/21, IE 2113, and EL 1222/32, or consent of instructor.

IE 2183 3.0 hours
Process & Control Systems

This course is designed to have students work with machine control in the use of motion and process control systems. We will work with machine control components, such as control relays, polite lights, push buttons, and selector switches. Sensors, pressure and flow control circuits will also be covered, along with timers and counters. PLC's will also be introduced along with troubleshooting and panel design. Prerequisite: IE 1143 Industrial Electricity or EL 1112/22 or consent of instructor.

IE 2203 3.0 hours
Instrumentation

This course covers basic devices used in measuring and controlling different kinds of variables in process control. It covers ISA instrumentation symbols and the interpretation and use of process diagrams. We will cover the concepts of current, position, and time proportioning control. Prerequisite: IE 1143 Industrial Electricity or consent of instructor.

IE 2213 3.0 hours
PLC

Principles of PLC's work and practical information and skills in installing, programming, and troubleshooting. Items covered are memory structure, input/output modules, ladder logic diagrams, and the development of programming skills. Prerequisite: IE 1143 Industrial Electricity and IE 1153 Motor Controls.

IE 2701-2705 1.0-5.0 hours
Independent Study-Industrial Engineering

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

IE 2711-2715 1.0-5.0 hours
Special Topics

A study of a specific nature directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

JOURNALISM

JR 1003 3.0 hours
News Writing

Introduction to the fundamentals of news writing. Emphasis is placed upon journalistic principles, writing, editing and design, including work on official student publications. Prerequisite: None

JR 1103 3.0 hours
Journalism Productions

An in-depth study and practical application of news writing, 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 2701-2705 1.0-5.0 hours
Independent Studies-Journalism

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

JR 2711-2715 1.0-5.0 hours

Special Topics-Journalism

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

JR 2801 Journalism Practicum 1.0 hours

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

JR 2803 Journalism Practicum 3.0 hours

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 0000 College Algebra/Supp Instruction 0.0 hours

Prerequisite: None

MT 0103 Pre-Algebra 3.0 hours

Pre-Algebra is an entry level course for students in preparation for the Introductory/Intermediate algebra sequence. Students will gain a background in arithmetic and algebra topics through various presentation styles and group work. Topics to be covered include: fractions, solving linear equations, various applications in problem solving, the coordinate system, basic graphing and an introduction to polynomials. Placement in Pre-Algebra is determined by a student's score on the college's placement test (ASSET) and/or their mathematical background. When successfully completed (grade C or better), the course satisfies the college's prerequisite for Introductory Algebra.

MT 0105 Pre/Introductory Algebra 5.0 hours

Pre-/Introductory Algebra is a five-credit course combining the study of Pre-Algebra and Introductory Algebra. The course is an entry level course for students in preparation for Intermediate Algebra. Students will gain a background in arithmetic and basic algebra topics and their applications, including the application of technology. Topics to be covered include: fractions, decimals, percents, the real number system, solving linear equations, various applications in problem solving, the coordinate system, basic graphing and an introduction to polynomials, domain, function notation and rational expressions. Many of these topics will be further developed in subsequent courses. Placement in Pre-Introductory Algebra is determined by a student's score on the college's placement test (ASSET) and/or their mathematical background and the recommendation of the mathematics department. When successfully completed (grade C or better), the course satisfies the college's prerequisite for Intermediate Algebra.

MT 0203 Introductory Algebra 3.0 hours

Introductory Algebra is the first course in a two-course algebra sequence designed to prepare students for coursework in college level mathematics. Students will be introduced to basic algebra topics and the application of technology to those topics. Topics covered include: solving equations and inequalities, exponents, linear relations, the coordinate plane, modeling data, polynomials, domain, function notation and rational expressions. Many of these topics will be further developed in subsequent courses. When successfully completed (grade C or better), the course satisfies the college's prerequisite for Intermediate Algebra. Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 0103 Pre-Algebra in addition to one year of high school algebra. Not intended for transfer. Graphic calculator required.

MT 0205 Introductory/Intermediate Algebra 5.0 hours

Intro/Intermediate Algebra is a five credit-hour course designed to prepare students for coursework in college level mathematics. Student will be introduced to various algebra topics, their applications and the application of technology to those topics. The various topics to be covered include: solving equations and inequalities, exponents, linear relations, the coordinate plane, modeling data, polynomials, domain, function notation and rational expressions. Many of these topics will further develop in subsequent courses. Students entering Intro/ Intermediate Algebra should have knowledge of numeric skills and basic algebra topics (as evidenced by an appropriate placement test score) or have successfully completed, with a grade of B or better, a course in Pre-Algebra and the recommendation of the mathematics department. When successfully completed (grade C or better), the course satisfies the college's prerequisite for college mathematics and/or college algebra or any other college level mathematics course at a similar level.

MT 1011 Medication Calculations for Allied Health 1.0 hours

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. Prerequisite: None Not intended for transfer. Enrollment limited to students enrolled in EM 1112 EMT-Paramedic or NR 1014 Fundamentals of Nursing.

MT 1213 Electronic Algebra/Trigonometry 3.0 hours

Electronics Algebra-Trigonometry is designed to introduce the electronic students to 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 instructor's consent. Not intended for transfer.

MT 1243 Electronic Calculus 3.0 hours

Electronics Calculus is designed to introduce the electronic students to the concept of the rate of change as used in the Engineering field. The student will be introduced to the elementary concepts of limits, maxima and minima. A study of implicit and explicit functions will be investigated using differential calculus. Some basic concepts of integrating functions and summing an increment over a set of limits will be covered. Prerequisite: A grade of "C" or better in MT 1213 or consent of instructor. Not intended for transfer.

MT 1303 Intermediate Algebra 3.0 hours

Intermediate Algebra is the second course in a two-course sequence designed to prepare students for additional coursework in mathematics. In addition, students will develop skills in the use and application of technology to the study of mathematics. When successfully completed (grade C or better), the course satisfies the college's prerequisite for College Mathematics and/or College Algebra or any other college level mathematics course at a similar level. Prerequisite: Satisfactory math placement score with two years of high school algebra or a grade of "C" or better in MT 0203 Introductory Algebra. Not intended for transfer. Graphic calculator required.

MT 1313 Real Number System 3.0 hours

Real Number System is intended for elementary education majors and is designed to familiarize potential elementary school teachers with the various mathematics topics taught in an elementary school environment. Topics covered will include: sets, logic, number theory, the development of the set of real numbers and real number operations, number bases and various algorithms.

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

MT 1323 College Mathematics 3.0 hours

College Mathematics is designed to satisfy the mathematics requirement for students in programs not requiring College Algebra. Topics covered include introduction to logic, number bases, complex numbers, exponents, polynomials, rational expressions, radicals, solving equations and inequalities, graphing equations and inequalities, permutations and combinations, probability, statistics, and theory of equations. Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 1303 Intermediate Algebra

MT 1333 Metric & Nonmetric Geometry 3.0 hours

Metric and Non-Metric Geometry is designed to familiarize potential elementary school teachers with the various mathematics topics taught in an elementary school environment. Topics covered will include theory or plane geometry, statistics and probability. Prerequisite: A grade of "C" or better in MT 1313 Real Number System or consent of instructor.

