



## FORT MORGAN, COLORADO

### 1989 - 1991 CATALOG

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17800 Road 20 Fort Morgan, Colorado 303-867-3081 1-800-MCC-0216

## ACCOUNTING

### **ACC 101 FUNDAMENTALS OF ACCOUNTING (75 lecture hours/5 credits/V)**

Designed to introduce the student to the double-entry system of accounting. The complete cycle is covered for a sole proprietorship service enterprise and for the sole proprietorship merchandising enterprise. Areas of emphasis are accounts receivable, notes receivable, bad debts, accounts payable, notes payable, inventory costing, depreciation, accruals, payroll, and disposal of plant assets.

### **ACC 102 INTEGRATED APPLICATIONS IN ACCOUNTING**

**(15 lecture hours/30 lab hours/2 credits/V)**

Prerequisite: ACC 101. Covers realistic accounting simulations for a merchandising enterprise. Manual and computerized practice sets will be utilized.

### **ACC 105 INDIVIDUAL INCOME TAX (45 lecture hours/3 credits/V)**

Prerequisite: ACC 101 or consent of the instructor. Covers the development and basic structure of federal income tax laws and regulations with emphasis on practice and problems in the filing of individual federal tax returns.

### **ACC 205 COMPUTERIZED APPLICATIONS IN ACCOUNTING**

**(7 lecture hours/35 lab hours/2 credits/V)**

Prerequisite: ACC 102. A continuation of computerized accounting practices. Intermediate accounting simulations and electronic worksheet applications of accounting are covered.

### **ACC 211 PRINCIPLES OF ACCOUNTING I (60 lecture hours/4 credits)**

Covers the principles of double-entry accounting for a service and merchandising enterprise. The complete accounting cycle is covered as well as topics including notes and accounts receivable, inventories, cost of goods sold, plant and equipment, and long-term liabilities.

### **ACC 212 PRINCIPLES OF ACCOUNTING II (60 lecture hours/4 credits)**

Prerequisite: ACC 211. Continues to develop double-entry accounting practices. Present value, partnership, corporate, manufacturing, cost accounting, responsibility, and budgeting are covered.

### **ACC 213 INTRODUCTION TO COST ACCOUNTING**

**(45 lecture hours/23 lab hours/4 credits)**

Prerequisite: ACC 212. An introductory course covering the utilization of budgetary principles for effective planning and controlling of manufacturing firms. Job order process and standard cost systems are covered.

V - Vocational Class

## AGRICULTURE

### **AGL 115 ANIMAL SCIENCES (45 lecture hours/30 lab hours/4 credits)**

Includes composition quality of meat, milk, eggs, wool; principles of genetics, nutrition, anatomy, and physiology as applied to production of livestock and poultry. Not acceptable for science requirement on A.A. or A.S. degree.

**AGL 116 GENERAL CROPS (45 lecture hours/30 lab hours/4 credits)**  
Covers production and adaptation of cultivated crops; principles affecting growth, development, management, and utilization.

**AGL 117 INTRODUCTORY SOIL SCIENCE (45 lecture hours/30 lab hours/4 credits)**  
Prerequisite: CHE 101. Studies formation, properties, and management of soils emphasizing soil conditions that affect plant growth. Not acceptable for science requirement on A.A. or A.S. degree.

**AGL 118 AGRICULTURAL/NATURAL RESOURCE ECONOMICS (45 lecture hours/3 credits)**  
Discusses economic principles as applied to agriculture, natural resources, price determination, resource allocation, government policies, and other contemporary problems. Credit not allowed for both AGR 118 and ECO 202.

## ANTHROPOLOGY

**ANT 101 CULTURAL ANTHROPOLOGY (45 lecture hours/3 credits) #/\***  
Studies human cultural patterns and learned behavior. Includes linguistics, social and political organization, religion, culture and personality, culture change, and applied anthropology.

**ANT 111 PHYSICAL ANTHROPOLOGY (45 lecture hours/3 credits) #/\***  
Studies human biology and its effects on behavior. Includes principles of genetics and evolution, vertebrates and primates, human origins, human variation, and ecology.

## ART

**ART 111 ART HISTORY I (45 lecture hours/3 credits) #/\***  
Provides the knowledge base to understand the visual arts, especially as related to Western culture. Surveys the visual arts from the Ancient through the Medieval periods.

**ART 112 ART HISTORY II (45 lecture hours/3 credits) #/\***  
Provides the knowledge base to understand the visual arts, especially as related to Western culture. Surveys the visual arts from the Renaissance through the Modern periods.

# - General Education Common Core for the A.A. and A.S. Degrees

\* - General Education Course

**ART 115 BASIC DRAWING (15 lecture hours/60 lab hours/3 credits)**  
Teaches the basic elements and principles of drawing with emphasis on visual training, technical procedures, and the essentials of perspective.

**ART 116 COLOR AND DESIGN (15 lecture hours/60 lab hours/3 credits)**  
Provides experience with basic color and design through experimentation and their applications to pure design, decorative design, and pictorial organization.

**ART 117 PEN AND INK DRAWING (15 lecture hours/60 lab hours/3 credits)**  
Prerequisite: ART 115 or instructor's permission. Explores the use of pen and ink through both black and white and color application in Fine Art and Commercial Art areas.

**ART 118 LETTERING (10 lecture hours/40 lab hours/2 credits)**  
Teaches many lettering styles along with use of several medias. Explores both personal use and commercial lettering.

**ART 211 ACRYLIC PAINTING I (15 lecture hours/60 lab hours/3 credits)**  
Prerequisite: ART 115 or instructor's permission. Provides an introduction to this water-based media through the painting of landscapes, still life, and old buildings. Includes some drawing, design, and composition techniques will be included to provide the fundamental skills in painting with acrylics.

**ART 212 ACRYLIC PAINTING II (15 lecture hours/60 lab hours/3 credits)**  
Prerequisite: ART 211 or instructor's permission. A continuation of ART 211.

**ART 221 WATERCOLOR PAINTING I (15 lecture hours/60 lab hours/3 credits)**  
Prerequisite: ART 115 or instructor's permission. Provides a study of basic principles and techniques of watercolor painting as applicable to still life and landscape painting.

**ART 222 WATERCOLOR PAINTING II (15 lecture hours/60 lab hours/3 credits)**  
Prerequisite: ART 221 or instructor's permission. A continuation of ART 221.

**ART 231 OIL PAINTING I (15 lecture hours/60 lab hours/3 credits)**  
Prerequisite: ART 115 or instructor's permission. A comprehensive study of materials and concepts designed to improve painting skills. The course covers painting supports, paints and mediums, color and color mixing, composition, and methods of painting. The student may choose subject matter and style in accordance with personal preference. The course includes specific treatment for still life, landscape, water, mountain, tree, rock, building, seascape, cloud, portrait, and western paintings. Presents the fundamental concepts of realistic, surrealistic, and abstract forms of art.

**ART 232 OIL PAINTING II (15 lecture hours/60 lab hours/3 credits)**  
Prerequisite: ART 231 or instructor's permission. A continuation of ART 231.

## ASTRONOMY

### **AST 101 ASTRONOMY I (45 lecture hours/30 lab hours/4 credits)#/\***

Studies the history of astronomy, the tools of the astronomer and the contents of the solar system: the planets, moons, asteroids, comets, and meteoroids. This course includes laboratory experience.

### **AST 102 ASTRONOMY II (45 lecture hours/30 lab hours/4 credits)#/\***

Studies the structure and life cycle of the stars, the sun, galaxies, and the universe as a whole, including cosmology and relativity. This course includes laboratory experience.

## AUTOMOBILE BODY REPAIR

### **ABR 101 INTRODUCTION TO AUTO BODY**

(15 lecture hours/45 lab hours/3 credits/V)

This class is designed for the do-it-yourself person. Instructor is on hand for safety and proper tool use. This class does not support curriculum towards certificate program.

### **ABR 102 AUTOMOTIVE COLLISION REPAIR I**

(45 lecture hours/113 lab hours/8 credits/V)

Introduces students to basic skills of autobody repair including safety practice, body construction, proper use of hand and power tools, and oxyacetylene welding and wire feed welding (MIG). Students will repair minor dents, repair rusted areas and prime assorted body panels.

### **ABR 103 AUTOMOTIVE COLLISION REPAIR II**

(45 lecture hours/113 lab hours/8 credits/V)

Prerequisite: ABR 102. Continues with removal and replacement of structural and non-structural repair panels, diagnosing damage, alignment of body, analyzing mechanical components, understanding and repair of auto plastics and miscellaneous body repairs (window adjustments, door, and trunk locks, etc.).

### **ABR 111 AUTO REFINISHING I**

(75 lecture hours/158 lab hours/12 credits/V)

Presents instruction and training in surface preparation, refinishing equipment, refinishing materials and preparation of area for spot painting, complete overall refinish preparation and application of refinish materials.

### **ABR 112 AUTO REFINISHING II**

(75 lecture hours/158 lab hours/12 credits/V)

Prerequisite: ABR 111. Advanced skills in auto refinishing using base coat/clear coat, polyureathanes and ureathanes. Application of custom paints, layout and design of custom applications, and introduction to customized body applications (aftermarket items).

V - Vocational Class

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## AUTOMOBILE TECHNOLOGY

### AUT 101 INTRODUCTION TO AUTOMOTIVE ELECTRICITY

(38 lecture hours/11 lab hours/3 credits/V)

Introduces electron theory, series circuits, parallel currents, Ohms Law, volts, ohms, amps, diodes, and transistors. Emphasis will be on understanding circuits and testing.

### AUT 102 FUEL AND EMISSION CONTROLS

(45 lecture hours/45 lab hours/5 credits/V)

Includes the principles and repair of the fuel, exhaust, and emission control systems with emphasis on computerized fuel systems, carburetor service and the use of electronic test devices. Students will learn to diagnose problems using various test equipment and make necessary adjustments.

### AUT 105 STANDARD DRIVE TRAIN

(30 lecture hours/90 lab hours/6 credits/V)

Covers the principles and repair of the standard transmission, drive line, rear axle and trans axle assemblies.

### AUT 106 AUTOMATIC TRANSMISSION

(30 lecture hours/68 lab hours/5 credits/V)

Combines the principles, construction and operation of automatic transmissions. Continued study will emphasize diagnosis and service of automatic transmissions in bench model overhaul practices.

### AUT 107 AUTOMOTIVE BRAKING SYSTEMS

(45 lecture hours/23 lab hours/4 credits/V)

Areas of instruction include principles, diagnosis, and service of drum, disc, and power brake units.

### AUT 108 STEERING, SUSPENSIONS AND ALIGNMENT

(45 lecture hours/23 lab hours/4 credits/V)

Examines the principles and repair of steering and suspension systems. Also covers balancing of tires and wheel alignment, including four wheel alignment, and using electronic equipment.

### AUT 111 ELECTRICAL AND EMISSION SYSTEMS AND TUNE-UP I

(45 lecture hours/23 hours/4 credits/V)

Prerequisite or Corequisite: AUT 102. Includes the principles, maintenance, diagnosis, and repair of the battery, the lighting system, and the accessories system. Emphasis will be on diagnosis.

### AUT 112 ELECTRICAL AND EMISSION SYSTEMS AND TUNE-UP II

(38 lecture hours/11 hours/3 credits/V)

Prerequisite: AUT 111. A continuation of AUT 111 with emphasis on ignition, emission, charging, and starting systems. Diagnosis will be emphasized. Also included will be modern tune-up procedures using electronics test equipment.

**AUT 113 COMPUTER CONTROLLED IGNITION AND FUEL SYSTEMS**

(23 lecture hours/11 lab hours/2 credit/V)

Prerequisite or Corequisite: AUT 112. Emphasizes the diagnosis of problems relating to the computerized ignition and fuel control systems.

**AUT 115 AUTOMOTIVE AIR CONDITIONING**

(23 lecture hours/11 lab hours/2 credit/V)

Covers the principles, construction, and operation of automotive air conditioner systems. Emphasis is on diagnosis, service, and charging methods of actual in-car systems.

