

# Course Descriptions

lecture hours  
credits  
lab hours

## EXAMPLE:

### BIO 111 GENERAL COLLEGE BIOLOGY I WITH LAB

5 CR (4-2)

Examines the fundamental molecular, cellular, and genetic principles characterizing plants and animals. Includes cell structure and function, the metabolic processes of respiration, and photosynthesis, as well as cell reproduction and basic concepts of heredity. This course includes laboratory experience. (Contact hours – 90) State Guaranteed Transfer Course.

## ACADEMIC ACHIEVEMENT

### AAA 72 JUMP START TO NURSING

1 CR (1-0)

Examines theories and practices associated with successful learning to enhance college success. Areas of study include education and career planning, effective communication, personal management, critical and creative thinking, development of community and awareness of diversity, leadership, and techniques for successful academic performance, as well as career exploration in the area of nursing and what you need to know to prepare yourself for a nursing program. (Contact hours – 15)

### AAA 75 QUANTITATIVE LITERACY LAB

1 CR (1-0)

This course enhances skill development of MAT 50 objectives including problem solving skills, study skills, and test taking strategies. *Prerequisite:* This course has math placement requirements which can be found on page 140. Paired with MAT 50. (Contact hours – 16)

### AAA 76 ALGEBRAIC LITERACY LAB

2 CR (0-0-2)

This course enhances skill development of MAT 55 objectives including problem solving skills, study skills, and test taking strategies. *Prerequisite:* This course has math placement requirements (see page 139). Paired with MAT 55. (Contact hours – 16)

### AAA 77 SKILLED TRADES/INDUSTRIAL MATH LAB

1 CR (1-01)

Exploration of current topics, issues, and activities related to one or more aspects of the named discipline. *Prerequisite:* This course has math placement requirements (see page 139). Paired with MAT 102. (Contact hours – 16)

### AAA 78 CAREER MATH AG LAB

1 CR (1-0)

Exploration of current topics, issues, and activities related to one or more aspects of the named discipline. *Prerequisite:* This course has math placement requirements (see page 139). Paired with MAT 107. (Contact hours – 32)

### AAA 79 CAREER MATH WIND LAB

1 CR (1-0)

Exploration of current topics, issues, and activities related to one or more aspects of the named discipline. *Prerequisite:* This course has math placement requirements (see page 139). Paired with MAT 107. (Contact hours – 16)

### AAA 175 SPECIAL TOPICS

1-12 CR (1 to 12-0)

Exploration of current topics, issues and activities related to one or more aspects of the named discipline.

Additional courses are available through Colorado Community College Online (CCC Online).



*-Enjoy life, work, and play.*

## AGRICULTURE BUSINESS MANAGEMENT

### ABM 103 RECORDS & BUSINESS PLANNING I

3 CR (5-7.5-41.7)

Examines the options available to set up a computerized record keeping system for an agricultural business. Focus is on the selection of a computer software package for the agricultural business. Computer terminology associated with a computerized record keeping system and importance of business planning will be discussed. (Contact hours - 54.2)

### ABM 104 RECORDS & BUSINESS PLANNING II

3 CR (5-7.5-41.7)

Identifies the proper setup and implementation of accounting software for an agricultural business. A chart of accounts and beginning balance sheet will be created for a computerized record keeping system. Data entry methods for the accounting software and identification of business plan components specific to student needs will be discussed. (Contact hours - 54.2)

### ABM 105 RECORDS & BUSINESS PLANNING III

3 CR (5-7.5-41.7)

Examines cash and accrual accounting concepts and basic financial statements created for an agricultural business plan. (Contact hours - 54.2)

### ABM 106 RECORDS & BUSINESS PLANNING IV

3 CR (5-7.5-41.7)

Determines the proper processes to maintain an accurate record keeping system for an agricultural business. (Contact hours - 54.2)

### ABM 107 RECORDS & BUSINESS PLANNING V

3 CR (5-7.5-41.7)

Examines how to create financial business reports from an accounting system for an agricultural business and utilize decision aid tools pertinent to the student's need. (Contact hours - 54.2)

### ABM 108 RECORDS & BUSINESS PLANNING VI

3 CR (5-7.5-41.7)

Explains how to utilize a computerized accounting record keeping system to generate accurate financial records for an agricultural business. (Contact hours - 54.2)

### ABM 113 FINANCIAL ANALYSIS I

3 CR (5-7.5-41.7)

Examines the purpose of enterprise analysis. Identification of accounting data used in enterprise analysis, enterprises features of an accounting system, and the need for additional enterprise software will be addressed. (Contact hours - 54.2)