MT 1403 College Algebra 3.0 hours

College Algebra is designed to meet the needs of the student planning to enroll in additional mathematics courses numbered 1600 or above or wishing to satisfy the general education requirement. Topics covered in MT 1403 include: complex numbers, logs and exponents, polynomials, rational expressions, radicals, solving equations and inequalities, graphing equations and inequalities, matrices, permutations and combinations, theory of equations and the binomial theorem. The use of the graphing calculator and its application to the topics of College Algebra will be emphasized. Prerequisite: Satisfactory math placement score or a grade of "C" or better in MT 1303 Intermediate Algebra. Graphic calculator required.

MT 1413 Trigonometry 3.0 hours

Trigonometry is intended for students planning to enroll in additional mathematics courses numbered 1600 or above. Topics covered in MT 1413 include: angles, trigonometric applications, law of sines and law of cosines, identities, the solutions to trigonometric equations, inverse trig functions and complex numbers. In addition, students will explore applications of the trigonometric functions on the graphic calculator. Prerequisite: Satisfactory math placement scores or grade "C" or better in MT 1403 College Algebra.

MT 1505 Pre-Calculus Math 5.0 hours

PreCalculus Mathematics is designed to meet the needs of the student planning to enroll in mathematics courses numbered 1600 or above. MT 1505 is a unified study of College Algebra and Trigonometry, with particular emphasis given to the preparation of the student for the study of the Calculus. Topics covered include: sets, complex numbers, logs and exponents, polynomials, rational expressions, radicals, solving equations and inequalities, graphing equations and inequalities, matrices and determinants, permutations and combinations, theory of equations, the binomial theorem and the study of the trigonometric functions. The use of a graphing calculator and its application to the topics of PreCalculus will be discussed. Prerequisite: Satisfactory math placement score or a grade of "B" or better in MT 1303 Intermediate Algebra.

MT 1605 Analytic Geometry & Calculus I 5.0 hours

A first course in a sequence of courses including analytic geometry, differential calculus, and integral calculus. This series is recommended for majors in engineering, the physical sciences, and mathematics. Topics include the following: properties of real numbers, introduction to analytic geometry, functions, limits, continuity, the derivative, 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 MT 1505 or consent of instructor.

MT 2003 **3.0 hours**
Finite Mathematics

Finite Mathematics is designed to be an introduction to linear math and its applications, matrix algebra and its applications, linear programming, probability and decision making applications.
Prerequisite: A grade of "C" or better in either MT 1403 College Algebra or MT 1505 Pre-Calculus Mathematics, or consent of instructor.

MT 2004 **4.0 hours**
Finite Mathematics

Finite Mathematics is designed to be an introduction to linear math and its applications, matrix algebra and its applications, linear programming, probability and decision making applications, Markov chains, and bell curve applications.
Prerequisite: A grade of "C" or better in either Math 1403 College Algebra or MT 1505 Pre-Calculus Mathematics, or consent of instructor.

MT 2013 **3.0 hours**
Survey Calculus

Survey Calculus is an introductory study of the techniques of differential and integral calculus. The focus of the course will be on functions and the applications of the calculus to the life, social, and managerial sciences, with particular emphasis on business applications. Trigonometry is not used.
Prerequisite: A grade of "C" or better in MT 1403 College Algebra, or MT 1505 Pre-Calculus Mathematics.

MT 2014 **4.0 hours**
Survey Calculus

Survey Calculus is an introductory study of the techniques of differential and integral calculus. The focus of the course will be on functions and the business applications. Trigonometry is not used.
Prerequisite: A grade of "C" or better in MT 1403 College Algebra, or MT 1505 Pre-Calculus Mathematics.

MT 2103 **3.0 hours**
Statistics

Statistics is an introductory course which studies the proper methods of collecting data, organizing, describing, and presenting data, and drawing conclusions from data.
Prerequisite: A grade of "C" or better in MT 1403 College Algebra, or consent of instructor.

MT 2105 **5.0 hours**
Analytic Geometry & 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 **5.0 hours**
Analytic Geometry & 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 **3.0 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 2701-2705 **1.0-5.0 hours**
Independent Studies-Mathematics

A study of specific nature independently carried out by the student directly related to a

particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: Consent of division chair.

MT 2711-2715 **1.0-5.0 hours**
Special Topics-Mathematics

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: Consent of division chair.

MUSIC

MU 0341 **1.0 hours**
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 **1.0 hours**
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 **3.0 hours**
Fundamentals of Music

A basic study of music including notation, scales, intervals, chords, and rhythms; intended to provide basic music reading, writing, and performing skills. Open to all students.
Prerequisite: None

MU 1012 **2.0 hours**
College Choir I

A performance course open, through audition, to all students and community members who have had previous musical experience.
Prerequisite: None

MU 1021 **1.0 hours**
ECC Choral Association I

A performance course open, with consent of the instructor, to all students and community members who have had previous choral experience.
Prerequisite: None

MU 1023 **3.0 hours**
Introduction to Music Theory I

A study of elementary music concepts to include rhythm and meter, melody, key signatures and scales. Three hours written and aural theory weekly.
Prerequisite: None

MU 1041 **1.0 hours**
ECC Community Orchestra I

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 **1.0 hours**
College Wind Ensemble I

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 1061 **1.0 hours**
ECC Choral Association II

A performance course open, with consent of the instructor, to all students and community members who have had previous choral experience.
Prerequisite: MU 1021

MU 1071 **1.0 hours**
ECC Community Orchestra II

A performance course open, with consent of the instructor, to all students and community members who have had previous instrumental experience.
Prerequisite: MU 1041

MU 1101 **1.0 hours**
ECC Singers I

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 **1.0 hours**
Jazz Band I

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 1112 **2.0 hours**
College Choir II

A performance course open, through audition, to all students and community members who have had previous musical experience.
Prerequisite: MU 1012

MU 1121 **1.0 hours**
ECC Singers II

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: MU 1101

MU 1123 **3.0 hours**
Introduction to Music Theory II

A study of the elementary music concepts to include rhythm and meter, melodic phrasing, major and minor key signatures and scales, intervals, triads. Three hours written and aural theory weekly.
Prerequisite: None

MU 1131 **1.0 hours**
Jazz Band II

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: MU 1111

MU 1201 **1.0 hours**
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 **1.0 hours**
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 **1.0 hours**
Applied Voice-Level II

Private lessons in voice. Enrollment restricted to advanced voice students. Proper placement will be determined by the instructor.
Prerequisite: MU 1211

MU 1301 **1.0 hours**
Applied Piano-Beginning (Level I)

A group lesson experience for the beginning piano student. Open to all students regardless of major.
Prerequisite: None

MU 1311 **1.0 hours**
Applied Piano-Beginning (Level II)

A group lesson experience for the beginning piano student. Open to all students regardless of major.
Prerequisite: MU 1301

MU 1321 **1.0 hours**
Applied Piano-Beginning (Level III)

A group lesson experience for the beginning piano student. Open to all students regardless of major.
Prerequisite: MU 1311

MU 1331 **1.0 hours**
Applied Piano-Beginning (Level IV)

A group lesson experience for the beginning piano student. Open to all students regardless of major.
Prerequisite: MU 1321

MU 1341 **1.0 hours**
Applied Piano-Secondary (Level I)

Private lessons in piano. Open to all students with some previous piano training, with consent of instructor. Proper placement will be determined by the instructor.