**AUT 116 ENGINE OVERHAUL (30 lecture hours/158 lab hours/9 credits/V)**

Expands and refines the knowledge of the design and principles of engine, block, valve trains, piston/rod/ring assemblies, crankshaft/bearing assemblies, cooling, and related systems. Each student will disassemble an engine, measure for wear, diagnose problems, and prepare estimate and cost sheets. Also included will be the machining operation of the valve train, block preparation, crankshaft/rod/piston assemblies, the reassembly of the complete engine, and all necessary adjustments. Also covers tuning the engine to the manufacturer's specifications.

V - Vocational Class



## BIOLOGY

**BIO 105 SCIENCE OF BIOLOGY (45 lecture hours/30 lab hours/4 credits)#/\***  
Examines the basis of biology in the modern world and surveys the current knowledge and conceptual framework of the discipline. Biology as a science — a process of gaining new knowledge — is explored as is the impact of biological science on society. This course includes laboratory experience. Designed for non-science students.

**BIO 111 GENERAL COLLEGE BIOLOGY I (60 lecture hours/30 lab hours/5 credits)#/\***  
Examines the fundamental molecular, cellular, and genetic principles characterizing plants and animals. Includes cell structure and function, and the metabolic processes of respiration, and photosynthesis as well as cell reproduction and basic concepts of heredity. This course includes laboratory experience.

**BIO 112 GENERAL COLLEGE BIOLOGY II (60 lecture hours/30 lab hours/5 credits)#/\***  
Prerequisite: BIO 111. A continuation of BIO 111. Includes ecology, evolution, classification, structure, and function in plants and animals. This course includes laboratory experience.

**BIO 215 FUNDAMENTALS OF HUMAN GENETICS (45 lecture hours/3 credits)**  
Presents Mendel's Laws, Mendelian genetics, and genetics of humans, cancer, immunogenetics, agriculture genetics, and genes and human health. This course is for non-science majors interested in the application of genetics to everyday life. BIO 215 does not apply to the science requirement of the A.S. degree.

**BIO 216 GENETICS (45 lecture hours/3 credits)**  
Prerequisite: BIO 112 or equivalent. Studies the fundamental laws of heredity and their application to plants and animals.

**BIO 217 HUMAN PHYSIOLOGY (45 lecture hours/30 lab hours/4 credits)**  
Prerequisite: Permission of instructor. Inspects the physiology of all the major organ systems. Systems control approach to normal functions of the human body. Adaptation of the human body to stress, trauma and adjustment to internal and external environments is the primary lab activity.

**BIO 218 MICROBIOLOGY FOR HEALTH SCIENCES (45 lecture hours/30 lab hours/4 credits)**  
Prerequisite: BIO 112 or equivalent one-year college level biology and CHE 112. Emphasizes human and public health concerns. Required for nursing, dietetics, pre-veterinarian, and pre-dentistry majors.

**BIO 221 MICROBIOLOGY (45 lecture hours/45 lab hours/4 credits)**  
Prerequisite: BIO 112 or equivalent or permission of the instructor. Presents the fundamentals, theories, and applications of microbiology as applied to biomedical fields.

# - General Education Common Core for the A.A. and A.S. Degrees  
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**BIO 235 HUMAN ANATOMY (45 lecture hours/30 lab hours/4 credits)**

Prerequisite: Permission of instructor. Especially emphasizes morphology with the developmental and histological aspects of the human body. Simulation and models of the human body are used. Laboratory includes examination of mammalian organs.

**BIO 236 KINESIOLOGY (45 lecture hours/30 lab hours/4 credits)**

Prerequisites: BIO 217, BIO 235, PSY 117. Presents normal muscle function as related to physiological and mechanical principles. It also introduces the student to the functional aspects of the musculo-skeletal system. Includes practical application and an introduction to abnormal function.

## BUSINESS

**BUS 105 BUSINESS SOFTWARE (15 lecture hours/23 lab hours/2 credits/V)**

Introduces popular software applications found in business and industry today.

**BUS 111 BUSINESS ENGLISH (45 lecture hours/3 credits)**

Studies elements of the English language and emphasizes grammar rules, capitalization, word division, number usage, plurals, possessives, usage problems, and business vocabulary.

**BUS 112 REPORT WRITING AND COMMUNICATIONS**

(45 lecture hours/3 credits)

Prerequisite: BUS 111. Covers effective communication in business, forms and styles of business writing, business reports, and use of the business and technical library. Emphasis is also given to the content of business letters and reports.

**BUS 115 INTRODUCTION TO BUSINESS (45 lecture hours/3 credits)**

Surveys the major fields of business and their operations. Emphasizes ownership, organization, marketing, labor-management relations, finance, management roles, and international business.

**BUS 116 BUSINESS MATH (30 lecture hours/23 lab hours/3 credits/V)**

Prerequisite: Asset test score of 23 or better or MAT 012. Develops the mathematical concepts and applications used in business computations. Covers percentages, ratios, banking, merchandising, and credit and finance applications. Includes familiarization with the electronic calculator and the touch method.

**BUS 205 BUSINESS FINANCE (45 lecture hours/3 credits/V)**

Prerequisite: ACC 211. Surveys finance in both the private and public sectors. Emphasis is on current problems and the basic elements of the monetary system, commercial banking, the Federal Reserve, the money supply, and long- and short-term financing.

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**BUS 215 BUSINESS LAW (60 lecture hours/4 credit)**

Examines the nature and development of the U.S. legal system and its application to business. Emphasis is on contracts, commercial paper, property, sales transactions, agency, and bailments.

**BUS 216 RECORDS MANAGEMENT (30 lecture hours/23 lab hours/3 credits)**

Designed to develop practices of administrative record systems, storage and retrieval methods, paperwork management, and modern filing techniques including computerized data base management. Students gain practical experience through the use of manual and computerized filing simulations.

**BUS 217 INFORMATION PROCESSING (30 lecture hours/23 lab hours/3 credits)**

Surveys information processing systems and computer technology. Covers the following topics: description of how computers operate, business uses, business systems, system design and analysis, and an introduction to software applications.

V - Vocational Class

## CARPENTRY

**CAR 102 INTRODUCTION TO CARPENTRY (7 lecture hours/13 lab hours/1 credit/V)**

Includes units in basic measurement, hardware, and fasteners; use and care of hand tools, and lumber, and sketching.

**CAR 103 HAND TOOLS PROJECTS (7 lecture hours/13 lab hours/1 credit/V)**

Includes the planning and building of a simple project using as many hand tools as possible.

**CAR 111 POWER MACHINES (7 lecture hours/13 lab hours/1 credit/V)**

Demonstrates and practices safe use of all woodworking machines in the shop. Students will be required to pass safety test. The class ends with the construction of double pole scaffolds with the use of the machines.

V - Vocational Class



## CHEMISTRY

### CHE 101 INTRODUCTION TO CHEMISTRY I

(60 lecture hours/30 lab hours/5 credits)#/\*

Prerequisite: Algebra or consent of instructor. For non-science majors, students in occupational and health programs, or students with no chemistry background. Includes measurements, atomic theory, chemical bondings, gas laws, condensed states, and organic chemistry. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively.

### CHE 102 INTRODUCTION TO CHEMISTRY II

(60 lecture hours/30 lab hours/5 credits)#/\*

Includes hybridization of atomic or orbitals for carbon; nomenclature of organic compounds; preparations and reactions of hydrocarbons, alcohols, halides, amines, aldehydes, ketones, carboxylic acids, and their derivatives; and introduction to biological chemistry. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively.

### CHE 111 GENERAL COLLEGE CHEMISTRY I

(60 lecture hours/45 lab hours/5 credits)#/\*

Prerequisite: One year of high school chemistry or equivalent. Corequisite: MAT 121 algebra or consent of the instructor. For science and engineering majors. Includes the study of measurements, atomic theory, chemical bonding, stoichiometry, gases, condensed states, solutions, and thermodynamics. Also includes the problem solving skills and descriptive contents for these topics. Laboratory techniques used in the experiments will demonstrate the above concepts as well as the qualitative and quantitative analytical techniques involved in chemistry.

### CHE 112 GENERAL COLLEGE CHEMISTRY II

(60 lecture hours/45 lab hours/5 credits)#/\*

Prerequisite: CHE 111. Includes chemical kinetics, chemical equilibrium, acid-base equilibrium, ionic equilibrium, electrochemistry, nuclear chemistry, and organic chemistry. Also includes the problem solving skills and descriptive contents for these topics. Organic chemistry may be included if time permits. The laboratory experiments will demonstrate both the qualitative and quantitative analytical techniques.

### CHE 211 INTRODUCTION TO ORGANIC CHEMISTRY

(45 lecture hours/30 lab hours/4 credits)

Prerequisite: CHE 112. Presents the principles of organic chemistry and its application to living organisms including topics that apply to the human body.

### CHE 221 INTRODUCTION TO BIOCHEMISTRY

(45 lecture hours/30 lab hours/4 credits)

Prerequisite: CHE 112. Presents the principles of biochemistry and its application to living organisms including topics that apply to the human body. Includes laboratory examination of principles of biochemistry will be included.

# - General Education Common Core for the A.A. and A.S. Degrees

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## COMMUNICATIONS

**COM 105 CAREER COMMUNICATIONS (45 lecture hours/3 credits)\***  
 Develops such skills needed in obtaining and keeping a job such as job searching, applications, resumes, interviews, and the dynamics of customer, peer, and managerial relationships. Emphasizes speaking, writing, listening, critical reading skills, and vocabulary development essential to the employment world. Acceptable only for the AGS and AAS degrees and occupational certificates.

## COMPUTER SCIENCE

**CSC 101 COMPUTER LITERACY (20 lecture hours/20 lab hours/2 credits)\***  
 Introduces the various uses and applications of microcomputers including command instructions to carry out basic operations. Applications include the use of PRINT statements, arithmetic operations, and graphic operations. CSC 101 does not apply to the Introduction to Computers requirement for any degree.

**CSC 102 INTRODUCTION TO WORDSTAR (20 lecture hours/20 lab hours/2 credits)**  
 Provides hands-on training to familiarize each student with the word processing program called WordStar. The class is acceptable for the A.G.S. degree only.

**CSC 103 APPLEWORKS (20 lecture hours/20 lab hours/2 credits)**  
 Provides hands-on training in the use of the Data Base, Word Processing, Spreadsheet, and Cut and Paste functions of Appleworks software. The class is acceptable for the A.G.S. degree only.

**CSC 104 INTRODUCTION TO LOTUS 1-2-3 (20 lecture hours/20 lab hours/2 credits)**  
 Gives hands-on training in the use of the Spreadsheet, Data Base, and Graph functions of Lotus 1-2-3. Students should have a basic knowledge of computers as well as some knowledge of spreadsheet functions and database functions. The class is acceptable for the A.G.S. degree only.

**CSC 105 BASIC COMPUTER OPERATION (10 lecture hours/10 lab hours/1 credit)**  
 Introduces students to computers, computer operations, computer theory, and computer software. Students will utilize computers for their own purposes. The class is acceptable for the A.G.S. degree only.

**CSC 111 INTRODUCTION TO COMPUTERS (30 lecture hours/30 lab hours/3 credits)\***  
 Introduces the operation, history, and social impact of computers. Various types of programs such as word processing, graphics, filing, and computer games will be explored. Selected keywords from BASIC programming will be introduced.

\* - General Education Course

# - General Education Common Core for the A.A. and A.S. Degrees

**CSC 112 ELECTRONIC WORKSHEETS****(20 lecture hours/20 lab hours/2 credits)**

Prerequisite: CSC 111 or BUS 217. Explores in-depth the use of the electronic worksheet. Instructs students to design templates, use built-in functions and work with multiple buffers.

**CSC 113 COMPUTER GRAPHICS (20 lecture hours/20 lab hours/2 credits)**

Prerequisite: CSC 111. Presents a variety of methods of generating computer graphics displays, including low and high resolution graphics and shape tables.

**CSC 116 BASIC FOR BUSINESS (45 lecture hours/3 credits)**

Surveys the elements of the BASIC language and the applications of their use to business. Topics also include program structure, flow charting and debugging.

**CSC 117 BASIC COMPUTER LANGUAGE (45 lecture hours/3 credits)\***

Gives elements of the BASIC language and applications to math and science. Structured programming will be emphasized along with flow charting and correcting program errors.