### ABM 114 FINANCIAL ANALYSIS II

3 CR (5-7.5-41.7)

Examines breakeven figures for business enterprises. This course will cover the calculation process for determining production figures for enterprises as well as refining an established accounting system to generate enterprise data accurately. (Contact hours - 54.2)

### ABM 115 FINANCIAL ANALYSIS III

3 CR (5-7.5-41.7)

Develop a cash flow and enterprise budgets. Student will learn cash flow concepts and the relationship to enterprise budgets. Use of data from an accounting system as well as other decision aid tools will be used in the cash flow and enterprise budget development. (Contact hours - 54.2)

### ABM 116 FINANCIAL ANALYSIS IV

3 CR (5-7.5-41.7)

Develop a cost and market value accrual balance sheet. This course focuses on the development of cost and marketing value balance sheets. Accrual features of an established accounting system will be analyzed in determining data that can be generated and utilized in the development of this financial statement. (Contact hours - 54.2)

### ABM 117 FINANCIAL ANALYSIS V

3 CR (5-7.5-41.7)

Develop an accrual income statement. This course will focus on the development of an accrual income statement and examine this financial statement relevancy. Data from an established accounting system to use in the development will be identified. (Contact hours - 54.2)

### ABM 118 FINANCIAL ANALYSIS VI

3 CR (5-7.5-41.7)

Determine financial health of a business with the use of industry financial ratios. This course focuses on industry ratio used in determining the financial health of a business. Types of ratios as well as their calculations will be discussed. Comparisons of financial statements from an accounting system will be utilized. (Contact hours - 54.2)

### ABM 123 COMMODITY MARKETING I

3 CR (5-7.5-41.7)

Determine marketing strategies for agriculture commodities. Discussion will include identifying marketing information sources and defining marketing terminology. The students will also examine ways they can use current and forward marketing strategies in their operation. Course will also focus on enterprise identification and refinement of software enterprise features for production data. (Contact hours - 54.2)

### ABM 124 COMMODITY MARKETING II

3CR (5-7.5-41.7)

Identify the function of basis in market price discovery, how to calculate margin account futures activity, and how to utilize option contracts in mitigating market risks. Investigation of software applications to further the calculations for production costs will be addressed. (Contact hours - 54.2)

### ABM 125 COMMODITY MARKETING III

3CR (5-7.5-41.7)

Utilizes enterprise production data and its impact on cash flow to determine marketing strategies. (Contact hours - 54.2)

### ABM 126 COMMODITY MARKETING IV

3CR (5-7.5-41.7)

Analyzes price behavior using both technical and fundamental analysis. A marketing plan will be developed using calculated production costs and marketing strategies. (Contact hours - 54.2)

### ABM 127 COMMODITY MARKETING V

3CR (5-7.5-41.7)

Covers evaluations and revisions of a marketing plan using actual production costs, local marketing alternatives, futures and option contracts, and technical analysis. Utilization of the plan will be determined. (Contact hours - 54.2)

### ABM 128 COMMODITY MARKETING VI

3CR (5-7.5-41.7)

Covers evaluation and refining of cost of production for all enterprises to select marketing strategies. Utilize these calculations in developing and implement a production data base. (Contact hours - 54.2)

### ABM 163 MARKETING PLAN DEVELOPMENT I

3 CR (5-7.5-41.7)

Covers the use of marketing research to analyze the initial steps in developing a marketing plan. The focus will be on product and service component of the market plan. Data trends for products and services from an accounting system will be utilized in the analysis process. (Contact hours - 54.2)

### ABM 164 MARKETING PLAN DEVELOPMENT II

3 CR (5-7.5-41.7)

Covers development of a customer and competitive analysis for a market plan. Research on market potential and target areas will be included. (Contact hours - 54.2)

### ABM 165 MARKETING PLAN DEVELOPMENT III

3 CR (5-7.5-41.7)

Develops a pricing strategy for a marketing plan. Development of a pricing strategy will include price/quality relationships, sales methods, and ways to add value to products/services. Data from an inventory system as well as sales and expenses for products/services will be addressed. (Contact hours - 54.2)

**ABM 166 MARKETING PLAN DEVELOPMENT IV** 3 CR (5-7.5-41.7)

Develops a promotional strategy for a marketing plan. Development will include examining the business image, use of technology, and media. Promotional costs will be addressed. (Contact hours - 54.2)

**ABM 167 MARKETING PLAN DEVELOPMENT V** 3 CR (5-7.5-41.7)

Interprets data needed for all components in a marketing plan. Identification of data collected for sections of the marketing plan will be analyzed. The need for additional decision aid tools will be examined. A historical trend analysis for sales and expenses for use in the marketing plan will be developed. (Contact hours - 54.2)