Prerequisite: MU 1331 or equivalent

MU 1351 Applied Piano-Secondary (Level II) **1.0 hours**
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 1341

MU 1361 Applied Piano-Secondary (Level III) **1.0 hours**
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 1351

MU 1371 Applied Piano-Secondary (Level IV) **1.0 hours**
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 1361

MU 1381 College Wind Ensemble II **1.0 hours**
A performance course open, with the consent of the instructor, to all students and community members who have had previous instrumental experience.
Prerequisite: MU 1051

MU 1401 Applied Organ (Level I) **1.0 hours**
Private lessons in organ. Open to any college student, with consent of instructor. Proper placement will be determined by the instructor.
Prerequisite: None

MU 1411 Applied Organ (Level II) **1.0 hours**
Private lessons in organ. Open to any college student, with consent of instructor. Proper placement will be determined by the instructor.
Prerequisite: MU 1401

MU 1501 Applied Instrumental (Level I) **1.0 hours**
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

MU 1503 World Music **3.0 hours**
An introduction to the music of the world's cultures, emphasizing their diversity and the uniqueness of each. Recommended for non-music majors.
Prerequisite: None

MU 1511 Applied Instrumental (Level II) **1.0 hours**
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: MU 1501

MU 1603 Music Appreciation **3.0 hours**
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 Music Theory I (Written) **3.0 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 1621 Music Theory I (Aural) **1.0 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.

Prerequisite: None

MU 1623 Music Appreciation **3.0 hours**
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 10th 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.
Prerequisite: None

MU 1703 Music Theory II (Written) **3.0 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 1711 Music Theory II (Aural) **1.0 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 Music Literature **3.0 hours**
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 Popular Music **3.0 hours**
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 2012 College Choir III **2.0 hours**
A performance course open, through audition, to all students and community members who have had previous musical experience.
Prerequisite: MU 1112

MU 2021 ECC Choral Association III **1.0 hours**
A performance course open, with consent of the instructor, to all students and community members who have had previous choral experience.
Prerequisite: MU 1061

MU 2031 ECC Choral Association IV **1.0 hours**
A performance course open, with consent of the instructor, to all students and community members who have had previous choral experience.
Prerequisite: MU 2021

MU 2041 ECC Community Orchestra III **1.0 hours**
A performance course open, with the consent of the instructor, to all students and community members, who have had previous instrumental experience.
Prerequisite: MU 1071

MU 2043 Music for Children **3.0 hours**
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 2051 College Wind Ensemble III **1.0 hours**
A performance course open, with the consent of the instructor, to all students and community members, who have had previous instrumental

experience.
Prerequisite: MU 1051

MU 2061 ECC Community Orchestra IV **1.0 hours**
A performance course open, with consent of the instructor, to all students and community members who have had previous instrumental experience.
Prerequisite: MU 2041

MU 2101 ECC Singers III **1.0 hours**
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: MU 1121

MU 2103 Music Theory III (Written) **3.0 hours**
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 2111 Jazz Band III **1.0 hours**
A studio band which prepares and presents concerts, while dealing primarily with music of the jazz idiom. Open by the consent of the director of all college students who are qualified instrumentalists.
Prerequisite: MU 1131

MU 2112 College Choir IV **2.0 hours**
A performance course open, through audition, to all students and community members who have had previous musical experience.
Prerequisite: MU 2012

MU 2121 Music Theory III (Aural) **1.0 hours**
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 2131 Jazz Band IV **1.0 hours**
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: MU 2111.

MU 2141 ECC Singers IV **1.0 hours**
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: MU 2101

MU 2151 College Wind Ensemble IV **1.0 hours**
A performance course open, with the consent of the instructor, to all students and community members, who have had previous instrumental experience.
Prerequisite: MU 2051

MU 2201 Applied Voice (Level III) **1.0 hours**
Private lessons in voice. Enrollment restricted to advanced voice students. Proper placement will be determined by the instructor.
Prerequisite: MU 1221

MU 2203 Music Theory IV (Written) **3.0 hours**
A continuation of MU 2103 and MU 2121 to more complex areas of chromatic harmony and analytical techniques for major trends in 20th century composition.
Prerequisite: MU 2103 & 2121

MU 2211 Music Theory IV (Aural) **1.0 hours**
A continuation of MU 2103 and MU 2121 to more complex areas of chromatic harmony and analytical techniques for major trends in 20th century composition.
Prerequisite: MU 2102 & 2211

MU 2221 Applied Voice (Level IV) **1.0 hours**
Private lessons in voice. Enrollment restricted

to advanced voice students. Proper placement will be determined by the instructor.
Prerequisite: MU 2201

MU 2301 **1.0 hours**
Applied Piano (Level I)
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

MU 2311 **1.0 hours**
Applied Piano (Level II)
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: MU 2301

MU 2321 **1.0 hours**
Applied Piano (Level III)
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: MU 2311

MU 2331 **1.0 hours**
Applied Piano (Level 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: MU 2321

MU 2401 **1.0 hours**
Applied Organ (Level III)
Private lessons in organ. Open to any college student, with consent of instructor. Proper placement will be determined by the instructor.
Prerequisite: MU 1411

MU 2411 **1.0 hours**
Applied Organ (Level IV)
Private lessons in organ. Open to any college student, with consent of instructor. Proper placement will be determined by the instructor.
Prerequisite: MU 2401

MU 2501 **1.0 hours**
Applied Instrumental (Level III)
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: MU 1511

MU 2511 **1.0 hours**
Applied Instrumental (Level 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: MU 2501

MU 2521 **1.0 hours**
ECC Choral Association V
A performance course open, with consent of the instructor, to all students and community members who have had previous choral experience.
Prerequisite: MU 2031

MU 2522 **2.0 hours**
College Choir V
A performance course open, through audition, to all students and community members who have had previous musical experience.
Prerequisite: MU 2112

MU 2531 **1.0 hours**
ECC Choral Association VI
A performance course open, with consent of the instructor, to all students and community members who have had previous choral experience.
Prerequisite: MU 2521

MU 2611 **1.0 hours**
Jazz Band V
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: MU 2131

MU 2621 **1.0 hours**

Jazz Band VI
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: MU 2611

MU 2631 **1.0 hours**
College Wind Ensemble V
A performance course open, with the consent of the instructor, to all students and community members, who have had previous instrumental experience.
Prerequisite: MU 2151

MU 2632 **2.0 hours**
College Choir VI
A performance course open, through audition, to all students and community members who have had previous musical experience.
Prerequisite: MU 2522