**CSC 118 ADVANCED BASIC COMPUTER LANGUAGE****(30 lecture hours/2 credits)**

Introduces the student to the more advanced features of today's extended BASICs. Topics include numerical methods, string manipulations, and use of sequential and random files.

**CSC 125 FORTRAN****(45 lecture hours/3 credits)**

Includes the keywords and syntax of the FORTRAN language and applications to math and science. Emphasizes structured programming including flow charting and debugging. Includes basic techniques in numerical methods, string manipulations, and random and sequential files.

**CSC 126 PASCAL****(45 lecture hours/3 credits)**

Provides the style of the PASCAL language and applications of the special structure of this computer language. Stresses numerical methods, string handling, and file manipulation as well as flow charting and correcting errors.

**CSC 127 COBOL****(45 lecture hours/3 credits)**

Includes coding and execution of COBOL programs. A minimum of nine programs will be coded, documented, and executed using structured programming techniques. These programs will cover input and output operations, arithmetic verbs, report headings, report editing, control breaks, final total processing, use of nested IF's, and simple table handling procedures.

**CSC 131 COMPUTER AIDED DRAFTING I****(30 lecture hours/30 lab hours/3 credits)**

Provides an introduction into the use of the personal computer as a tool for graphic communication. During the lecture time instruction will be given on hardware, software, and AUTO-CAD command sequence requirements. Additional lab work will be required to complete the assignments.

\* - General Education Course

**CSC 205 INTRODUCTION TO DATA BASE MANAGEMENT****(30 lecture hours/2 credits)**

Prerequisite: CSC 111 or BUS 217. Surveys the concepts, design and uses of non-relational data base management systems.

**CSC 206 DATA STRUCTURES****(45 lecture hours/3 credits)**

Introduces data organization and manipulation. Covers such topics as queues, stacks, lists, trees, records and files and includes various sorting and file handling techniques.

**CSC 207 OPERATING SYSTEMS****(45 lecture hours/3 credits)**

Emphasizes the organization and design of several different operating systems ranging from a single user system for micro-processors to a complex multi-user system on a multi-purpose computer system.

**CSC 208 SYSTEMS ANALYSIS****(45 lecture hours/3 credits)**

Surveys materials, techniques, and procedures to develop a computerized business system. Course requires the student to design an actual system. Topics include the systems approach, fact gathering techniques, forms design, input/output, file design, file organization, various charting techniques, system processing and controls, system presentation techniques, system audits and controls, project management, implementation and evaluation.

**CSC 215 DATA BASE MANAGEMENT SYSTEMS****(30 lecture hours/2 credits)**

Prerequisite: CSC 116/117 or CSC 126 or CSC 127. Presents concepts of data base management along with practical applications using an advanced data base management tool.

**DRAFTING****DRT 105 DRAFTING FUNDAMENTALS****(45 lab hours/2 credits)**

Introduces students to drafting. Presents students techniques in the correct use of drafting tools and methods of lettering as well as the alphabet of lines and dimensioning. Emphasis is on Orthographic Drawing, Pictorial Drawing, and Sketching.

**DRT 106 BLUEPRINT READING****(45 lab hours/2 credits)**

Presents information on types of plans, symbols, abbreviations, materials, and standards relating to prints and specifications used in residential and light commercial construction.

## ECONOMICS

### ECO 201 PRINCIPLES OF MACROECONOMICS

(45 lecture hours/3 credits)#/\*

Studies the American economy, stressing the interrelationships among the household, business, and government sectors. Explores saving and investment decisions, unemployment, inflation, national income accounting, taxing and spending policies, the limits of the market and government, public choice theory, the Federal Reserve System, money and banking, and international trade.

### ECO 202 PRINCIPLES OF MICROECONOMICS

(45 lecture hours/3 credits)#/\*

Studies the firm in-depth, the nature of cost, and how those relate to the economy as a whole. Analyzes economic models of the consumer, perfect competition, monopoly, oligopoly, and monopolistic competition. Explores economic issues including market power, population growth, positive and negative externalities, income distribution, poverty and welfare, discrimination, and international economic interdependence.

## EDUCATION

### EDU 115 EARLY FIELD EXPERIENCE IN EDUCATION

(Variable/38 to 75 field hours/1-2 credits)

Provides classroom experience as teacher aides and coaching assistants to students anticipating careers in the teaching profession.

## ELECTRONICS

### ELE 141 D C CIRCUITS

(120 lecture hours/90 lab hours/12 credits/V)

Prerequisite: one year of high school algebra or instructor permission. This class covers atomic theory to understand electricity. Uses direct current circuits and Ohm's Law, Watt's Law, and Series and Parallel Formulae to analyze these simple to compound circuits. Safety and knowledge are assured through written and performance tests. Labs involve construction, measurement, and experimentation with circuits covered.

### ELE 142 A C CIRCUITS

(75 lecture hours/68 lab hours/8 credits/V)

Prerequisite: ELE 141 or proficiency test out. The alternating current circuits will cover the resistor, capacitor, and coil as alternating current is applied. The resulting effects are studied and analyzed. Teaches use of the oscilloscope so that alternating current can be observed. Assures safety and knowledge through written and performance tests. Labs involve construction, measurement, and experimentation with circuits covered.

\* - General Education Course

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**ELE 151 SOLID STATE DEVICES (60 lecture hours/45 lab hours/6 credits/V)**

Prerequisite: ELE 142 or proficiency test out. Covered in this course, which begins the study of electronics, are the basic semiconductor devices such as the transistor, diode, field effect transistors, silicon-controlled rectifiers and other popular semiconductor devices. Assures safety and knowledge through written and performance tests. Labs involve construction, measurement, and experimentation with these devices.

**ELE 251 ANALOG CIRCUITS (60 lecture hours/45 lab hours/6 credits/V)**

Prerequisite: ELE 151 or proficiency test out. Covers commonly used electronics circuits which consist of transistors, other semiconductor devices and passive devices such as resistor, coils, and capacitors. These electronic devices include all types of amplifiers, filters, power supplies, oscillators and operational amplifiers. The combining of basic circuits to build more complicated electronic devices begins in this course. Written and performance tests assure safety and knowledge. Labs involve construction, measurement, and experimentation with circuits covered.

**ELE 252 DIGITAL CIRCUITS (60 lecture hours/45 lab hours/6 credits/V)**

Prerequisite: ELE 251 or proficiency test out. Covers digital fundamentals, semiconductor devices for digital circuits, basic logic circuits, digital integrated circuits, flip-flops, registers, clocks, combinational logic circuits, sequential logic circuits, counters, and shift registers. Written and performance tests assure safety and knowledge. Labs involve construction, measurement, and experimentation with circuits covered.

**ELE 253 MICROPROCESSORS (75 lecture hours/68 lab hours/8 credits/V)**

Prerequisite: ELE 252 or proficiency test out. Covers number systems and codes, microcomputer basics, and an introduction to programming. Also covers the 6800 microprocessor, its hardware and the interfacing of computer elements. Written and performance tests assure safety and knowledge. Labs involve construction, measurement, and experimentation with circuits covered.

V - Vocational Class

## **EMERGENCY MEDICAL TECHNOLOGY**

**EMT 105 EMERGENCY MEDICAL TECHNOLOGY BASIC**

**(90 lecture hours/30 lab hours/7 credits/V)**

Prerequisite: current CPR card. Designed to prepare the student for certification in the state of Colorado as an Emergency Medical Technician- Basic. Class content follows guidelines established by the United States Department of Transportation. Topics include an introduction to the program, patient assessment, breathing aids, bleeding, shock, soft tissue and extremity injuries, traction, skull, spine and chest injuries, emergency room orientation, fractures and splints, poison, drugs, burns, obstetrics, pediatrics, psychiatric care, crisis intervention, disaster assistance, extrication, transportation, and emergency driving. Ten hours of practical experience are also required.



**EMT 106 EMERGENCY MEDICAL TECHNOLOGY REFRESHER****(30 lecture hours/2 credits/V)**

Refresher course for renewal of the EMT Basic. Reviews knowledge and skills of emergency procedures, current roles and legal responsibilities of the EMT, and tools for application of care are stressed.

**EMT 107 EMERGENCY MEDICAL TECHNOLOGY INTERMEDIATE****(150 lecture hours/60 lab hours/12 credits/V)**

Prerequisite: EMT B certificate one year prior. Designed to prepare the student for certification in the state of Colorado as an Emergency Medical Technician-Intermediate. Class content follows the guidelines established by the United States Department of Transportation. Topics include: EMT-I roles and responsibilities, human systems with patient assessment, shock, fluid, therapy/mast, cardiology with defibrillation, pharmacology with drug therapy, advanced respiratory and trauma assessment and management. Also covers medical emergencies dealing with childbirth, pediatric and environment. Requires 52 hours of practical experience.

V - Vocational Class

**ENGLISH****ENG 105 FUNDAMENTALS OF COMPOSITION (45 lecture hours/3 credits)\***

Includes organization of thought, levels of usage, spelling, punctuation, and grammar in relation to writing sentence structures and essays.

**ENG 106 COLLEGE STUDY SKILLS****(30 lecture hours/2 credits)\***

Recommended for students who are in their first semester and for those who would like to learn or enhance the skills of concentration and memory, note-taking, library usage, and writing. Students assess their individual learning styles and writing skills. Class activities combine individualized instruction and group exercises.

**ENG 121 ENGLISH COMPOSITION I****(45 lecture hours/3 credits)#/\***

Emphasizes the planning, writing, and revising of compositions, including the development of critical and logical thinking skills. Includes a minimum of five (5) compositions, which may include expressive, informative, analytical, evaluative, and persuasive writing.

**ENG 122 ENGLISH COMPOSITION II****(45 lecture hours/3 credits)#/\***

Prerequisite: ENG 121. Expands and refines the objectives of English Composition I. Emphasizes critical and logical thinking, problem definition, research strategies, and writing analytical, evaluative, and/or persuasive papers that incorporate research.

\* - General Education Course

# - General Education Common Core for the A.A. and A.S. Degrees

**ENG 215 POETRY WRITING** (45 lecture hours/3 credits)  
Prerequisite: LIT 118 or permission of instructor. Presents the basic forms of poetry; by discussion and experimentation of these forms and techniques, students write and evaluate original verse.

**ENG 216 FICTION WRITING** (60 lecture hours/4 credits)  
An introduction to basic principles and practices of writing creative short stories.

## **FARM AND RANCH MANAGEMENT**

**FRM 101 FARM AND RANCH MANAGEMENT I**  
(45 lecture hours/45 private instruction hours/270 co-op hours/15 credits/V)  
This course is designed for self-employed farmers and ranchers or managers of farms or ranches. Emphasizes organization of records on a computer system. The computer and software are provided if not owned by the farm or ranch. Classroom lectures and lab are offered in the evenings during the winter months. An instructor is assigned to each enrolled Farm or Ranch and is scheduled for one-half (1/2) day every month for private instruction. Enrollment covers a one year business fiscal period, normally January-December. Records are kept monthly, providing the farm or ranch with continuous reports showing the financial position of the business.

**FRM 102 FARM AND RANCH MANAGEMENT II**  
(45 lecture hours/45 private instruction hours/270 co-op hours/15 credits/V)  
Continues to apply principles learned in year one. Computer records from the previous years will be analyzed. General interpretation of the farm or ranch business analysis will point to strengths and weaknesses of the agricultural business. The computer program will make a variety of reports available.

**FRM 103 FARM AND RANCH MANAGEMENT III**  
(45 lecture hours/45 private instruction hours/270 co-op hours/15 credits/V)  
Instruction continues with analysis of record systems, accounting systems and practices, enterprise analysis, and a total review of the farm or ranch as a business enterprise. Emphasizes reorganizing the agri-business to meet both business and family living goals.

**FRM 105 AGRICULTURE FINANCIAL PLANNING/PRIVATE INSTRUCTION**  
(Variable 8 to 48 private instruction hours/1-7 credits/V)  
This course trains farmer/rancher/ or agri-business in developing a financial plan for reorganization, restructuring, refinancing, or bankruptcy on an individual basis.