**ABM 168 MARKETING PLAN DEVELOPMENT VI** 3 CR (5-7.5-41.7)

Designs a marketing plan for the business. Overall marketing plan will be written with focus on how the plan differentiates from others. Cash flow ability will determine feasibility of the plan. (Contact hours - 54.2)

**ABM 213 ADVANCED BUSINESS MANAGEMENT I** 3 CR (5-7.5-41.7)

Interprets in-depth financial analysis processes for the business. This will include advanced financial analysis terminology and financial statements. (Contact hours - 54.2)

**ABM 214 ADVANCED BUSINESS MANAGEMENT II** 3 CR (5-7.5-41.7)

Analyzes existing financial trends and emphasis of pro forma activities for further analysis of the business. Utilization of accurate accrual records and historical data will provide the basis of the pro forma statement development as it currently operates. (Contact hours - 54.2)

**ABM 215 ADVANCED BUSINESS MANAGEMENT III** 3 CR (5-7.5-41.7)

Identifies and examines alternative enterprise(s) for the business. This will include measuring the business performance past and present and assessing business goals. (Contact hours - 54.2)

**ABM 216 ADVANCED BUSINESS MANAGEMENT IV** 3 CR (5-7.5-41.7)

Evaluates and assesses revisions to the business plan. This will include a process for periodic review with a focus on strengthening of management skills. (Contact hours - 54.2)

**ABM 217 ADVANCED BUSINESS MANAGEMENT V** 3 CR (5-7.5-41.7)

Identifies critical areas in the business and sources of business risk. Various methods of researching resource materials to keep business plan current will be addressed as well as identifying alternatives to minimize future risks. (Contact hours - 54.2)

**ABM 218 ADVANCED BUSINESS MANAGEMENT VI** 3 CR (5-7.5-41.7)

Changes business plan to include a risk management component which addresses the critical issues identified. (Contact hours - 54.2)

**ABM 233 PROFIT MAXIMIZATION I** 3 CR (5-7.5-41.7)

Lists the major business organizational structures available to agribusiness operations and compare the advantages and disadvantages of each. Document the risk management and financial responsibilities of each. (Contact hours - 54.2)

**ABM 234 PROFIT MAXIMIZATION II** 3 CR (5-7.5-41.7)

Develops an understanding of basis agricultural business taxes and their preparation. Special emphasis will be placed on alternative rules for depreciating farm property. The student will also document the income tax implications of alternative business organizational structure. (Contact hours - 54.2)

**ABM 235 PROFIT MAXIMIZATION III** 3 CR (5-7.5-41.7)

Compares the relationship between input levels and the corresponding output. Demonstrate how to calculate the production response from alternative levels of input allocation within an enterprise and among alternative enterprises. (Contact hours - 54.2)

**ABM 236 PROFIT MAXIMIZATION IV** 3 CR (5-7.5-41.7)

Defines basic economic concepts that enhance the financial success of an agriculture operation. (Contact hours - 54.2)

**ABM 237 PROFIT MAXIMIZATION V** 3 CR (5-7.5-41.7)

Analyzes production costs and revenue from an economic standpoint. Identifies the production level that allows profits to be maximized. (Contact hours - 54.2)

**ABM 238 PROFIT MAXIMIZATION VI** 3 CR (5-7.5-41.7)

Examines the concepts that determines how market prices are established in a purely competitive agriculture environment. (Contact hours - 54.2)

**ABM 275 AG/BUSINESS MANAGEMENT SPECIAL TOPICS** 0.5-6 CR

This course provides the student with continued in depth analysis of their business. It allows for the student to keep up with rapidly changing technology available to the industry. *Prerequisite: instructor approval.*

**ACCOUNTING****ACC 101 FUNDAMENTALS OF ACCOUNTING** 3 CR (3-0)

Presents the basic elements and concepts of accounting with emphasis on the procedures used for maintaining journals, ledgers, and other related records, and for the completion of end-of-period reports for small service and merchandising businesses. (Contact hours-45)

**ACC 115 PAYROLL ACCOUNTING** 3 CR (3-0)

Studies federal and state employment laws and their effects on personnel and payroll records. The course is non-technical and is intended to give students a practical working knowledge of the current payroll laws and actual experience in applying regulations. Students are exposed to computerized payroll procedures. *Prerequisite: ACC 101 or ACC 121 ("C" or better).* (Contact hours - 45)