MU 2641 **1.0 hours**
College Wind Ensemble VI
A performance course open, with the consent of the instructor, to all students and community members, who have had previous instrumental experience.
Prerequisite: MU 2631

MU 2651 **1.0 hours**
ECC Community Orchestra V
A performance course open, with consent of the instructor, to all students and community members who have had previous instrumental experience.
Prerequisite: MU 2061

MU 2661 **1.0 hours**
ECC Community Orchestra VI
A performance course open, with consent of the instructor, to all students and community members who have had previous instrumental experience.
Prerequisite: MU2651

MU 2671 **1.0 hours**
ECC Singers V
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: MU 2141

MU 2681 **1.0 hours**
ECC Singers VI
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: MU 2671

MU 2701-2705 **1.0-5.0 hours**
Independent Study-Music
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

MU 2711-2715 **1.0-5.0 hours**
Special Topics-Music
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

NR 0100-1003 **0.5-3.0 hours**
Workshop/Seminar
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment.
Prerequisite: None

NR 1014 **4.5 hours**
Fundamentals of Nursing Lec
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; MT 1011; history/government elective Placement: fall semester, first year

NR 1022 **2.5 hours**
Fundamentals of Nursing Lab
Opportunities are provided for students to perfect skills and apply knowledge acquired in NR 1014. Includes initial practice sessions in the college laboratory and clinical experience in community hospitals. 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 **5.0 hours**
Nursing of Adults & Children I Lec
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 **5.0 hours**
Nursing of Adults & Children I Lb
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 **2.0 hours**
Mental Health Nursing Lec
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 relation ship. 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 **3.0 hours**
Mental Health Nursing Lab
Mental health facilities and the college laboratory are utilized for students to perfect 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 Placement: summer session, first year Course completed in eight week session.

NR 2012 **2.0 hours**
Maternal, Neonatal & Women's Health Nursing Lec
A course designed to provide the student with basic knowledge of quality women's health-care. 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 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 & Women's Health Nursing Lab

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 setting.
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 2.0 hours
Nursing of Adults & Children II Lec

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 & 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 5.0 hours
Nursing of Adults & Children III Lec

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 5.0 hours
Nursing of Adults & 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 2701-2705 1.0-5.0 hours
Independent Study-Nursing

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

NR 2711-2715 1.0-5.0 hours
Special Topics-Nursing

A study of a specific nature directly related to a particular department's area of expertise.

Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

NR 2991 1.0 hours
Nursing Trends

A study of selected topics related to the development of nursing practice and education; current issues; trends; ethical and legal aspects; professional organizations. 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

PHILOSOPHY AND RELIGION

PR 1003 3.0 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 1203 3.0 hours
History of Modern Philosophy

A study of the historical development in the awareness and solutions to western philosophic problems from modern times to the present. The course is based upon the teachings of the great philosophers, with emphasis upon their importance for us today.
Prerequisite: None

PR 1303 3.0 hours
Living World Religion

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 3.0 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 3.0 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 3.0 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 3.0 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 Bibli-

cal 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 2701-2705 1.0-5.0 hours
Independent Study-Philosophy/Religion

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

PR 2711-2715 1.0-5.0 hours
Special Topics-Philosophy/Religion

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

PHYSICAL EDUCATION

PE 0000 0.0 hours
Fitness Center Orientation

Fitness Center Orientation
Prerequisite: None

PE 1002 2.0 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 1.0 hours
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

PE 1021 1.0 hours
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: PE 1011

PE 1031 1.0 hours
Aqua Aerobics

Introduction to various aquatic fitness class formats. Circuit, interval, shallow and deep water formats will be utilized to effect a cardiovascular training and conditioning response. Water shoes are strongly recommended for the student.
Prerequisite: None

PE 1041 1.0 hours
Aqua Aerobics

Introduction to various aquatic fitness class formats. Circuit, interval, shallow, and deep water formats will be utilized to effect a cardiovascular training and conditioning response. Water shoes are strongly recommended for the student.
Prerequisite: PE 1031

PE 1051 1.0 hours
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

PE 1061 1.0 hours
Archery

A basic introduction to the fundamental skills and safety rules of archery activities. May be taken at the beginning or intermediate levels.

Prerequisite: PE 1051

PE 1081 Introduction to Fitness and Wellness 1.0 hours

A course designed to introduce the student to an exercise program, which combines aerobic training with the benefits of circuit weight training, providing an effective workout for all major muscle groups. An internet component is to be completed online using the Gateway Consortium site www.gatewayccc.org. Chapter topics include cardio respiratory endurance, muscular strength, flexibility, nutrition, and body composition. Students will be required to go online to complete 5 quizzes covering 5 chapters from the text. The quizzes will be submitted online and graded immediately online. Each student will need to complete the 5 quizzes with 100% accuracy for mastery learning. These quizzes must be completed before finals week to receive credit for the course. Access to the site will be permitted after the last day of regular class in the semester.

Prerequisite: None

PE 1091 Backpacking 1.0 hours

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 Basketball 1.0 hours

Introduction to the fundamental skills, strategies and rules of basketball. May be taken at the beginning or intermediate levels.

Prerequisite: None

PE 1131 Basketball 1.0 hours

Introduction to the fundamental skills, strategies and rules of basketball. May be taken at the beginning or intermediate levels.

Prerequisite: PE 1121

PE 1161 Bowling 1.0 hours

Introduction to the fundamental skill, strategies and rules of bowling. May be taken at the beginning or intermediate levels.

Prerequisite: None

PE 1171 Bowling 1.0 hours

Introduction to the fundamental skills, strategies and rules of bowling. May be taken at the beginning or intermediate levels.

Prerequisite: PE 1161

PE 1181 Intermediate Fitness 1.0 hours

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 the use of equipment designed to improve cardio-respiratory fitness.

Prerequisite: PE 1081

PE 1201 Canoeing 1.0 hours

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 1203 Introduction to Sport Management 3.0 hours

The course is designed to introduce students to the field of sport management. Students will be exposed to areas of study within the sport management curriculum, which include human resource management, ethics, law, facility management, marketing, economics, finance, and event management. Students will also be introduced to academic and career opportunities in sport management.

Prerequisite: None

PE 1231 Martial Arts-Beginning 1.0 hours

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

PE 1241 Martial Arts-Intermediate 1.0 hours

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: PE 1231

PE 1271 Folk & Square Dance 1.0 hours

Instruction in the skills and patterns of square dancing and selected international and American folk dances.

Prerequisite: None

PE 1281 Advanced Fitness 1.0 hours

A course designed to provide opportunities for the student to develop an individual programs of exercise based on the concepts and guidelines for each component of fitness: muscular 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 Golf 1.0 hours

Introduction to the fundamental skills and rules of golf activities. May be taken at the beginning, intermediate, or advanced levels.

Prerequisite: None

PE 1311 Golf 1.0 hours

Introduction to the fundamental skills and rules of golf activities. May be taken at the beginning, intermediate or advanced levels.