**FRM 111 ADVANCED FARM AND RANCH MANAGEMENT I**  
(15 private instruction hours/2 credits/V)  
This course provides the student with continued analysis of the farm business following the Farm and Ranch Management Certificate. It allows for those with computerized record keeping systems but in need of further detailed enterprise and whole farm analysis.

**FRM 121 SPECIALIZED FARM AND RANCH MANAGEMENT I****(45 lecture hours/45 private instruction hours/270 co-op hours/15 credits/V)**

Designed for students who want to continue in Farm/Ranch Management with the option to specialize in a given production area or to utilize previous information to improve management with other software packages.

**FRM 122 SPECIALIZED FARM AND RANCH MANAGEMENT II****(45 lecture hours/45 private instruction hours/270 co-op hours/15 credits/V)**

Structured for students who need more assistance in developing and utilizing the skills in Specialized Farm I. Production cycles in Agriculture are normally one year, so it is best to fine tune the software used or developed in previous years to study the trend. Emphasizes marketing alternatives as well as alternative enterprises.

**FRM 131 DAIRY PRODUCTION RECORDS MANAGEMENT I****(96 private instruction hours/90 co-op hours/15 credits/V)**

Teaches dairymen about available software programs designed for dairy production recordkeeping. Instructs dairymen to use the software programs using their own records and at the same time learn how to run a computer. Computer software packages used in the class are Dairy Trak and Dairy Flex.

V - Vocational Class

**GEOGRAPHY****GEO 105 GEOGRAPHY****(45 lecture hours/3 credits)#/\***

An introductory course designed to facilitate an understanding of spatial relationships between and among the geographic regions of the world. Includes demographic and cultural (political, economic, and historic) forces related to the physical environments of selected regions. Methods of study include analysis of and interrelationships between developed and developing regions.

**GEOLOGY****GEY 111 PHYSICAL GEOLOGY****(45 lecture hours/30 lab hours/4 credits)#/\***

Studies the materials of the earth, its structure, surface features, and the geologic processes involved in its development. Includes laboratory experience.

**GEY 121 HISTORICAL GEOLOGY****(60 lecture hours/4 credits)#/\***

Prerequisite: GEY 111 or consent of instructor. Studies the physical and biological development of the earth through the vast span of geological time. Emphasizes the investigation and interpretation of sedimentary rocks, the record of ancient environments, fossil life forms, and physical events, all within the framework of shifting crustal plates.

# - General Education Common Core for the A.A. and A.S. Degrees

\* - General Education Course

## HEALTH

### HEA 105 CARDIO PULMONARY RESUSCITATION

**(15 lecture hours/1 credit)**

Introduces CPR, an emergency lifesaving technique. Teaches basic skills in one man and two man rescue; infant, child CPR; and choking procedures. Explains the structure and function of the heart, its mechanics, and some of the ways it can malfunction. A review of the risk factors thought to lead to heart disease completes the class. Participant will earn an ARC Basic Life Support Card.

### HEA 107 FIRST AID

**(30 lecture hours/2 credits)**

Covers standard emergency first aid care, safety precautions and rescue techniques. Topics include artificial respiration, burns, shock, hemorrhage, frostbite and heat stroke/hypothermia, sprains, fractures, poisoning, and sudden illness such as epilepsy, diabetes, and stroke. Emphasizes practical application of skills. Includes ARC Standard First Aid and Adult CPR. Additional time is spent on child safety, prevention of accidents and wellness concepts.

### HEA 115 FIRST RESPONDER

**(30 lecture hours/30 lab hours/3 credits/V)**

Introduces emergency care for first responders. Covers such subjects as immediate rescue techniques and urgent care steps. Places particular emphasis on problem solving and practical application of skills in hemorrhage, shock, hypothermia, excessive heat, sprains, dislocations, fractures, and burns. CPR care of sudden illness such as stroke, epilepsy, diabetic coma, and poisoning/drug abuse. Class content follows guidelines established by the United States Department of Transportation. Includes AHA Basic Life Support Card.

### HEA 117 ANATOMY TERMINOLOGY

**(15 lecture hours/1 credit/V)**

Basic structure and function of human body systems are developed into verbal and written vocabulary terms used in anatomy and physiology. Includes the correct spelling, pronunciation, and translating into non-medical terms. Audio-visual aids and discussion enhance learning. Provides a useful study program in combination with Human Anatomy.

### HEA 118 MEDICAL TERMINOLOGY

**(15 lecture hours/1 credit/V)**

Builds skills in verbal and written communication of medical terms. This basic study of medical words includes defining, spelling, pronouncing, and analyzing the component parts. Develops practical use of words with translation into non-medical terms.

### HEA 119 INTRODUCTION TO HEALTH CARE EMPLOYMENT

**(30 lecture hours/2 credits/V)**

Ethics, professionalism, communication and human relations are discussed as related to the health care field. Special emphasis is placed on job application, resume, and interview.

**HEA 126 STANDARD FIRST AID (15 lecture hours/1 credit/V)**

Coordinated instructional system consisting of demonstration videos, instructor-led practice sessions and a workbook. Includes such topics as: rescue breathing, obstructed airway, wounds, shock, poisoning, burns, fractures, splinting and bandaging techniques. ARC, SFA, and adult CPR certification is included.

**HEA 129 HEALTH CARE SKILLS I (45 lecture hours/3 credits/V)**

Introduces basic health skills which includes vital signs, medical and surgical asepsis, body mechanics, moving and positioning, oral hygiene, and nutrition delivery to patients.

**HEA 135 INFANT AND CHILD CARE (30 lecture hours/30 lab hours/3 credits/V)**

Presents the theory and related practice of basic skills necessary to give safe child care. Emphasizes safety, personal care, and recognizing and preventing childhood illnesses.

V - Vocational Class

## HISTORY

**HIS 101 WESTERN CIVILIZATION I (45 lecture hours/3 credits)#/\***

Explores the major political, economic, social, diplomatic/military, cultural, and intellectual events, and the roles of key personalities that shaped Western civilization from the prehistoric era to 1715.

**HIS 102 WESTERN CIVILIZATION II (45 lecture hours/3 credits)#/\***

Explores the major political, economic, social, diplomatic/military, cultural, and intellectual events, and the roles of key personalities that shaped Western civilization from 1650 to the present day.

**HIS 115 COLORADO HISTORY (45 lecture hours/3 credits)\***

The study of Colorado's past creates an exciting local adventure and a fascinating historical introduction to the panorama of the Rocky Mountain West. The course deals with the patterns of living from the time of the pre-historic Indian dwellers to the present.

**HIS 201 U.S. HISTORY I (45 lecture hours/3 credits)#/\***

Examines the major political, economic, social, diplomatic/military, cultural, and intellectual events in American History from the first inhabitants through the Civil War/Reconstruction.

**HIS 202 U.S. HISTORY II (45 lecture hours/3 credits)#/\***

Examines the major political, economic, social, diplomatic/military, cultural, and intellectual events in American History from reconstruction to the present.

\* - General Education Course

# - General Education Common Core for the A.A. and A.S. Degrees

## HOME ECONOMICS

### **HEC 115 HUMAN NUTRITION (45 lecture hours/3 credits)**

Studies nutrition principles as they relate to contemporary nutrition issues.

### **HEC 117 CHILDREN'S CLOTHING (10 lecture hours/10 lab hours/1 credit/V)**

Emphasizes the selecting, purchasing, care, and organization of children's clothing and footwear. Teaches basic sewing and clothing repairs.

### **HEC 118 CHILD NUTRITION AND FOOD PREPARATION**

**(25 lecture hours/10 lab hours/2 credits/V)**

Emphasizes basic nutrition, food selection and preparation, food habits, and common nutritional problems as they relate to children.

V - Vocational Class

## HOME HEALTH AIDE

### **HHA 105 HOME MANAGEMENT (15 lecture hours/1 credit/V)**

Covers responsibilities as a homemaker such as personal hygiene and appearance, body mechanics, time and money management, home maintenance and care, nutrition and meal planning, and community resources and agencies.

### **HHA 106 ILLNESS AND THE CARE PROVIDER (15 lecture hours/1 credit/V)**

Develops the knowledge and skills for the health care worker that are necessary for understanding illness and recognizing symptoms of disease. Class objectives are to provide care for the terminally ill, to understand the stages of grief and dying, and to assist in rehabilitation. Communication skills, medical ethics, and acceptable reporting techniques will be discussed. Includes providing skills adaptation for the home and assistance with self-administered oral medications.

### **HHA 111 PERSONAL CARE SKILLS (45 lecture hours/3 credits/V)**

Presents the theory and related practice of basic nursing procedures that are necessary to give safe nursing care. Emphasizes the scientific principles underlying these skills and on treating the patient/client as an individual.

### **HHA 112 HEALTH CARE LAB I (45 clinical lab hours/1 credit/V)**

Corequisite: HHA 111. A program designed to prepare the individual to perform basic tasks under the direction of a supervisor in health care agencies.

### **HHA 113 HEALTH CARE LAB II**

**(45-135 clinical lab hours/1-3 Variable credits/V)**

Prerequisite: HHA 111 & 112. A continuation of health care skills with emphasis on nursing tasks.

V - Vocational Class

## HUMANITIES

**HUM 121 SURVEY OF HUMANITIES I** (45 lecture hours/3 credits)#/\*  
Introduces students to the history of ideas in Western cultures through a study of the visual arts, literature, drama, music, and philosophy of early civilizations, Greek and Roman antiquity, and Christian eras. Emphasizes connections among the arts, values, and diverse cultures.

**HUM 122 SURVEY OF HUMANITIES II** (45 lecture hours/3 credits)#/\*  
Examines the Medieval, Renaissance, and Baroque periods through a study of the visual arts, literature, music, and philosophy. Compares and contrasts diverse cultural ideas and feminine and masculine viewpoints.

**HUM 123 SURVEY OF HUMANITIES III** (45 lecture hours/3 credits)#/\*  
Examines the cultures of the 17th through the 20th centuries by focusing on the interrelatedness of the arts, ideas, and history. Considers the influences of industrialism, scientific development, and non-European peoples.

## INDUSTRIAL TECHNOLOGY

**INT 105 BASIC ELECTRICAL SKILLS**  
(30 lecture hours/23 lab hours/3 credits/V)  
Presents the basic principles pertaining to the science and art of electrical wiring including terms, devices, methods, and materials used in electrical installations.

**INT 106 CONSTRUCTION SKILLS**  
(30 lecture hours/23 lab hours/3 credits/V)  
Introduces students to the tools, components, and materials used in construction.

**INT 107 HAZARDOUS MATERIALS**  
(30 lecture hours/23 lab hours/3 credits/V)  
Covers the identification, handling, storage, and disposal of the hazardous materials commonly used in industry.

**INT 206 TRANSMISSION OF POWER**  
(30 lecture hours/23 lab hours/3 credits/V)  
The study of power transmission includes the five basic machines and how they are combined in gears, V-belts, chains, and pistons with the emphasis on bearings.

**INT 208 HEATING/VENTILATION/AIR-CONDITIONING**  
(40 lecture hours/30 lab hours/4 credits/V)  
Introduction to heating, ventilation, and air-conditioning acquaints the student with the mechanical cycles, components, and controls used in HVAC systems.

**INT 209 ADVANCED ELECTRICAL SKILLS**  
(30 lecture hours/23 lab hours/3 credits/V)  
Covers basic principles, system function approach, and trouble-shooting procedures. Includes trouble-shooting sessions.

# - General Education Common Core for the A.A. and A.S. Degrees

\* - General Education Course

**INT 215 HYDRAULICS AND PNEUMATICS****(40 lecture hours/30 lab hours/4 credits/V)**

The Fluid Power class will be the study of Hydraulics and Pneumatics components, controls and piping. The components, and systems will be broken down to learn the method of operation. The class will finish with a review of the systems and how to locate problems which need repair.

**INT 245 MACHINERY INSTALLATION****(40 lecture hours/30 lab hours/4 credits/V)**

Covers techniques for rigging, mounting, alignment, and figuring the balance of speed to power ratios required for machinery installation. It also includes basic pipefitting and sheet metal skills common to the industrial work place.