**ACC 121 ACCOUNTING PRINCIPLES I** 4 CR (4-0)

Introduces the study of accounting principles for understanding of the theory and logic that underlie procedures and practices. Major topics include the accounting cycle for service and merchandising companies, special journals and subsidiary ledgers, internal control principles and practices, notes and interest, inventory systems and costing, plant assets and intangible asset accounting, and depreciation methods and practices. (Contact hours - 60)

**ACC 122 ACCOUNTING PRINCIPLES II** 4 CR (4-0)

Continues the study of accounting principles as they apply to partnerships and corporations. Major topics include: stocks and bonds, investments, cash flow statements, financial analysis, budgeting, and cost and managerial accounting. *Prerequisite: ACC 121 or equivalent ("C" or better).* (Contact hours - 60)

**ACC 132 TAX HELP COLORADO** 2 CR (2-0)

This course prepares the students for preparation of federal and state income tax returns for individuals. Emphasis is placed on form preparation with the use of tax software. (Contact hours - 30)

**ACC 133 TAX HELP COLORADO PRACTICUM** 1 CR (0-1)

This course allows students to prepare actual federal and state income tax returns for individuals in a real time environment. *Prerequisite: ACC 132 ("C" or better).* (Contact hours - 25)

**ACC 175 SPECIAL TOPICS** 0-6 CR (0 to 6-0)

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 0 to 90)

**ACC 275 SPECIAL TOPICS** 1-6 CR (1 to 6-0)  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours=15 to 90)

**ACC 235 COMPUTERIZED ACCOUNTING FOR SMALL BUSINESSES** 3 CR (3-0)  
Introduces a microcomputer package, such as Quickbooks, One-Write Plus, or similar accounting application for use in a small business. Focuses on installation, starting the application, and converting a manual accounting system to an electronic system. Includes an easy to use bookkeeping system that incorporates all daily transactions and summarizes records in reports for a complete financial picture. (Contact hours – 45)

Additional courses are available through Colorado Community College Online (CCC Online).

## AGRI-BUSINESS

**AGB 102 AGRIBUSINESS FOUNDATIONS** 3 CR (3-0)  
Focuses on the foundational aspects of the primary agriculture business areas including economics, management, marketing, sales, and finance in an applied manner. Current events in agriculture are discussed with emphasis on application to agri-business. (Contact hours – 45)

**AGB 120 AGRICULTURAL SALESMANSHIP** 3 CR (3-0)  
Principles and techniques of agricultural sales as applied to goods and services being sold to individual producers or agricultural businesses. Emphasis will be placed on building business relationships and product training. (Contact hours – 45)

**AGB 180 AGRI-BUSINESS INTERNSHIP I** 5-8 CR  
As an employee in the agri-business industry, the student will receive practical training on the job. The student will gain experience in various phases of the business through performing the functions and duties assigned by their employer. (Contact hours=200-320 or 40 hours = 1 credit)

**AGB 218 COMPUTERIZED FARM RECORDS** 3 CR (3-0)  
Provides hands-on experience with a detailed computerized accounting system. The activities will lead students through entering transactions that develop the financial statements. Time will be provided for exploration with different accounting software. (Contact hours – 53)

**AGB 228 AGRI-BUSINESS MANAGEMENT** 3 CR (2-1.5)  
Provides the student with basic management principles and practical experience in applying principles of economics, business, marketing, and finance to the management of an agri-business operation. (Contact hours - 53)

**AGB 275 SPECIAL TOPICS** 1-6 CR (1 to 6-0)  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**AGB 280 AGRI-BUSINESS INTERNSHIP II** 0.25-6 CR  
Upon successful completion of a first agri-business internship (AGB 199), the student may enroll in this second internship to gain additional experience in an agri-business field. (Contact hours=10 - 240 or 40 hours = 1 credit)

**AGB 285 INDEPENDENT STUDY** 1-6 CR  
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**AGB 289 AGRI-BUSINESS CAPSTONE** 1 CR (1-0)  
Covers information necessary for employment and for developing job search skills. Students will receive instruction in writing resumes and cover letters, filling out job applications, and developing interviewing skills. *Prerequisite: Sophomore agri-business student.* (Contact hours – 15)

## AGRICULTURAL ECONOMICS

**AGE 102 AGRICULTURE ECONOMICS** 3 CR (3-0)  
Focuses on economic principles as applied to agriculture through price discovery with producer supply and consumer demand, governmental policies, rural development, and resource management. (Contact hours – 45) State Guarantee Transfer Course.