Prerequisite: PE 1301

PE 1341 Karate 1.0 hours

Basic principles and practices of traditional Japanese karate through participation in systematically organized patterns of assertive/reactive exercises. May be taken at the beginning, intermediate or advanced levels.

Prerequisite: None

PE 1351 Karate 1.0 hours

Basic principles and practices of traditional Japanese karate through participation in systematically organized patterns of assertive/reactive exercises. May be taken at the beginning, intermediate or advanced levels.

Prerequisite: PE 1341

PE 1381 Physical Fitness 1.0 hours

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

PE 1391 Physical Fitness 1.0 hours

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: PE 1381

PE 1402 Introduction to Physical Education 2.0 hours

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 1421 Racquet Sports 1.0 hours

Introduction to the fundamental skills, strategies and rules of racquet sports. Includes table tennis, badminton, and pickle ball.

Prerequisite: None

PE 1451 Racquetball 1.0 hours

Introduction to the fundamental skills, strategies and rules of racquetball.

Prerequisite: None

PE 1461 Self Defense for Women 1.0 hours

Introduction to the physical skills and strategies used in self defense along with lectures on prevention of physical attack.

Prerequisite: None

PE 1502 Personal Health & Wellness 2.0 hours

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.

Prerequisite: None

PE 1521 Skiing 1.0 hours

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

PE 1531 Skiing 1.0 hours

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: PE 1521

PE 1561 Soccer 1.0 hours

Introduction to the fundamental skills, strategies and rules of soccer. May be taken at the beginning or intermediate levels.

Prerequisite: None

PE 1571 Soccer 1.0 hours

Introduction to the fundamental skills, strategies and rules of soccer. May be taken at the beginning or intermediate levels.

Prerequisite: PE 1561

PE 1601 Softball 1.0 hours

Introduction to fundamental skills, strategies and rules of soft ball. May be taken at the beginning or intermediate levels.

Prerequisite: None

PE 1611 Softball 1.0 hours

Introduction fundamental skills, strategies and rules of soft ball. May be taken at the beginning or intermediate levels.

Prerequisite: PE 1601

PE 1641 Tennis 1.0 hours

Instruction in the fundamental skills, strategies and rules of tennis. May be taken at the beginning or intermediate level.

Prerequisite: None

PE 1651 Tennis 1.0 hours

Instruction in the fundamental skills, strategies and rules of tennis. May be taken at the beginning and intermediate level.

Prerequisite: PE 1641

PE 1671 Volleyball 1.0 hours

Instruction in the fundamental skills, strategies and rules of power volleyball. May be taken at the beginning or intermediate level.

Prerequisite: None

PE 1681 Volleyball 1.0 hours

Instruction in the fundamental skills, strategies and rules of power volleyball. May be taken at the beginning or intermediate level.

Prerequisite: PE 1671

PE 1711 Strength Training 1.0 hours

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

PE 1721 Strength Training 1.0 hours

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: PE 1711

PE 1731 Intermediate Swimming 1.0 hours

The course will include all strokes, accessory skills, safety and survival techniques, endurance conditioning, and elementary rescue.
Prerequisite: None

PE 1871 Varsity Soccer 1.0 hours

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: None

PE 1911 Varsity Softball 1.0 hours

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: None

PE 1921 Varsity Softball 1.0 hours

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: PE 1911

PE 2011 Aerobic Dance 1.0 hours

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: PE 1021

PE 2021 Aerobic Dance 1.0 hours

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: PE 2011

PE 2031 Aqua Aerobics 1.0 hours

Introduction to various aquatic fitness class formats. Circuit, interval, shallow and deep water formats will be utilized to effect a cardiovascular training and conditioning response. Water shoes are strongly recommended for the student.
Prerequisite: PE 1041

PE 2041 Aqua Aerobics 1.0 hours

Introduction to various aquatic fitness class formats. Circuit, interval, shallow and deep water formats will be utilized to effect a cardiovascular training and conditioning response. Water shoes are strongly recommended for the student.
Prerequisite: PE 2031

PE 2042 Lifeguarding 2.0 hours

This course will include lifeguard skills for pool, waterpark, waterfront, CPR for Professional Rescuers and First Aid. American Red Cross certification is possible for those who qualify. The student should be able to swim 500 yds. continuously using freestyle, breaststroke, elementary backstroke and sidestroke; surface dive to a minimum of 7 feet and retrieve a 10 pound objective; and tread water for 2 minutes using legs only. These skills must be successfully completed before the end of the first week of classes. Mandatory field trips scheduled for completion of skills.
Prerequisite: None

PE 2053 Physical Education for Children 3.0 hours

A course designed to give the elementary education and physical education major knowledge and understanding of physical education and to prepare them to guide learning experiences in the gym, the classroom or on the playground. Students will be presented with information concerning the values and goals of physical education, teaching styles and management methods, and the variety of activities that make up the content of a physical education program.
Prerequisite: None

PE 2202 Care & Prevention of Athletic Injury 2.0 hours

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 2231 Martial Arts-Advanced 1.0 hours

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: PE 1241

PE 2241 Martial Arts-Advanced 1.0 hours

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: PE 2231

PE 2301 Golf 1.0 hours

Introduction to the fundamental skills and rules of golf activities. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: PE 1311

PE 2302 Coaching Baseball 2.0 hours

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 2311 Golf 1.0 hours

Introduction to the fundamental skills and rules of golf activities. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: PE 2301

PE 2341 Karate 1.0 hours

Basic principles and practices of traditional Japanese karate through participation in systematically organized patterns of assertive/reactive exercises. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: PE 1351

PE 2351 Karate 1.0 hours

Basic principles and practices of traditional Japanese karate through participation in systematically organized patterns of assertive/reactive exercises. May be taken at the beginning, intermediate or advanced levels.
Prerequisite: PE 2341

PE 2381 Physical Fitness 1.0 hours

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: PE 1391

PE 2391 Physical Fitness 1.0 hours

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: PE 2381

PE 2402 Coaching Basketball 2.0 hours

A course in organization and management of a competitive basket ball 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 Coaching Volleyball 2.0 hours

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 1961, or consent of instructor

PE 2701-2705 Independent Study-Physical Education 1.0-5.0 hours

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

PE 2711-2715 Special Topics-Physical Education 1.0-5.0 hours

A study of a specific nature directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

PE 2721 Strength Training 1.0 hours

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: PE 2711

PE 2801 Varsity Baseball 1.0 hours

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: PE 2791

PE 2871 Varsity Soccer 1.0 hours

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: PE 1881

PE 2881 Varsity Soccer 1.0 hours

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: PE 2871

PE 2911 Varsity Softball 1.0 hours

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: PE 1921

PE 2921 Varsity Softball 1.0 hours

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: PE 2911

PHYSICS
PH 1003 Physical Science I 3.0 hours

An introductory course in cosmology. Topics of student 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 **3.0 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.
Corequisite: PH 1032

PH 1032 **2.0 hours**
Physical Science III Lab
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 **3.0 hours**
Introduction to Physics Lec
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 Corequisite: PH 1112

PH 1112 **2.0 hours**
Introduction to Physics Lab
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 **3.0 hours**
College Physics I Lec
A study of mechanics, properties of matter, and thermodynamics. Not recommended for math, physical science, or engineering students.
Prerequisite: MT 1413 and 1403, 1505, or equivalent. Corequisite: PH 1712

PH 1712 **2.0 hours**
College Physics I Lab
A study of mechanics, properties of matter, and thermodynamics. Not recommended for math, physical science, or engineering students.
Prerequisite: MT 1413 and 1403, 1505, or equivalent.