**JOURNALISM****JOU 111 NEWSWRITING I****(45 lecture hours/3 credits)**

Introduces techniques of gathering news, analyzing its importance, and producing well-written stories. Directs assignments toward school publication.

**JOU 112 NEWSWRITING II****(45 lecture hours/3 credits)**

Improves newsgathering and reporting skills: writing specialized stories, longer news stories, and features for campus publication.

**JOU 115 INTRODUCTION TO PHOTOGRAPHY****(30 lecture hours/30 lab hours/3 credits)**

Provides basic working knowledge of camera operation and introduces black and white developing and printing.

**JOU 211 PUBLICATION PRODUCTION I****(60 lab hours/2 credits)**

Provides practical experience in at least two of the following areas: newswriting, advertising, radio, photography, or design.

**JOU 212 PUBLICATION PRODUCTION II****(60 lab hours/2 credits)**

Gives practical experience in at least two of the following areas: newswriting, advertising, radio, photography, or design.

**L - P GAS OPERATIONS****LPG 105 L-P BASICS****(50 lecture hours/20 shop hours/4 credits/V)**

Introduces the history of the L-P gas industry, various types of L-P operation, applications of L-P gas, and physical properties of L-P gas.

**LPG 111 L-P GAUGES & DEVICES****(50 lecture hours/20 shop hours/4 credits/V)**

Covers L-P gas container valves; level, temperature, and pressure gauges; relief devices and valves; back check and excess flow valves; and emergency valves. Develops the principles of operation and techniques of repair and installation.

\* - General Education Course



**LPG 112 VEHICLE CARE (23 lecture hours/15 shop hours/2 credits/V)**

Provides general and special maintenance of bob-tail and cylinder delivery trucks, driver skills, safety procedures, and emergency situations. DOT rules are covered and vehicle inspection and problem situations are practiced. Defensive Driving techniques conclude this course.

**LPG 113 L-P CONTAINERS & INSTALLATION (40 lecture hours/80 shop hours/6 credits/V)**

Emphasizes characteristics of L-P gas containers and methods of installation. Covers capacities, openings, attachments, labeling/placarding, and testing of DOT cylinder/cargo tanks/rail cars and ASME tanks in both theory and practical application. Also covers load calculation, container sizing, vapor/liquid applications, container selection and preparation, and site installation in theory and in practice.

**LPG 114 REGULATORS & PIPE INSTALLATION (40 lecture hours/80 shop hours/6 credits/V)**

Introduces the fundamentals of regulators, regulator types, customer storage systems, regulator sizing and installation, pipe and tube types, pipe/tube fitting installation, and methods of leak testing.

**LPG 121 L-P TRANSFER & DELIVERY (45 lecture hours/90 shop hours/7 credits/V)**

Prerequisite: LPG 114. Covers the principles and techniques of L-P gas transfer and delivery. Filling methods, evacuation methods, stationary systems, mobile systems, liquid transfer methods, liquid pumps and operations, discharge equipment, liquid measurement and meters, compressor systems, inventory control, emergency procedures and delivery planning are developed in theory and practical operation.

**LPG 122 SAFETY & EMERGENCY PROCEDURES (15 lecture hours/45 shop hours/3 credits/V)**

Prerequisite: LPG 114. Emphasizes the safety precaution/procedures and emergency procedures in cylinder filling stations, bulk plants, and bob-tail truck and cylinder truck. These principles are developed by practical situation problem-solving.

**LPG 123 BASIC APPLIANCES (40 lecture hours/145 shop hours/9 credits/V)**

Covers the installation and repair of residential and commercial customers' L-P gas appliances. Appliance regulators, orifices, pilot and main burners, bimetal, rod and tube assemblies, diastats, heat exchangers, and venting systems are developed in theory and practical application.

V - Vocational Class

## LAW ENFORCEMENT

**LAE 105 HUMAN RELATIONS** (20 lecture hours/1 credit/V)  
Includes the elements of community relations and police relations as they apply to police officer conduct, the concepts of crime prevention, the techniques of stress management, and the knowledge of conflict management.

**LAE 106 REPORT WRITING** (30 lecture hours/2 credits/V)  
Covers the preparation of various reports in a clear and concise style.

**LAE 107 ARREST TACTICS** (36 lab hours/1 credit/V)  
Introduces the techniques required to arrest, control, or subdue criminal suspects which includes baton training.

**LAE 108 DRIVING** (24 lab hours/1 credit/V)  
Applies the techniques of defensive and pursuit driving and must be completed at the CLETA driving range.

**LAE 115 FIRE ARMS** (5 lecture hours/30 lab hours/1 credit/V)  
Introduces the safety and servicing of firearms. Requires firing range practice with a handgun, a rifle, and a shotgun.

**LAE 116 ADMINISTRATION OF JUSTICE** (21 lecture hours/1 credit/V)  
Surveys the three components of the criminal justice system and their operations, the criminal process from arrest to final disposition, the functions and jurisdiction of various state and federal law enforcement agencies, the NCIC/CCCI systems, the role of attorneys, state and federal court jurisdiction, and the canons of police ethics.

**LAE 117 BASIC LAW** (90 lecture hours/6 credits/V)  
Analyzes Colorado criminal and juvenile codes and their provisions, constitutional rights, laws of arrest, search and seizure, rules of evidence, laws of interrogation and confessions, laws pertaining to the use of force, civil liability, laws pertaining to the liquor code, legal research, court testimony and moot court.

**LAE 118 TRAFFIC CONTROL** (28 lecture hours/13 lab hours/2 credits/V)  
Introduces statutory provisions of the traffic code, stopping and checking of violators, issuance of citations, D.U.I. procedures, intoxilizer testing, and investigation and reporting of traffic accidents.

**LAE 125 PATROL PROCEDURES** (30 lecture hours/25 lab hours/3 credits/V)  
Includes observations and patrol techniques, vehicle stops, family disputes, non-family disputes, in-progress calls, pedestrian approaches, building and vehicle searches, crowd control, handling emergency situations, and officer survival techniques.

**LAE 126 INVESTIGATIONS** (45 lecture hours/24 lab hours/4 credits/V)  
Presents crime scene methods, crime scene searches, investigative notes and sketching, evidence identification and collection, fingerprint techniques, photography, interviewing, sexual assault and death investigation, and crime scene investigation simulation.

V - Vocational Class

## LITERATURE

**LIT 115 INTRODUCTION TO LITERATURE** (45 lecture hours/3 credits)#/\*  
Introduces students to fiction, poetry, and drama. Emphasizes active and responsive reading.

**LIT 117 CONTEMPORARY NOVEL** (45 lecture hours/3 credits)  
Studies great modern novels in English and in translation chosen for their interest and relevance to the modern reader.

**LIT 118 INTRODUCTION TO POETRY** (45 lecture hours/3 credits)  
This course surveys modern American poetry by exploring the lives and works of thirteen of America's greatest poets. Poetry becomes a visual experience as key works of Walt Whitman, Robert Frost and others are discussed.

**LIT 201 MASTERPIECES OF LITERATURE I** (45 lecture hours/3 credits)#/\*  
Examines significant writings in world literature from the ancients through the Renaissance. Emphasizes careful reading and understanding of the works and their cultural backgrounds.

**LIT 202 MASTERPIECES OF LITERATURE II** (45 lecture hours/3 credits)#/\*  
Examines significant writings in world literature from the seventeenth century to the present. Emphasizes careful reading and understanding of the works and their cultural backgrounds.

**LIT 221 SURVEY OF AMERICAN LITERATURE I** (45 lecture hours/3 credits)\*  
Emphasizes four early periods of American literary thought beginning with the works of William Bradford and ending with the poetry of Emily Dickinson.

**LIT 222 SURVEY OF AMERICAN LITERATURE II** (45 lecture hours/3 credits)\*  
Continues the study centered on American thought as revealed in literature beginning with Mark Twain and traced to the present.

## MANAGEMENT

**MAN 205 SMALL BUSINESS MANAGEMENT** (30 lecture hours/2 credits/V)  
Studies the problems and opportunities characteristic of small business. Covers techniques of start-up strategies and operation.

**MAN 211 PRINCIPLES OF MANAGEMENT** (45 lecture hours/3 credits)  
Covers the four major elements of effective management: planning, organizing, leading, and control. Also covers interpersonal relationships in organizations and the supervisor's role as leader and motivator.

**MAN 212 MANAGEMENT SIMULATION** (15 lecture hours/23 lab hours/2 credits/V)  
Prerequisite: MAN 211. Uses case studies to apply fundamental management skills in problem solving. Cases present realistic job situations and integrate class skills for solutions.

\* - General Education Course

# - General Education Common Core for the A.A. and A.S. Degrees

**MAN 215 PRINCIPLES OF SUPERVISION (30 lecture hours/2 credits)**

Develops an awareness of the interrelationships of people within the work force and provides an insight into various techniques used by supervisors to achieve organizational objectives. Motivation and staffing are major considerations.

V - Vocational Class

**MARKETING****MAR 215 PRINCIPLES OF MARKETING (45 lecture hours/3 credits)**

An introduction to marketing emphasizing the consumer market. Covers such elements as market identification, market segmentation, product development, pricing, distribution, and selling.

**MAR 216 RETAILING (30 lecture hours/2 credits/V)**

A general survey of the principles of efficient store organization and management. Topics include location and layout, types of store organization, operating activities, and customer service.

**MAR 217 ADVERTISING (30 lecture hours/2 credits)**

Examines specific techniques of business promotion and selling. Covers copy planning, copy layout, advertisement promotion, and advertisement evaluation for both print and broadcast media.

V - Vocational Class

**MATHEMATICS****MAT 105 INTERMEDIATE ALGEBRA (60 lecture hours/4 credits)\***

Prerequisite: MAT 015 or High School Algebra I. Includes concepts of polynomials, complex fractions, exponents, radicals, first degree equations, linear and quadratic inequalities, inequalities with absolute values, complex numbers, second degree equations, graphs of parabolas, slope and equations of lines when given two points on a graph and the slope. MAT 105 does not apply to the A.S. degree math requirement.

**MAT 115 COLLEGE MATHEMATICS (45 lecture hours/3 credits)\***

Students learn topics from a broad overview of modern mathematical concepts. Topics include fundamental counting principles, permutations, combinations, probability, natural numbers, binary systems, exponential growth, paradoxes and mathematical curves. MAT 115 does not apply to the A.S. degree math requirement.

**MAT 121 COLLEGE ALGEBRA (60 lecture hours/4 credits)#/\***

Prerequisite: MAT 105 or equivalent. Includes a brief review of intermediate algebra, equations and inequalities, functions and their graphs, exponential and logarithmic functions, linear and non-linear systems, graphing of conic sections, introduction to sequences and series, permutations and combinations, the binomial theorem, and theory of equations.

\* - General Education Course

# - General Education Common Core for the A.A. and A.S. Degrees

**MAT 122 COLLEGE TRIGONOMETRY (45 hours/3 credits)**

Prerequisite: MAT 121 or permission of the instructor. Presents concepts of trigonometric functions, trigonometry identities and equations, trigonometry of triangles, complex numbers, circular functions, polar coordinates, and vectors.

**MAT 125 SURVEY OF CALCULUS (60 lecture hours/4 credits)#**

Prerequisite: MAT 121 or Finite Mathematics (or equivalent) or permission of instructor. For business, life science and social science majors. Includes derivatives, integrals, and their applications, with attention restricted to algebraic, exponential, and logarithmic functions.

**MAT 135 INTRODUCTION TO STATISTICS (45 lecture hours/3 credits)#/\***

Prerequisite: MAT 105 or equivalent. Includes data presentation and summarization, introduction to probability concepts and distributions, statistical inference-estimation, hypothesis testing, comparison of populations, correlation, and regression.

**MAT 201 CALCULUS I (75 lecture hours/5 credits)#**

Prerequisite: MAT 121 and MAT 122 or equivalent. Introduces single variable calculus and analytic geometry. Includes limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals and some applications.

**MAT 202 CALCULUS II (75 lecture hours/5 credits)#**

Prerequisite: MAT 201 or permission of instructor. Continuation of single variable calculus and includes techniques of integration, polar coordinates, analytic geometry, improper integrals, and infinite series.