**AGE 205 FARM AND RANCH MANAGEMENT** 3 CR (2-2)  
Students will gain practical experience in applying principles of economics, marketing, and finance to the management of an agricultural operation. Students will create their own sample farm or ranch and emphasis will be placed on utilizing computer technology for budgeting and financial planning. *Prerequisite: CIS 118 (Ag emphasis preferred) (“C” or better) or instructor approval.* (Contact hours – 60)

**AGE 208 AGRICULTURAL FINANCE** 3 CR (3-0)  
An introductory course in principles of finance and their application to agriculture and agri-business, including the time value of money, net present value analysis, interest, credit, lending institutions, financial statements, and financial ratios. *Prerequisite: AGE 102 (“C” or better).* (Contact hours – 45)

**AGE 210 AGRICULTURAL MARKETING** 3 CR (3-0)  
An applied study of the agricultural marketing system and methods of marketing crops and livestock. Emphasis will be placed on hedging with futures and options. (Contact hours – 45)

**AGE 285 INDEPENDENT STUDY** 1-6 CR  
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

## PRODUCTION AGRICULTURE

**AGP 100 PRACTICAL CROP PRODUCTION** 4 CR (3-1.5)  
Cultural practices and production management of selected field crops indigenous to the Great Plains region will be covered. Laboratories in basic crop principles, crop and weed seed and plant identification, crop improvement and grain quality and grades will be covered. (Contact hours – 68)

**AGP 110 INTEGRATED PEST MANAGEMENT** 3 CR (1-2)  
Identification and control of economically important weeds, insects and diseases through systems approach management concepts including cultivation, chemical and biological control mechanisms. (Contact hours – 60)

**AGP 145 BEEF CATTLE CALVING MANAGEMENT** 2 CR (1-1.5)  
Offered in cooperation with Colorado State University and will cover management of the cow and calf at calving. Topics to be covered include the process of parturition, dystocia, identifying approaching parturition, assisting with dystocia, and care of the newborn calf. Emphasis is on practical “hands-on” experience. Students will be responsible for transportation to the Eastern Colorado Resource Center (E.C.R.C.) south of Sterling. Students will assist with night and weekend calving at the E.C.R.C. (Contact hours – 38)

**AGP 146 ARTIFICIAL INSEMINATION MANAGEMENT** 2 CR (1-1.5)  
Provides a study of applied fundamentals of anatomy and reproduction as they pertain to artificial insemination. Handling frozen semen, heat detection and nutritional management for A.I. are emphasized. Individualized training is given in developing and perfecting insemination techniques in live cattle. (Contact hours – 38)

**COURSE DESCRIPTIONS****99**

**AGP 147 PRACTICAL CATTLE REPRODUCTION 2 CR (1–1.5)**  
Studies the fundamentals of cattle reproduction. Principles covered include: nutrition, breeding, system management, physiology of the reproductive tract, hormone function, fertilization, stages of pregnancy, and overall reproductive management of the cow herd. Emphasizes economic decision making and practical experience. Covers practical applications in reproductive management that may include: reproductive tract scoring, pelvic measuring, body condition scoring, artificial insemination and palpating cows. (Contact hours – 38)

**AGP 148 CATTLE REPRODUCTION LAB 1 CR (0-2)**  
Development of skills necessary for reproductive management of cattle in Beef/Dairy operations. Covers the practical application of reproductive management techniques and practices utilized in the cattle industry. (Contact hours – 22.5)

**AGP 160 RANCH HORSEMANSHIP SKILLS 2 CR (0-2)**  
An introduction to the skills utilized in ranching operations where horses are involved in moving, sorting, and restraining cattle. Emphasis is placed on safety, proper techniques and in developing proficiency in equipment selection and care, basic horsemanship, riding, and roping. (Contact hours – 45)

**AGP 180 PRODUCTION AG INTERNSHIP 0.25 - 8 CR**  
Student will be employed in a production agriculture setting. This work experience must cover a minimum of 320 hours with the student being involved in all facets of the operation. Guidance and supervision will be the responsibility of the supervising employer and Coordinator of Production Agriculture. Emphasis will be placed on records, managerial decisions, and production agriculture skills. (Contact hours –10 - 320, 40 hours = 1 credit)

**AGP 204 SOIL FERTILITY AND FERTILIZERS 4 CR (3–1.5)**  
Soil fertility and plant nutrition in crop production, soil–plant relations, diagnostic techniques, and methods of evaluating soil fertility are emphasized. Also included are composition, manufacture, marketing, and use of fertilizer materials and their reactions with soils and plants.  
*Corequisite: AGY 240 ("C" or better) OR instructor approval.*  
(Contact hours – 68)