PH 1803 **3.0 hours**
College Physics II Lec
A continuation of PH 1703 and 1712, including a study of electricity, magnetism, light, and atomic physics. Not recommended for math, physical science, or engineering students.
Prerequisite: PH 1703 & PH 1712 Corequisite: PH 1812

PH 1812 **2.0 hours**
College Physics II Lab
A continuation of PH 1703 and 1712, including a study of electricity, magnetism, light, and atomic physics. Not recommended for math, physical science, or engineering students.
Prerequisite: PH 1703 & PH 1712

PH 2001 **1.0 hours**
Physical Science Lab
This course emphasizes and address the Key Skills that are identified in "Core Competencies and Key Skills" for Missouri schools (1991).
Prerequisite: None

PH 2103 **3.0 hours**
General Physics I Lec
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 Corequisite: PH 2112

PH 2112 **2.0 hours**
General Physics I Lab
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 **3.0 hours**
General Phys II Lec
A study of electricity, magnetism, light, and modern physics. Three hours lecture and two two-hour laboratory periods per week.
Prerequisite: PH 2103 & PH 2112 Prerequisite or Corequisite: MT 2205 Corequisite: PH 2212

PH 2212 **2.0 hours**
General Physics II Lab
A study of electricity, magnetism, light, and modern physics. Three hours lecture and two two-hour laboratory periods per week.
Prerequisite: PH 2103 & PH 2112 Prerequisite or Corequisite: MT 2205

PH 2701-2705 **1.0-5.0 hours**
Independent Study-Physics
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

PH 2711-2715 **1.0-5.0 hours**
Special Topics-Physics
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

POLITICAL SCIENCE

PS 1103 **3.0 hours**
Introduction to Political Science
A course which introduces the student to the theory and content of politics: specifically a comparative study of democratic and non-democratic governments. 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 **3.0 hours**
US 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 2103 **3.0 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 **3.0 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 supervisions, financial control, personnel supervision, and democratic accountability.
Prerequisite: None

PS 2701-2705 **1.0-5.0 hours**
Independent Study-Political Science
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

PS 2711-2715 **1.0-5.0 hours**
Special Topics-Political Science
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

PRECISION MACHINING

MA 1161 **1.0 hours**
Introduction to CNC Mill & Lathe Lec
An introductory course in Computer Numerical Control Machining. Task of setting up, operating and programming and turning centers are demonstrated. Computer assisted programming of CNC machines is covered. The integration of CNC machines in a Flexible Manufacturing System is emphasized.
Prerequisite: MA1241 and MA1242 or machine tool experience. Corequisite: MA 1162

MA 1162 **2.0 hours**
Introduction to CNC Mill & Lathe Lab
An introductory course in Computer Numerical Control Machining. Task of setting up, operating and programming and turning centers are demonstrated. Computer assisted programming of CNC machines is covered. The integration of CNC machines in a Flexible Manufacturing System is emphasized.
Prerequisite: MA 1241 & MA 1242 or machine tool experience.

MA 1211 **1.0 hours**
Machine Tool I Lec
A course that studies beginning concepts in machining. Starting with shop safety, bench work, measuring tools, band saws, drill presses, horizontal mills, engine lathes, and basic cutting tools. Projects are made using processes and machines in the shop.
Prerequisite: None

MA 1212 **2.0 hours**
Machine Tool I Lab
A course that studies beginning concepts in machining. Starting with shop safety, bench work, measuring tools, band saws, drill presses, horizontal mills, engine lathes, and basic cutting tools. Projects are made using processes and machines in the shop.
Prerequisite: None

MA 1221 **1.0 hours**
Machine Tool II Lec
A course that studies basic machine shop math, basic computer numerical control, blue print reading, and shop theory. Projects are made using processes and machines in the shop.
Prerequisite: MA 1211 & MA 1212 Corequisite: MA 1222

MA 1222 **2.0 hours**
Machine Tool II Lab
A course that students basic machine shop math, basic computer numerical control, blue print reading, and shop theory. Projects are made using processes and machines in shop.
Prerequisite: MA 1211 & MA 1212

MA 1231 **1.0 hours**
Advanced Machine Tool I Lec
A course that studies advanced shop math, basic CAD/CAM, machinist reference books, advanced machining processes on mills and lathes, and grinding techniques. Projects are made using processes and machines in the shop.
Prerequisite: MA 1221 & MA 1222 Corequisite: MA 1232

MA 1232 **2.0 hours**
Advanced Machine Tool I Lab
A course that studies advanced shop math, basic CAD/CAM, machinist reference books, advanced machining processes on mills and lathes, and grinding techniques. Projects are made using processes and machines in the shop.
Prerequisite: MA 1221 & MA 1222

MA 1241 **1.0 hours**
Advanced Machine Tool II Lec
A course that studies basic metallurgy, jigs and fixtures, advanced tooling, advanced blue print reading, and non-traditional machining practices.
Prerequisite: MA 1231 & MA 1232 Corequisite: MA 1242

**MA 1242 2.0 hours
Advanced Machine Tool II Lab**

A course that studies basic metallurgy, jigs and fixtures, advanced tooling, advanced blue print reading, and non-traditional machining practices.
Prerequisite: MA 1231 & MA 1232

**MA 1512 2.0 hours
CAD/CAM Fundamentals I/Mold Maker**

A course designed to introduce current CAD design methodologies used for mold design and CAM mold manufacturing methods used for CNC machine technology.
Prerequisite: None

**MA 1612 2.0 hours
Mold Making Fundamentals I Lec**

A course designed to introduce mold making techniques using current machine tools and support equipment includes hand tools and manual fabrication of molds. Corequisite: MA 1613
Prerequisite: None

**MA 1613 3.0 hours
Mold Making Fundamentals I Lab**

A course designed to introduce mold making techniques using current machine tools and support equipment includes hand tools and manual fabrication of molds.
Prerequisite: None

**MA 1622 2.0 hours
Mold Making Fundamentals II Lec**

The second course that expands upon the skills and methods used for mold manufacturing using current machine technology.
Prerequisite: None

**MA 1623 3.0 hours
Mold Making Fundamentals II Lab**

The second course that expands upon the skills and methods used for mold manufacturing using current machine technology.
Prerequisite: None

**MA 1713 3.0 hours
Mold Fabrication Processes**

A course designed to introduce alternative mold manufacturing processes with some focus on rapid manufacturing techniques and other state-of-the-art processes.
Prerequisite: None