**MAT 203 CALCULUS III (60 lecture hours/4 credits)**

Prerequisite: MAT 202. Presents advanced concepts of calculus including moments, partial differentiation, multiple integrals, and differential equations.

**MAT 204 DIFFERENTIAL EQUATIONS (45 lecture hours/3 credits)**

Prerequisite: MAT 203. Introduces elementary applications of ordinary differential equations and solutions.

**MODERN LANGUAGES****FRE 111 FRENCH I (60 lecture hours/30 lab hours/5 credits)#/\***

Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading, and writing the language. Note: The order of the topics and the methodology will vary according to the individual texts and instructors.

**FRE 112 FRENCH II (60 lecture hours/30 lab hours/5 credits)#/\***

Prerequisite: FRE 111 or instructor permission. Continues French I in the development of functional proficiency in listening, speaking, reading and writing the language. Note: The order of the topics and the methodology will vary according to the individual texts and instructors.

# - General Education Common Core for the A.A. and A.S. Degrees

\* - General Education Course

**FRE 211 FRENCH III (30 lecture hours/30 lab hours/3 credits)#**  
 Prerequisite: FRE 112 or instructor permission. Continues French I and II in the development of increased functional proficiency in listening, speaking, reading, and writing the language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

**FRE 212 FRENCH IV (30 lecture hours/30 lab hours/3 credits)#**  
 Prerequisite: FRE 211 or instructor permission. Continues French I, II, and III in the development of increased functional proficiency in listening, speaking, reading, and writing the language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

**SPA 101 CONVERSATIONAL SPANISH (20 lecture hours/20 lab hours/2 credits)**  
 A course designed to develop a level of proficiency in spoken Spanish. Language functions are practiced in the context of practical, everyday situations.

**SPA 111 SPANISH I (60 lecture hours/30 lab hours/5 credits)#/\***  
 Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading, and writing the language. Note: The order of the topics and the methodology will vary according to the individual texts and instructors.

**SPA 112 SPANISH II (60 lecture hours/30 lab hours/5 credits)#/\***  
 Prerequisite: SPA 111 or instructor permission. Continues Spanish I in the development of functional proficiency in listening, speaking, reading and writing the language. Note: The order of the topics and the methodology will vary according to the individual texts and instructors.

**SPA 211 SPANISH III (30 lecture hours/30 lab hours/3 credits)#**  
 Prerequisite: SPA 112 or instructor permission. Continues Spanish I and II in the development of increased functional proficiency in listening, speaking, reading, and writing the language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

**SPA 212 SPANISH IV (30 lecture hours/30 lab hours/3 credits)#**  
 Prerequisite: SPA 211 or instructor permission. Continues Spanish I, II and III in the development of increased functional proficiency in listening, speaking, reading, and writing the language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

# - General Education Common Core for the A.A. and A.S. Degrees

## MUSIC

**MUS 105 CHOIR (38 studio hours/1 credit)**

A wide range of choral literature will be rehearsed and performed by the Morgan Community College Choir. No audition is required unless the student has no singing experience.

**MUS 120 MUSIC APPRECIATION (45 lecture hours/3 credits)#/\***

Covers the basic materials of music, musical forms, media, genres, and musical periods. Emphasizes the development of tools for intelligent listening and appreciation.

**MUS 121 INTRODUCTION TO MUSIC HISTORY I (45 lecture hours/3 credits)#/\***

Studies the various periods of music history with regard to the composers, aesthetics, forms, and genres of each period. Considers music from the Middle Ages through the Classical period.

**MUS 122 INTRODUCTION TO MUSIC HISTORY II (45 lecture hours/3 credits)#/\***

Continues Introduction to Music History I with a review of the elements of music and a study of music from the early Romantic period to the present.

## NANNY TRAINING PROGRAM

**NAN 201 NANNY PRACTICUM (15 lecture hours/30 practicum hours/2 credits/V)**

Corequisite: PSY 121. Students cover practicum-related issues and concerns as well as complete a minimum of 30 hours in a supervised child care experience.

**NAN 202 CHILD CARE CO-OP TRAINING (15 lecture hours/90 co-op hours/4 credits/V)**

Prerequisite: NAN 201. Students cover co-op related issues and concerns and complete a minimum of 90 co-op work hours in an in-home child care experience.

**NAN 211 THE NANNY AS A PROFESSIONAL I (30 lecture hours/2 credits/V)**

This course provides nanny trainees with specialized skills necessary to enhance their abilities and identity as a professional nanny. Modules include: time management, personal care and appearance, and etiquette.

**NAN 212 THE NANNY AS A PROFESSIONAL II (30 lecture hours/2 credits/V)**

Prerequisite: Acceptance into the Colorado Nanny Academy. This course continues the nanny trainees' experience of NAN 211. Modules include: employment issues, recordkeeping, and travel and transportation.

V - Vocational Class

# - General Education Common Core for the A.A. and A.S. Degrees

\* - General Education Course

## OFFICE TECHNOLOGY

### **OFT 101 SHORTHAND I** (60 lecture hours/4 credits/V)

An introductory course covering the theory of shorthand using a combination of alphabet and symbols. Develops reading and writing speeds from bookplates and handwritten notes. Introduces transcription skills.

### **OFT 102 SHORTHAND II** (60 lecture hours/4 credits/V)

Prerequisite: OFT 101. A continuation of OFT 101 with reinforcement of basic theory. Emphasizes speed building and dictation to attain proficiency for entry-level employment. Reinforces further development of vocabulary and transcription skills.

### **OFT 105 INTRODUCTORY KEYBOARDING** (30 lab hours/1 credit/V)

Introduces the use of the standard keyboard (letter, symbol and number keys) by the touch system. Emphasizes computer keyboards with skills applying equally to electric and electronic typewriters.

### **OFT 111 KEYBOARDING** (68 lab hours/3 credits/V)

Introduces the operation of the microcomputer as a keyboarding tool utilizing the touch system. Covers letter, figure and symbol keys, memoranda, business letters, tables, and reports to develop basic skills.

### **OFT 112 FORMATTING** (68 lab hours/3 credits/V)

Prerequisite: OFT 111. Reinforces basic keyboarding formats and procedures. Emphasizes speed and accuracy in office-type production output. Stresses productivity and decision-making skills.

### **OFT 113 ADVANCED FORMATTING** (68 lab hours/3 credits/V)

Prerequisite: OFT 112. Continues the development of speed and accuracy. Emphasizes specialized keyboarding applications for legal, medical, and other advanced clerical positions.

### **OFT 114 WORD PROCESSING OPERATIONS** (30 lecture hours/90 lab hours/6 credits/V)

Prerequisite: OFT 111 and concurrent enrollment in OFT 112 or consent of instructor. Provides students with an understanding of word processing concepts, functions, applications, and techniques. In addition to word processing theory, students train in the use of a variety of word processing equipment using realistic simulations.

### **OFT 205 MACHINE TRANSCRIPTION** (45 lab hours/2 credits/V)

Prerequisite: OFT 111 and concurrent enrollment in OFT 112 or consent of instructor. Provides fundamental instruction in the use of transcribing machines in the preparation of business letters and other correspondence. Includes a review of letter styles, rules of transcription and punctuation, and the mechanics of producing mailable letters at high production rates.



**OFT 206 SPEED DICTATION AND TRANSCRIPTION**

(45 lab hours/2 credits/V)

Prerequisite: SES 102. Develops transcription skills. Emphasizes speed development and the mechanics of the English language necessary for producing a mailable copy.

**OFT 208 OFFICE ADMINISTRATION**

(45 lecture hours/3 credits/V)

Presents new developments, technology, procedures, organization, and contemporary terminology used in effective office management. Emphasizes decision making and application of administrative skills.

**PHILOSOPHY**

**PHI 111 INTRODUCTION TO PHILOSOPHY (45 lecture hours/3 credits)#/\***

Introduces significant human questions and emphasizes understanding the meaning and methods of philosophy. Includes such topics as the human condition, knowledge, freedom, history, ethics, the future, and religion.

**PHI 112 ETHICS**

(45 lecture hours/3 credits)#/\*

Examines human life, experience, and thought in order to discover and develop the principles and values for pursuing a more fulfilled existence. Theories designed to justify ethical judgments are applied to a selection of contemporary personal and social issues.

**PHI 113 LOGIC**

(45 lecture hours/3 credits)#/\*

Studies effective thinking through the use of language-oriented logic. Provides tools and develops skills for creative and critical thinking. Emphasizes the development of decision-making and problem-solving skills.

**PHYSICAL EDUCATION**

**PED 111 BASKETBALL I**

(30 hours/1 credit)

Covers correct form, teamwork, rules and strategy of play. This co-ed class emphasizes playing the game.

**PED 112 BASKETBALL II**

(30 hours/1 credit)

PED 112 is a continuation of PED 111.

**PED 115 PHYSICAL EDUCATION ACTIVITIES**

(30 hours/1 credit)

Classes include participation in activities designed to improve individual physical fitness and to develop playing skills as well as to learn the rules and regulations of the game.

**PED 116 AQUATIC EXERCISE**

(30 hours/1 credit)

Provides the benefits of water exercise including toning, trimming and strengthening the body. Class format includes warm-up exercises, calisthenics, and cool-down exercises.

\* - General Education Course

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- PED 117 PHYSICAL FITNESS** (30 hours/1 credit)  
Improves body conditioning through various workout programs.
- PED 118 SELF DEFENSE** (30 hours/1 credit)  
Emphasizes basic skills and movements in the art of self defense.
- PED 121 BOWLING I** (30 hours/1 credit)  
Gives instruction in bowling techniques and scoring procedures. Develops skills through practice. Students pay partial bowling fees.
- PED 122 BOWLING II** (30 hours/1 credit)  
PED 122 is a continuation of PED 121.
- PED 125 SKIING - CROSS COUNTRY** (30 hours/1 credit)  
Covers basic information on cross country ski clothing and equipment, waxing, flatland techniques, uphill and downhill techniques and touring. Consists of both classroom sessions and all day ski sessions in the area or in the high country. Students furnish or rent all ski equipment. Additional fees may be necessary depending on travel and instructional arrangements.
- PED 126 SKIING - DOWNHILL** (30 hours/1 credit)  
Designed for the beginner, this class will consist of a combination of classroom sessions covering conditioning, equipment, and fundamentals of the sport. In addition, several snow classes at mountain ski areas will be scheduled. Students furnish or rent all ski equipment. Additional fees may be necessary depending on travel and instructional arrangements.
- PED 127 SOFTBALL** (30 hours/1 credit)  
Stresses basic techniques of softball - batting, fielding and rules. Classes include lecture and testing in addition to field play.
- PED 128 SKIING - DOWNHILL INTERMEDIATE** (30 hours/1 credit)  
Designed for the intermediate skier, this class consists of a combination of classroom sessions and actual ski time at mountain ski areas. Students furnish or rent ski equipment. Additional fees may be necessary depending on travel and instructional arrangements.
- PED 131 GOLF I** (30 hours/1 credit)  
Instruction covers the game of golf and the equipment used. Places particular emphasis on golf etiquette, care of the course and the rules of the game as well as the development of the proper swing.
- PED 132 GOLF II** (30 hours/1 credit)  
PED 132 is a continuation of PED 131.
- PED 141 SWIMMING I** (30 hours/1 credit)  
Provides instruction for non-swimmers under the American Red Cross swimming program. Teaches basic strokes of swimming.
- PED 142 SWIMMING II** (30 hours/1 credit)  
Incorporates the basic sequence of skills taught in the American Red Cross intermediate and advanced swimmer classifications.

**PED 151 TENNIS I** (30 hours/1 credit)  
Basic instruction covers elements of the strokes and rules of the game. Emphasizes the serve, forehand, and backhand.

**PED 152 TENNIS II** (30 hours/1 credit)  
PED 152 is a continuation of PED 151.

**PED 161 VOLLEYBALL I** (30 hours/1 credit)  
Emphasizes fundamental skills and modern techniques. Stresses team play (offense and defense), strategy of play, training techniques, rules, and various forms of play. A brief history of the game and its evolution are included.

**PED 162 VOLLEYBALL II** (30 hours/1 credit)  
PED 162 is a continuation of PED 161.

**PED 171 WEIGHTLIFTING I** (30 hours/1 credit)  
Emphasizes individualized instruction and progress in this conditioning class.