**AGP 208 COMMERCIAL PESTICIDE LICENSE TRAINING 3 CR (3–0)**  
Study of the requirements for the qualified supervisor license as outlined in the training manuals published by the Colorado Department of Agriculture. Students may elect to take the certified operator tests if they do not meet the experience qualifications for the qualified supervisors license. Areas studied will be for the general, weeds, agricultural insect, plant disease, and industrial right–of–way tests administered by the Colorado Department of Agriculture. Students may elect to take any of the other tests available. (Contact hours – 45)

**AGP 215 ANIMAL HEALTH 3 CR (2–1.5)**  
Introduced to methods of prevention, recognition, and treatment of common livestock diseases. Emphasis is placed on understanding the conditions which are normal, what steps the layman should attempt independently, and when to seek professional help. (Contact hours – 53)

**AGP 241 BEEF CATTLE MANAGEMENT I 3 CR (2–1.5)**  
Provides training in management pertaining to the economics of a commercial cow–calf operation. Topics included are reproduction, feeding, herd health, selection, record keeping, financial management, and marketing. (Contact hours – 53)

**AGP 247 PRODUCTION CATTLE FEEDING 3 CR (2–1.5)**  
Continuation of ASC 212 with emphasis on production feeding in large and medium size operations. The mechanics and management of feeding operations in and near the Sterling area are observed and studied. (Contact hours – 53)

**AGP 275 SPECIAL TOPICS 1-6 CR**  
Provides students with a vehicle to pursue exploration of special topics of interest.

**AGP 285 INDEPENDENT STUDY 1-6 CR**  
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**AGP 289 PRODUCTION AGRICULTURE CAPSTONE 1 CR (1-0)**  
Issues concerning transition into the family agriculture operation will be discussed. As a part of the course a seminar will be open to both students and parents (or future business partners) concerning issues of transition of the agricultural operation to the next generation. Topics concerning completion of the AAS degree will also be addressed.

**AGRICULTURE**

**AGR 170 RODEO I 2 CR**  
Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 171 RODEO II 2 CR**  
Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 172 RODEO III 2 CR**  
Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 173 RODEO IV 2 CR**  
Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 174 RODEO V 2 CR**  
Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 175 SPECIAL TOPICS 1-6 CR**  
Designed to instruct the student in various topics in agriculture. The student will experience different aspects of the agricultural industry. (Contact hours–15–90)

**AGR 235 PRECISION AG OPERATIONS 3 CR (2–2)**  
Introduces various methods in precision navigation of agricultural equipment utilizing Global Positioning Systems (GPS) and other support networks. Focus is placed on working with control consoles, equipment, GIS data integration, field planning, zone management, and variable rate applications. Attention is also given to differential correction systems, error sources, environmental variables, and precision accuracy. (Contact hours – 60)

**AGR 260 WORLD INTERDEPENDENCE - POPULATION & FOOD 3 CR (3–0)**  
Covers the study of world population and food production and distribution. Problems and opportunities concerning population and food are discussed in a global context. (Contact hours – 45) State Guaranteed Transfer Course.

**AGR 270 RODEO VI 2 CR**  
Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 271 RODEO VII 2 CR**  
Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 272 RODEO VIII****2 CR**

Allows the student-athletes an opportunity to participate in a competitive varsity sports program as dictated by the National Intercollegiate Rodeo Association (NIRA). (Contact hours–100-140)

**AGR 275 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours –15–90)

**AGRONOMY****AGY 100 GENERAL CROP PRODUCTION****4 CR (3–2)**

Production and adaptation of cultivated crops, with emphasis on crops grown in the western region of the United States. Principles affecting growth, development, production, and use will be covered. (Contact hours – 75)

**AGY 240 INTRODUCTORY SOIL SCIENCE****4 CR (3–2)**

Formation, physical properties, chemical properties, and management of soils emphasizing soil conditions that affect plant growth. *Prerequisites: Any CHE Course or instructor approval.* (Contact hours – 75) State Guaranteed Transfer Course.