**MA 1811 1.0 hours
Mold Maker Business Practices**

A course designed to introduce current business practices commonly used in the mold manufacturing trade. Emphasis is on total cost of manufacturing and current business management theories as would be applied in the manufacturing business. Some focus is also devoted to applying innovation methods and continual process improvement techniques in the mold making business.
Prerequisite: None

**MA 2111 1.0 hours
Precision Machining I Lec**

This is a course that studies project designing, planning, scheduling, material ordering, machining processes, and manufacturing. Assembly projects are made using processes and machines in the shop.
Prerequisite: MA 1221, MA 1222; Preferably Advanced Machine Tool II MA 1241, MA 1242

**MA 2112 2.0 hours
Precision Machining I Lab**

This is a course that studies project designing, planning, scheduling, material ordering, machining processes, and manufacturing. Assembly projects are made using processes and machines in the shop.
Prerequisite: MA 1221, MA 1222; Preferably Advanced Machine Tool II MA 1241, MA 1242

**MA 2121 1.0 hours
Precision Machining II Lec**

This is a course that studies project designing, planning, scheduling, material ordering, machining processes, and manufacturing. Assembly projects are made using processes and machines in the shop with a group of people.
Prerequisite: MA 1221, MA 1222; Preferably Advanced Machine Tool II MA 1241,

MA 1242

**MA 2122 2.0 hours
Precision Machining II Lab**

This is a course that studies project designing, planning, scheduling, material ordering, machining processes, and manufacturing. Assembly projects are made using processes and machines in the shop with a group of people.
Prerequisite: MA 1221, MA 1222; Preferably Advanced Machine Tool II MA 1241, MA 1242

**MA 2211 1.0 hours
Measurement & Inspection Lec**

A study of measuring tools used in the production process, surface plate set up techniques, comparison usage, sine plates, surface testers, and coordinate measuring machines. Corequisite: MA 2212
Prerequisite: None

**MA 2212 2.0 hours
Measurement & Inspection Lab**

A study of measuring tools used in the production process, surface plate set up techniques, comparison usage, sine plates, surface testers, and coordinate measuring machines.
Prerequisite: None

**MA 2221 1.0 hours
Advanced Machining & Processes Lec**

Advanced course work in CNC, EDM Electronic Discharge Machining, Honing, Roller burnishing, forming, mold making, production machining, and laser machining.
Prerequisite: MA 1242 & MA 1242 Corequisite: MA 2222

**MA 2222 2.0 hours
Advanced Machining & Processes Lab**

Advanced course work in CNC, EDM Electronic Discharge Machining, Honing, Roller burnishing, forming, mold making, production machining, and laser machining.
Prerequisite: MA 1241 & MA 1242

**MA 2313 3.0 hours
Metallurgy**

The study of materials such as plastic, composite, ceramic, carbon steel, tool steel, cast iron, aluminum's brass, bronze, and stainless steel. And the study of coatings, corrosion, alloying, and heat treating.
Prerequisite: MA 1241 & MA 1242

**MA 2321 1.0 hours
Advanced CNC Machining Lec**

Applications of using CAD into CAM to the CNC machining process.
Prerequisite: MA 1241, MA 1242, DF 2143, MA 1161, MA 1162, and MA 2513 Corequisite: MA 2322

**MA 2322 2.0 hours
Advanced CNC Machining Lab**

Applications of using CAD into CAM to the CNC machining process.
Prerequisite: MA 1241, MA 1242, DF 2143, MA 1161, MA 1162, and DF 2513

**MA 2411 1.0 hours
Geometric Dimension and Tolerance & Statistical Process Control Lec**

The application of geometric dimensional tolerance and statistical process control in the precision machining process.
Prerequisite: DF 1012, DF 1021, MA 1241, and MA 1242. Corequisite: MA 2412

**MA 2412 2.0 hours
Geometric Dimension and Tolerance & Statistical Process Control Lab**

The application of geometric dimensional tolerance and statistical process control in the precision machining process.
Prerequisite: DF 1012, DF 1021, MA 1241, and MA 1242.

**MA 2512 2.0 hours
CAD/CAM Fundamentals II/Mold Mak-**

ers
A second intensified course designed to further develop student experience as it applies to typical CAD and CAM for applications in mold manufacturing.
Prerequisite: MA 1512

MA 2513 3.0 hours
Computer Aided Manufacturing

Instruction in the use of CAM software like MASTER CAM, SMART CAM, EZ FEATURE MILL, and SPECTRA CAM as it applies to the machining process.

Prerequisite: MA 1241, MA 1242, DF 2143, MA 1161, & MA 1162.

**MA 2612 2.0 hours
Mold Making Fundamentals III Lec**

Prerequisite: None

**MA 2613 3.0 hours
Mold Making Fundamentals III Lab**

Prerequisite: None

**MA 2622 2.0 hours
Mold Making Fundamentals IV Lec**

Prerequisite: None

**MA 2623 3.0 hours
Mold Making Fundamentals IV Lab**

Prerequisite: None

**MA 2655 5.0 hours
Mold Design Fundamentals**

A course designed to develop student experience as it applies to mold design. Students are exposed to and develop the engineering specific data and terminology that is applied as they progress through a typical mold design.

Prerequisite: This course is only open to students enrolled in the Mold Making Program or by consent of the instructor.

**MA 2701-2705 1.0-5.0 hours
Independent Study-Mold Making**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.
Prerequisite: None

**MA 2711-2715 1.0-5.0 hours
Special Topics**

A study of a specific nature directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. May be repeated.
Prerequisite: None

**MA 2811 1.0 hours
Project Management/Mold Makers**

Prerequisite: None

**MA 2822 2.0 hours
Mold Materials Process Lec**

Prerequisite: None

**MA 2823 3.0 hours
Mold Materials Process Lab**

Prerequisite: None

PSYCHOLOGY
**PY 1103 3.0 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 3.0 hours
Research Methods**

This course is about research methods in the behavioral sciences. Throughout the course emphasis is on getting each student involved in doing research as a problem-solving activity. The course will examine the characteristics of a scientific approach to the study of behavior and mental processes, and the general types of research questions that concern behavioral scientists. The course will emphasize research methodology rather than statistical concepts, statistical tests, or psychological content areas.
Prerequisite: PY 1103 or consent of instructor.