**PED 172 WEIGHTLIFTING II** (30 hours/1 credit)  
PED 172 is a continuation of PED 171.

**PED 181 AIR-RIFLE TARGET SHOOTING** (30 hours/1 credit)  
Acquaints the student with general range shooting with air rifle targets and develops an understanding of shooting as a sport.

**PED 195 SPECIAL ACTIVITIES** (Variable 15-30 hours/.5-1 credit)  
Designed for recreation and participation in specific sports areas.



## PHYSICAL THERAPIST ASSISTANT

### PTA 111 CURRENT ISSUES IN PHYSICAL THERAPY

(15 lecture hours/1 credit/V)

An integration of physical therapy into the community. Discusses current issues and trends in the physical therapy profession.

### PTA 112 INTRODUCTION TO PHYSICAL THERAPY

(15 lecture hours/1 credit/V)

History and definition of Physical Therapy as a profession. Discusses ethics, professionalism, communications and human relations as they relate to the health care field.

### PTA 210 PHYSICAL THERAPY PROCEDURES I

(30 lecture hours/90 lab hours/5 credits/V)

Prerequisite: Admission to PTA program. Examines the principles and practices of physical therapy and develops an understanding of the following procedures: range of motion, positioning, body mechanics, transfers, wheelchair management, activities of daily living, bandaging, asepsis, isolation techniques, and bed traction.

### PTA 220 PHYSICAL THERAPY PROCEDURES II

(45 lecture hours/60 lab hours/5 credits/V)

Prerequisite: Admission to PTA Program. Examines the principles and practices of physical therapy and develops an understanding of the following procedures: therapeutic heat and cold, electrical stimulations, TENS, massage, biofeedback, and traction.

### PTA 221 CLINICAL INTERNSHIP I

(90 clinical hours/2 credits/V)

Prerequisites: PTA 112. Corequisites: PTA 210, PTA 220. The initial clinical visitation with observation of various types of patients and practicum of skills and techniques learned in preceding courses. Lecture topics include communication skills, an introduction to SOAP notes and other written records, and common behavior problems of patients. Includes ten clock hours of clinical orientation.

### PTA 222 CLINICAL INTERNSHIP II

(90 clinical hours/2 credits/V)

Prerequisites: PTA 210, PTA 215, PTA 220, PTA 239. This continuation of Clinical Affiliations I includes practical application of physical therapy procedures, professional behavior, and communication principles appropriate in the Physical Therapy practice setting. Lecture topics include professional goal-setting, the responsibilities of a new staff member, improving SOAP note writing skills, special patient types and their problems. Includes ten clock hours of clinical orientation.

### PTA 223 CLINICAL INTERNSHIP III

(240 clinical hours/5 credits/V)

Prerequisites: PTA 222, PTA 225, PTA 230. Further application of physical therapy principles and practice with emphasis on applied theoretical knowledge, quality assurance, and patient/professional communication. Students develop toward proficiency as graduate physical therapist assistants in the clinical setting, one practicum.

**PTA 224 CLINICAL INTERNSHIP IV (240 clinical hours/5 credits/V)**

Prerequisites: Continued application of physical therapy principles and practice with emphasis on applied theoretical knowledge, quality assurance, and patient/professional communication. Students develop toward proficiency as graduate physical therapist assistants in the clinical setting, one practicum.

**PTA 225 MEDICAL LECTURES (75 lecture hours/5 credits/V)**

Prerequisite: BIO 217. An introduction to the pathology of orthopedic, medical, neurological and surgical problems as they relate to physical therapy treatment.

**PTA 230 PHYSICAL THERAPY PROCEDURES III**

**(30 lecture hours/90 lab hours/5 credits/V)**

Prerequisites: PTA 210. Corequisite: PTA 225. Examines the principles and practices of physical therapy and develops an understanding of the following procedures: therapeutic exercise as it pertains to orthopedics and surgical conditions, goniometry, MMT, orthotics, prosthetics, and sport injuries.

**PTA 240 PHYSICAL THERAPY PROCEDURES IV**

**(45 lecture hours/60 lab hours/5 credits/V)**

Corequisite: PTA 230. Examines the principles and practices of physical therapy and develops an understanding of patient evaluation procedures with an emphasis on team skills approach.

**PTA 245 PHYSICAL THERAPY SEMINAR (15 lecture hours/1 credit/V)**

Prerequisites: PTA 215, PTA 220, PTA 225, PTA 227, PTA 230, PTA 240. A summary of clinical affiliations. Areas of focus include equipment, legislative issues, types of practice, and trends in treatment, approaches, and techniques.

V-Vocational Class

## PHYSICS

**PHY 105 CONCEPTUAL PHYSICS**

**(45 lecture hours/30 lab hours/4 credits)#/\***

Studies mechanics, heat, properties of matter, electricity and magnetism, light and modern physics. This course includes laboratory experience.

**PHY 111 PHYSICS: ALGEBRA BASED I**

**(60 lecture hours/30 lab hours/5 credits)#/\***

Corequisite: MAT 122. Studies mechanics and heat. This course includes laboratory experience.

**PHY 112 PHYSICS: ALGEBRA BASED II**

**(60 lecture hours/30 lab hours/5 credits)#/\***

Prerequisite: PHY 111. Studies electricity and magnetism, light, and modern physics. This course includes laboratory experience.

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**PHY 211 PHYSICS: CALCULUS BASED I****(60 lecture hours/30 lab hours/5 credits)#/\***

Corequisite: MAT 201. Studies mechanics and heat. This course includes laboratory experience.

**PHY 212 PHYSICS: CALCULUS BASED II****(60 lecture hours/30 lab hours/5 credits)#**

Prerequisite: PHY 211. Studies wave motion, electricity and magnetism, and light. This course includes laboratory experience.

**POLITICAL SCIENCE****POS 111 AMERICAN GOVERNMENT****(45 lecture hours/3 credits)#/\***

Includes the background of the U.S. Constitution; the philosophy of American government; general principles of the Constitution; federalism; civil liberties; public opinion and citizen participation; political parties, interest groups, and the electoral process; and the structure and functions of the national government.

**POS 115 POLITICAL SCIENCE****(45 lecture hours/3 credits)\***

Introduces the study of politics covering the political system and its environment. It familiarizes students with the basic concepts of political process, types of political institutions, and political behavior.

**PSYCHOLOGY****PSY 101 GENERAL PSYCHOLOGY I****(45 lecture hours/3 credits)#/\***

Scientifically studies behavior including motivation, emotion, physiological psychology, stress and coping, research methods, consciousness, sensation, perception, learning, and memory.

**PSY 102 GENERAL PSYCHOLOGY II****(45 lecture hours/3 credits)#/\***

Scientifically studies behavior including cognition, language, intelligence, psychological assessment, personality, abnormal psychology, therapy, life span development, and social psychology.

**PSY 106 HUMAN RELATIONS****(45 lecture hours/3 credits)\***

Accomplishes development of effective interpersonal communication skills on and off the job through class discussion and practice in listening, non-verbal communication, choosing the best language and modalities for communication, and learning about the self-concept.

**PSY 107 JOB SEARCH TECHNIQUES****(15 lecture hours/1 credits)**

Covers the principles of job searching. Students complete career letters, job applications and resumes; understand personal appearance requirements, and practice job interviews. Acceptable only for A.A.S. and A.G.S. degrees and occupational certificates.

\* - General Education Course

# - General Education Common Core for the A.A. and A.S. Degrees

**PSY 115 PSYCHOLOGY OF STRESS AND WELLNESS****(30 lecture hours/2 credits)\***

Designed to help students discover the signs, sources, and coping strategies for the stress in their lives, this course explores a wide range of physiological and behavioral aspects of stress management. Self-talk, physical fitness, nutrition, interpersonal conflict resolution, biofeedback, relaxation, and journal-writing are some of the techniques presented.

**PSY 116 CHILD ABUSE & NEGLECT****(30 lecture hours/2 credits)\***

Specially designed for educators, this course incorporates and expands on materials developed by the National Education Association. Also appropriate for anyone working closely with children, the course includes the cycle of child abuse and neglect. Detection, reporting, and classroom management of abusive situations will be discussed in depth. Attention is also given to the area of sexual abuse.

**PSY 117 HUMAN GROWTH AND DEVELOPMENT****(45 lecture hours/3 credits)\***

Studies the human being in transition from birth to death in this course which looks at the person chronologically. Studies all areas of human development with special emphasis on adult development and aging. Follows General Psychology well, but has no prerequisite.

**PSY 118 PSYCHOLOGY OF COUNSELING****(30 lecture hours/2 credits)**

Introduces the student to communication techniques useful in helping people. Skills such as attending, listening, empathizing and facilitating are learned and practiced for use at a minimal level of application. PSY 106 helpful before this class, but not required.

**PSY 125 CHILDREN'S ACTIVITIES****(45 lecture hours/3 credits)**

Provides instruction in enrichment experiences for children both in and out of the home. Components include creative and manipulative activities, children's literature and storytelling, puppetry, music activities, songs and fingerplays, science and math experiences, choosing play equipment and materials, and field experiences for children. Not acceptable for the A.A. or A.S. degree.

**PSY 127 INFANT AND CHILD DEVELOPMENT****(45 lecture hours/3 credits)\***

Includes the total development of the child from the prenatal period through late childhood. Emphasizes growth, development, and major theories as well as common problems and concerns.

**PSY 215 SOCIAL PSYCHOLOGY****(45 lecture hours/3 credits)**

Prerequisite: PSY 101 or 102 or SOC 101 or 102. Studies the behavior of humans in their social settings. Topics explored include methods of research, socialization, impression management, prosocial behavior, aggression, conformity, obedience to authority, attitude change, and interpersonal attraction. Highlights issues relevant to Americans in the 80's.

\* - General Education Course

# - General Education Common Core for the A.A. and A.S. Degrees

**PSY 217 ABNORMAL PSYCHOLOGY** (45 lecture hours/3 credits)\*  
 Prerequisite: PSY 101 or 102 or SOC 101 or 102. Provides a thorough study of the etiology, diagnosis, and treatment of abnormal behavior. Covers community mental health, drug and alcohol abuse, psychotherapeutic approaches, and medical interventions among other topics.

## SCIENCE

**SCI 111 NATURAL SCIENCE** (60 lecture hours/30 lab hours/5 credits)\*  
 Students study science and technology with an emphasis on physics and chemistry. Includes the laws of motion, work, power, energy, sound, music, electromagnetics, inorganic and organic chemistry. Laboratory experimentation tests the theories presented. SCI 111 does not apply to the science requirement for the A.S. degree.

**SCI 112 EARTH SCIENCE** (60 lecture hours/30 lab hours/5 credits)\*  
 Students study areas of science including atoms, molecules, chemical change, radioactivity, the nucleus, electricity, magnetism, weather, atmosphere, geology, erosion, planets, satellites, solar system, stars, and the universe. Applications of presented theories will be tested in the laboratory. SCI 112 does not apply to the science requirement for the A.S. degree.

**SCI 115 PRINCIPLES OF METEOROLOGY** (45 lecture hours/3 credits)  
 Examines principles of synoptic meteorology and simple atmospheric thermodynamics. Topics include the atmosphere, clouds, precipitation, heat balance, air in motion, jet streams, general circulation, climate, forecasting and statistics. SCI 115 does not apply to the science requirement of the A.S. degree.

**SCI 131 ECOLOGY** (45 lecture hours/30 lab hours/4 credits)  
 Studies the relationship of the community with the physical environment, energy flow and cycles, population dynamics and distribution, and population genetics. Students apply ecological principles in lab experiments. SCI 131 does not apply to the science requirement for the A.S. degree.

**SCI 295 SPECIAL STUDIES IN SCIENCE** (1-4 credits)  
 The Special Studies course is available in each of the areas of science and provides opportunities for the serious student to engage in intensive study and research on a specific topic under the direction of a qualified faculty member. Conditions for electing this course are evaluated by the Dean of Instruction who assists in selecting an advisor and determining the amount of credit to be granted for successful completion of the work.