**AGY 275 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours–15–90)

**AGY 285 INDEPENDENT STUDY****1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**AGRICULTURE MECHANICS****AME 105 BASIC AGRICULTURAL MECHANIC SKILLS****2 CR (1–2)**

Includes safety, proper tool use, tool reconditioning, A.C. electricity, D.C. electricity, domestic water supply, and farm sanitation systems. (Contact hours – 45)

**AME 107 GENERAL POWER MECHANICS****2 CR (1–2)**

Designed to teach the theory of operation and the maintenance of small engines and related power equipment used on the farm. (Contact hours – 45)

**AME 118 FARM CARPENTRY****3 CR (1–4)**

Includes safety, hand and power tool use, farm building planning and site location, concrete, farm building design and construction, and materials of construction. (Contact hours – 75)

**AME 125 AGRICULTURAL MACHINERY****3 CR (2–2)**

The safe operation, construction, purpose, maintenance, and adjustment of farm machinery are emphasized in this course. (Contact hours – 60)

**AME 151 FUNDAMENTALS OF WELDING****3 CR (1-4)**

Designed to develop basic welding skills, principles, and practices in arc and oxy–acetylene welding. (Contact hours – 75)

**AME 275 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**AME 285 INDEPENDENT STUDY****1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**ANTHROPOLOGY****ANT 101 CULTURAL ANTHROPOLOGY****3 CR (3–0)**

Studies the human cultural patterns and learned behavior. Includes linguistics, social and political organization, religion, culture and personality, culture change, and applied anthropology. (Contact hours – 45) State Guaranteed Transfer Course.

**ANT 102 CULTURAL ANTHROPOLOGY LAB****1 CR (0-2)**

Studies the art and science of ethnographic research methods. This course analyzes classic ethnographies, conducts field research projects, writes model ethnographies and ethnologies, and addresses ethical debates and controversies. (Contact hours – 30) State Guaranteed Transfer Course.

**ANT 103 ARCHAEOLOGY LAB****1 CR (0-2)**

Studies analytical methods in archaeological research including those employed in the field and in the laboratory. This course utilizes practical exercises to illustrate theoretical principles of archaeology, including methods of archaeological survey, excavation, artifact analysis, collection strategies, mapping strategies, and field interpretation. (Contact hours – 30) State Guaranteed Transfer Course.

**ANT 107 INTRODUCTION TO ARCHEOLOGY****3 CR (3-0)**

Introduces the science of recovering the human prehistoric and historic past through excavation, analysis, and interpretation of material remains. Includes a survey of the archaeology of different areas of the Old and New Worlds. Also includes the works of selected archaeologists and discussions of major archaeological theories. (Contact hours – 45) State Guaranteed Transfer Course.

**ANT 111 BIOLOGICAL ANTHROPOLOGY****4 CR (3–2)**

Focuses on the study of the human species and related organisms and examines principles of genetics, evolution, anatomy, classification, and ecology, including a survey of human variation and adaptation, living primate biology and behavior, and primate and human fossil evolutionary history. (Contact hours – 75) State Guaranteed Transfer Course.

**ANT 201 INTRO TO FORENSIC ANTHROPOLOGY****3 CR (3–0)**

Studies the basic principles of forensic anthropology, an applied field within the discipline of physical anthropology. Includes the study of the human skeleton, practical application of physical anthropology and archaeology, and judicial procedure as they relate to the identification of human remains within a medico-legal context. (Contact hours – 45) State Guaranteed Transfer Course.

**ANT 215 INDIANS OF NORTH AMERICA****3 CR (3-0)**

Studies the Indians of North America from the origins of native peoples in the New World, through the development of geographic culture areas, to European contact and subsequent contemporary Native American issues. (Contact hours – 45) State Guaranteed Transfer Course.

**ANT 225 ANTHROPOLOGY OF RELIGION****3 CR (3-0)**

Explores the culturally universal phenomenon of religion including cross-cultural varieties of beliefs in the supernatural and the religious rituals people employ to interpret and control their worlds. (Contact hours – 45)

**ANT 250 MEDICAL ANTHROPOLOGY****3 CR (3-0)**

Studies the basic principles of medical anthropology, an applied field within the discipline of cultural anthropology, including the cross-cultural study of practices and beliefs regarding illness, health, death, prevention, therapy, and the interaction of the medical systems between Western and other cultures. (Contact hours – 45) State Guaranteed Transfer Course.

**ANT 275 SPECIAL TOPICS****1-6 CR**

Provides opportunity for off-campus field experience or study of a special topic in anthropology. Field study may occur at archaeological sites, museums, host educational institutions, within ethnographic situations, or other anthropologically appropriate places. Study of a special topic may include that derived from physical anthropology, cultural anthropology, archaeology, or other anthropological discipline.

Additional courses are available through Colorado Community College Online (CCC Online).

**ART****ART 107 ART EDUCATION METHODS****3 CR (3-0)**

Focuses on a multimedia approach to teaching art. Emphasizes strong creative presence, philosophy, and techniques in drawing, painting, printmaking, and other media. ART or EDU credit available, but credit will be granted for only one option. (Contact hours – 45)

**ART 110 ART APPRECIATION****3 CR (3-0)**

Introduces the cultural significance of the visual arts, including media, processes, techniques, traditions, and terminology. (Contact hours – 45) State Guaranteed Transfer Course.