PY 2103 3.0 hours

Personal & 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 3.0 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 3.0 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. Education majors will observe in area schools. Prerequisite: PY 1103 or consent of instructor

PY 2503 3.0 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 2701-2705 1.0-5.0 hours

Independent Study-Psychology
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new materials not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

PY 2711-2715 1.0-5.0 hours

Special Topics-Psychology
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

PY 2803 3.0 hours

Family Violence 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 3.0 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 3.0 hours

Probation & 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 3.0 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 Developmental Services of Franklin County and the different programs offered to persons with developmental disabilities. Prerequisite: PY 1103 and consent of instructor

PY 2853 3.0 hours

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 0100-1003 0.5-3.0 hours

Workshop/Seminar
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment. Prerequisite: None

RE 1014 4.0 hours

Principles of Real Estate
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 Sales person licensing examination. Prerequisite: None

RE 2023 3.0 hours

Real Estate Appraisal
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

RE 2701-2705 1.0-5.0 hours

Independent Study-Real Estate
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

RE 2711-2715 1.0-5.0 hours

Special Topics-Real Estate
A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

RETAILING

RT 0100-1003 0.5-3.0 hours

Workshop/Seminar
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment. Prerequisite: None

RT 2003 3.0 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 3.0 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 market place. Recognition of motivation and the reactions of consumers and related business influences is also covered. Prerequisite: None

RT 2023 3.0 hours

Merchandising I: Starting Own Bus
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 3.0 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 3.0 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 2053 3.0 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: RT 2043 and retailing major

RT 2701-2705 1.0-5.0 hours

Independent Study-Retailing
A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week. Prerequisite: None

RT 2711-2715 1.0-5.0 hours

Special Topics
A study of specific nature directly related to a particular department's area of expertise. Typically, this will cover new material not currently available at ECC. May be repeated. Prerequisite: None

SMALL ENGINE REPAIR

SE 0100-1003 0.5-3.0 hours

Workshop/Seminar
Introductory level course designed to upgrade or develop specific skills relative to current or anticipated employment. Prerequisite: None

SE 1015 5.0 hours

Small Engine Repair I
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 5.0 hours

Small Engine Repair II

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 on 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 2701-2705 1.0-5.0 hours
Independent Study-Small Engine Repair**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.

Prerequisite: None

**SE 2711-2715 1.0-5.0 hours
Special Topics-Small Engines**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.

Prerequisite: None

SOCIOLOGY
**SO 1103 3.0 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 3.0 hours
American Social Problems**

A study of select 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 3.0 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 3.0 hours
Marriage & 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 3.0 hours
Introduction to Social Work**

A study of philosophy, historical development, and perspectives of social work.

Prerequisite: SO 1103

**SO 2701-2705 1.0-5.0 hours
Independent Study-Sociology**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.

Prerequisite: None

**SO 2711-2715 1.0-5.0 hours
Special Topics-Sociology**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.

Prerequisite: None

WELDING
**WL 0100-1003 0.5-3.0 hours
Workshop/Seminar**

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

Prerequisite: None

**WL 1001 1.0 hours
Personal Welding**

A course designed to introduce the student to his or her home welder and its related functions.

Prerequisite: None

**WL 1011 1.0 hours
Welding I Lec (Intro)**

An introduction to oxygen-acetylene brazing, cutting, and electric arc welding. The study of safety in oxy-acetylene and electric arc welding is also included.

Prerequisite: None

**WL 1013 3.0 hours
Welding I Lab (Intro)**

An introduction to oxygen-acetylene brazing, cutting, and electric arc welding. The study of safety in oxy-acetylene and electric arc welding is also included.

Prerequisite: None

**WL 1021 1.0 hours
Welding II Lec (All Position SMAW)**

A continuation of Welding I, stressing all-position shielded metal arc welding (SMAW). The study of the weld ability of metals, joint design, filler metal selection, plasma arc cutting and carbon arc gouging is also included.

Prerequisite: WL 1011, WL 1013 Corequisite: WL 1023

**WL 1023 3.0 hours
Welding II Lab (All Position SMAW)**

A continuation of Welding I, stressing all-position shielded metal arc welding (SMAW). The study of the weld ability of metals, joint design, filler metal selection, plasma arc cutting and carbon arc gouging is also included.

Prerequisite: WL 1011, WL 1013

**WL 1031 1.0 hours
Welding III Lec (Adv SMAW)**

A course which stresses the 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, WL 1013, WL 1021, WL 1023 Corequisite: WL 1033

**WL 1033 3.0 hours
Welding III Lab (Adv SMAW)**

A course which stresses the 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, WL 1013, WL 1021, WL 1023

**WL 1041 1.0 hours
Welding IV Lec (GMAW)**

A course which stresses the development of skills in GMAW of fillet and groove welds in the flat, horizontal, vertical and overhead positions. GMAW and FCAW equipment, setup and operation and shielding gases are among the topics to be discussed.

Prerequisite: WL 1011, WL 1013, WL 1021, WL 1023, WL 1031, WL 1033 Corequisite: WL 1044

**WL 1044 4.0 hours
Welding IV Lab (GMAW)**

A course which stresses the development of skills in GMAW of fillet and groove welds in the flat, horizontal, vertical and overhead positions. GMAW and FCAW equipment, setup and operation and shielding gases are among the topics to be discussed.

Prerequisite: WL 1011, WL 1013, WL 1021, WL 1023, WL 1031, WL 1033

**WL 1053 3.0 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

**WL 2011 1.0 hours
Welding V Lec (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, shielded gases and automation and robotics are among the topics to be discussed.

Prerequisite: WL 1011, WL 1013, WL 1021, WL 1023, WL 1031, WL 1033, WL 1041, WL 1044, or consent of instructor. Corequisite: WL 2014

**WL 2014 4.0 hours
Welding V Lab (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, shielded gases and automation and robotics are among the topics to be discussed.

Prerequisite: WL 1011, WL 1013, WL 1021, WL 1023, WL 1031, WL 1033, WL 1041, WL 1044

**WL 2021 1.0 hours
Welding VII Lec (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, WL 1013, WL 1021, WL 1023, WL 1031, WL 1033, WL 1041, WL 1044, WL 2011, WL 2014, WL 1053 Corequisite: WL 2024

**WL 2024 4.0 hours
Welding VII Lab (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, WL 1013, WL 1021, WL 1023, WL 1031, WL 1033, WL 1041, WL 1044, WL 2011, WL 2014, WL 1053

**WL 2031 1.0 hours
Welding VIII (Advanced Graduation Project)**

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, WL 1013, WL 1021, WL 1023, WL 1031, WL 1033, WL 1041, WL 1044, WL 2011, WL 2014, WL 1053, WL 2021, WL 2024 and have completed English requirements for degree.

**WL 2065 5.0 hours
Welding XI-Welding Internship**

A course designed for on-the-job-training at local welding shops to provide the student with opportunities to use competencies developed in the classroom and laboratory. Emphasis is on preparation for full-time employment.

Prerequisite: WL 1011, 1013, 1021, 1023, 1031, 1033, 1041, 1044, 1053, 2011, 2014, 2021, 2024

**WL 2701-2705 1.0-5.0 hours
Independent Study-Welding**

A study of specific nature independently carried out by the student directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. For each semester hour enrolled, the student will be required to spend a minimum of two hours per week.

Prerequisite: None

**WL 2711-2715 1.0-5.0 hours
Special Topics-Welding**

A study of a specific nature directly related to a particular department's area of expertise. Typically this will cover new material not currently available at ECC. May be repeated.

Prerequisite: None

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Contact information:

- If you are a person with special needs and require assistance or services, please contact the counseling office and a representative will discuss your needs.
- If you are a person with a hearing disability, our TTD number is (636) 583-4851.
- Inquiries concerning compliance may be directed to Director of Human Resources, East Central College, 1964 Prairie Dell Road, Union, Missouri, 63084, Telephone (636) 583-5193.