\* - General Education Course



## SOCIOLOGY

### SOC 101 INTRODUCTION TO SOCIOLOGY I

(45 lecture hours/3 credits)#/\*

Examines the basic concepts, theories, and principles of sociology, as well as human cultures, social groups, and the social issues of age, gender, class, and race.

### SOC 102 INTRODUCTION TO SOCIOLOGY II

(45 lecture hours/3 credits)#/\*

Examines social institutions and organizations from the macro perspective. Emphasizes issues of social change, demography, social movements, and conflicts and trends within education, religion, family, political, and economic structures.

### SOC 105 INTRODUCTION TO ADDICTIVE BEHAVIOR

(45 lecture hours/3 credits)

Explains addictive behavior as a social problem, relates to the psychology of the addictive personality and issues connected in our society, such as substance abuse, sexual roles, and eating disorders.

### SOC 116 MARRIAGE AND THE FAMILY

(45 lecture hours/3 credits)\*

Explores preparation for and adjustment to marital and family life throughout the life cycle. Presents variants from the traditional institutions as choices available to Americans today with the positive and negative aspects of all options discussed. Dating, marriage contracts, sexual expression, child-rearing, divorce, single parenthood, and maintaining long-term commitments are among the many topics covered.

### SOC 117 CHILD AND FAMILY RELATIONS

(15 lecture hours/1 credit)

Outlines family structures typical in America, patterns of communication in families, behavior management of children, and problems families may confront.

## SPEECH

### SPE 106 INTERPERSONAL COMMUNICATIONS (30 lecture hours/2 credits)

Designed to introduce the student to the basic communication contexts and systems, including communication on the individual, interpersonal, group and organizational levels, and to give the student insight into the dynamics of speaking and listening. Acceptable for the A.G.S. degree.

### SPE 115 PRINCIPLES OF SPEECH COMMUNICATION

(45 lecture hours/3 credits)#/\*

Combines theory of speech communication with public speech performance skills. Emphasizes speech delivery, preparation, organization, support, and audience analysis.

\* - General Education Course

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**SPE 215 ORAL INTERPRETATION** (45 lecture hours/3 credits)  
A study of oral communication of literature. Application allows the learner to develop better voice characterization, diction and articulation with laboratory assistance in reading aloud prose, poetry, and historical speeches.

## THEATRE

**THE 115 THEATRE PRODUCTION** (15 lecture hours/30 lab hours/2 credits)  
Public performance of a play. Explores the history, culture, acting styles, sets, and costumes of the era of the play.

**THE 211 DEVELOPMENT OF THEATRE I** (45 lecture hours/3 credits)#/\*  
Surveys the history and evolution of the theatre from Ancient Greece to the Renaissance, emphasizing all aspects of the art form from period values to analysis of dramatic literature and performance.

**THE 212 DEVELOPMENT OF THEATRE II** (45 lecture hours/3 credits)#/\*  
Surveys the history and evolution of drama from the Renaissance to the present, emphasizing all aspects of the art form from period values to the analysis of dramatic literature and performance.

\* - General Education Course

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## WELDING

### WEL 101 OXYACETYLENE WELDING

(15 lecture hours/45 lab hours/3 credit hours/V)

Presents safety oriented training in the use of oxyacetylene (OAW) process. Students receive theory and practice in OAW set-up, cutting, plasma arc cutting, brazing, and welding of mild steel.

### WEL 102 BASIC SHIELDED METAL ARC WELDING

(30 lecture hours/90 lab hours/6 credit hours/V)

Covers safety oriented training in the use of shielded metal arc welding (SMAW) process. Students receive theory and practice in SMAW using the more common electrodes and joints in all positions on various material thicknesses.

### WEL 103 ADVANCED SHIELDED METAL ARC WELDING

(30 lecture hours/90 lab hours/6 credit hours/V)

A continuation of basic SMAW. Using a variety of joint designs, metal thicknesses, and electrodes, students learn the requirements of becoming a certified Welder. American Welding Society's standards are used as a guide to evaluate the student's skills.

### WEL 105 INTRODUCTION TO WELDING

(10 lecture hours/30 lab hours/2 credit hours/V)

Introduces the oxyacetylene, shielded, and gas metal arc welding processes. Students are given safety oriented training to learn equipment set-up, operation, and technique. This course is for non-welding majors and given for those who want an understanding of welding as it relates to other occupations.

### WEL 106 SYMBOLS AND BLUEPRINT READING

(45 lecture hours/3 credits/V)

Covers welding symbols in accordance with American Welding Society standards, blueprint reading, and basic drafting skills used in the welding profession.

### WEL 107 MAINTENANCE WELDING

(10 lecture hours/30 lab hours/2 credit hours/V)

Introduces the oxyacetylene, shielded, and gas metal arc welding processes. Students are given safety oriented training to learn equipment set-up, operation, and technique. This course is for non-welding majors and Industrial Technology students.

### WEL 111 BASIC GAS TUNGSTEN ARC WELDING

(30 lecture hours/90 lab hours/6 credit hours/V)

Covers safety oriented training in the use of the gas tungsten arc welding (GTAW) process. Students receive theory and application of GTAW on mild and stainless steels. Proficiency must be demonstrated using the OAW process prior to entering this course.

**WEL 112 ADVANCED GAS TUNGSTEN ARC WELDING****(30 lecture hours/90 lab hours/6 credit hours/V)**

A continuation of basic GTAW. In addition, instruction is given using this process on aluminum and mild steel pipe. Students should be proficient with the use of SMAW before entering this course.

**WEL 113 BASIC GAS METAL ARC WELDING****(15 lecture hours/45 lab hours/3 credit hours/V)**

Covers safety oriented training in the use of the gas metal arc welding (GMAW) process. Students receive theory and practice in welding in all positions on mild steel using both flux-cored and solid fillers.

**WEL 114 ADVANCED GAS METAL ARC WELDING****(30 lecture hours/90 lab hours/6 credit hours/V)**

A continuation of basic GMAW. In addition, instruction will be given using this process in all positions and with the use of aluminum fillers. Students are allowed to work on fabrication projects after having successfully completed the course objectives.

**WEL 121 WELDING TECHNOLOGY I****(83 lecture hours/259 lab hours/17 credits/V)**

Covers safety oriented training in the use of oxyacetylene (OAW) and shielded metal arc welding (SMAW) processes. Students receive theory and practice in OAW set-up, cutting, brazing, and welding of mild steel. In addition, instruction is given to move students from an entry level to an advance use of SMAW. Includes use of the more common electrodes and joints in all positions on material thicknesses ranging from 1/8 to 1 inch. Students are introduced to the plasma arc cutting process.

**WEL 122 WELDING TECHNOLOGY II****(95 lecture hours/285 lab hours/19 credits/V)**

Covers safety oriented training in the use of gas tungsten arc welding (GTAW) and gas metal arc welding (GMAW) processes. Students receive theory and practice in GTAW on aluminum, mild, and stainless steels. This includes welding in all positions on both structural and pipe connections. In addition, instruction is given on GMAW set-up, operation, and technique. Students are allowed to work on fabrication projects after having successfully completed the course objectives.

**WEL 125 INDIVIDUALIZED WELDING****(15 lecture hours/45 lab hours/3 credits/V)**

This course allows students to design their own objectives. Students are given assistance to advance their skills or work on projects. Instructor's approval must be given on all projects, and students pay the cost of materials. This course not intended for

**WEL 151 WELDING SAFETY AND ORIENTATION**

(15 lecture hours/30 lab hours/2 credits/V)

Covers personal and shop safety, fires and their control, welding safety and procedures, welding terms and definitions, and an overview of welding occupations.

**WEL 152 MEASUREMENT AND BLUEPRINTS**

(15 lecture hours/30 lab hours/2 credits/V)

Covers basic measurement tools and skills, blueprint terms and definitions, blueprint elements, dimensions and views, abbreviations and symbols.

**WEL 153 OXYACETYLENE**

(15 lecture hours/120 lab hours/6 credits/V)

Covers oxyacetylene cutting techniques. Students identify torch parts, adjust regulators properly; perform leak tests; and become proficient in straight line cutting of various metals.

**WEL 161 WELDING I**

(15 lecture hours/90 lab hours/5 credits/V)

Covers basic electric arc welding. Students will adjust electric arc welders, identify types of electrodes, and identify basic weld joints and positions.

**WEL 162 WELDING II**

(15 lecture hours/90 lab hours/5 credits/V)

Students become proficient in flat, horizontal, and vertical welding positions using appropriate electrodes in basic joints with various bead and filling techniques.

**WEL 163 WELDING III**

(15 lecture hours/270 lab hours/13 credits/V)

Continues the development of basic electric arc welding skills. As students acquire the required proficiency, they advance to gas tungsten and gas metal arc welding techniques. Students become proficient in GTAW and GMAW machine adjustments and operation and learn to weld various types of joints in various positions.

V - Vocational Class



## YOUNG FARMERS

### YOF 105 YOUNG FARMERS

(30 lecture hours/15 private instruction hours/4 credits/V)

Provides yearly enrollment for farmers of all ages. Concentrated in the winter months, classes will cover current agriculture issues and practices presented by knowledgeable specialists. Coordinated and operated from the local high school Agriculture Departments, the program will also provide individualized instruction for students throughout the year as needed.

V - Vocational Class

## DEVELOPMENTAL EDUCATION

Instructional Support Services offers classes and individualized instruction in writing, reading, mathematics, and study skills. A student of Morgan Community College may enter these courses through self-referral or teacher referral. Upon referral, the student and the instructor decide the length and time needed for academic development.

### BAS 005 COLLEGE FOR LIVING

(30 lecture hours/2 credits)

College for Living is a unique concept in the education of developmentally disabled adults. This course offers adult continuing education in basic living skills.

### BAS 016 CUSTOMIZED BASIC SKILLS

(Variable/15-45 lecture hours/1-3 credits)

Students enter this program either through self-referral or teacher-referral. Difficulties in the areas of communication, math, sciences, or other disciplines are diagnosed through appropriate educational tests, and a program for improvement is designed by the staff for the student. Students may work individually or in small groups.

### BAS 017 CAREER CHOICES

(8 private instruction hours/1 credit)

An individualized course involving a series of one-on-one conferences between instructor and student. The course provides assessment and analysis of aptitudes and career interests. It includes exploration of and planning for various career options.

### BAS 019 STUDY SKILLS

(15 lecture hours/1 credit)

Improves students' study skills. Subjects include the following: time management, notetaking, outlining, test-taking strategies, memory training, and determining learning styles.

### ENG 011 ENGLISH SKILLS I

(15 lecture hours/1 credit)

In this basic course, writing practice combines with a review of English usage, punctuation, and capitalization. Develops writing skills and prepares the student for ENG 012.

**ENG 012 ENGLISH SKILLS II (15 lecture hours/1 credit)**

This basic skills English course meets both the personal needs of the student and the recommended minimum standards of the program in which the student is enrolled. The course develops writing skills including skills in revising and correcting simple errors, a review of English usage, punctuation and capitalization.

**MAT 011 MATH SKILLS I (15 lecture hours/1 credit)**

This course is designed to prepare the student for MAT 012. Students review the four basic math operations for whole numbers, fractions, and decimals.

**MAT 012 MATH SKILLS II (15 lecture hours/1 credit)**

This course develops basic skills in mathematics to meet the student's personal needs and the recommended minimum standards for the program in which the student is enrolled. Instruction includes a review of whole number operations, real numbers (fractions, decimals, percent), and application. Depending upon the student's program, the following selected elementary topics are also required: algebra, geometry, and measurement.

**MAT 015 INTRODUCTORY ALGEBRA (60 lecture hours/4 credits)**

Prerequisite: MAT 012 or permission of instructor. Students learn equations and inequalities, systems of linear equations, polynomial equations, fractional equations, radical equations, and graphs.

**REA 011 READING SKILLS I (15 lecture hours/1 credit)**

This course is designed to improve and prepare the student for REA 012. It provides an opportunity to learn and to improve basic reading and study skills necessary for success in college courses.

**REA 012 READING SKILLS II (15 lecture hours/1 credit)**

This course develops basic skills in reading to meet the personal needs of the student as well as the recommended minimum standards for the program in which the student is enrolled. It includes further development of skills in comprehension, vocabulary development, and study skills.