**ART 111 ART HISTORY ANCIENT TO MEDIEVAL****3 CR (3-0)**

Provides the knowledge base to understand the visual arts, especially as related to Western Culture. Surveys the visual arts from the Ancient through Medieval Periods. (Contact hours – 45) State Guaranteed Transfer Course.

**ART 112 ART HISTORY RENAISS. TO 1900****3 CR (3-0)**

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. (Contact hours – 45) State Guaranteed Transfer Course.

**ART 115 STAINED GLASS I****3 CR (0-6)**

Develops a basic understanding and approach to stained glass. Students gain an understanding of and appreciation for the properties of glass and the nature of finished stained glass construction. (Contact hours – 90)

**ART 116 STAINED GLASS II****3 CR (0-6)**

A continuation of Stained Glass I, students advance to a clearer, but still basic understanding and approach to stained glass. Students gain a greater understanding of and appreciation for the properties of glass and the nature of finished stained glass construction. (Contact hours – 90)

**ART 121 DRAWING I****3 CR (0-6)**

Investigates the various approaches and media that students need to develop drawing skills and visual perception. (Contact hours – 90)

**ART 124 WATERCOLOR I****3 CR (0-6)**

Provides an introduction to the basic techniques and unique aspects of materials involved in the use of either transparent or opaque water media or both. Color theory is included. (Contact hours – 90)

**ART 129 PRINTMAKING I****3 CR (0-6)**

Introduces the basic techniques and skills of printmaking as a fine art media. Instruction includes an understanding of visual concepts as they relate to prints. May include introduction to relief, intaglio, lithography, and screen printing techniques. (Contact hours – 90)

**ART 131 VISUAL CONCEPTS 2-D DESIGN****3 CR (0-6)**

Examines the basic elements of design, visual perception, and artistic form and composition as they relate to two-dimensional media. (Contact hours – 90)

**ART 132 VISUAL CONCEPTS 3-D DESIGN****3 CR (0-6)**

Focuses on learning to apply the elements and principles of design to three dimensional problems. (Contact hours – 90)

**ART 138 FILM PHOTOGRAPHY I****3 CR (2-2)**

Introduces black and white photography as a fine art medium and develops skills necessary for basic camera and lab operations. (Contact hours – 60)

**ART 139 DIGITAL PHOTOGRAPHY I****3 CR (2-2)**

Introduces the basic concepts of digital imaging as applied to photography. Using applicable technology and hands on experience, modern developments are presented leading to the present applications of digital imaging, which combine traditional photographic ideas with electronic media. Enables the student to learn how to operate image manipulation software using a variety of scanning equipment, software tools, and output devices by executing new assignments and applying these technologies to their photographic process. (Contact hours – 60)

**ART 151 PAINTING I****3 CR (0-6)**

Explores basic techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting to depict form and space on a two-dimensional surface. (Contact hours–90)

**ART 161 CERAMICS I****3 CR (0-6)**

Introduces traditional and contemporary ceramic forms and processes including handbuilding and throwing on the potter's wheel. (Contact hours – 90)

**ART 165 SCULPTURE I****3 CR (0-6)**

Introduces the fundamentals of sculpture such as modeling, casting, carving, and the processes of assemblage. (Contact hours – 90)

**ART 175 SPECIAL TOPICS****1-6 CR**

Students in this class will be taught special, creative art form.

**ART 185 INDEPENDENT STUDY****1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**ART 207 ART HISTORY 1900 TO PRESENT****3 CR (3-0)**

Provides students with the knowledge base to understand the visual arts as related to Modern and Contemporary visual art. Surveys world art of the twentieth century including Modernism to Post-Modernism. (Contact hours – 45) State Guaranteed Transfer Course.

**ART 221 DRAWING II****3 CR (0-6)**

Explores expressive drawing techniques with an emphasis on formal composition, color media, and content or thematic development. (Contact hours – 90)

**ART 222 DRAWING III****3 CR (0-6)**

Offers a continued study of expressive drawing techniques and development of individual style with an emphasis on composition and technique variation. (Contact hours – 90)

**ART 223 DRAWING IV****3 CR (0-6)**

Explores advanced drawing problems with an emphasis on conceptual development and portfolio and/or exhibition quality presentation. (Contact hours – 90)

**ART 231 ADVANCED VISUAL CONCEPTS 2-D DESIGN****3 CR (0-6)**

Provides continued study of the principles and elements of two-dimensional design with an emphasis on visual communication for further application in fine art, commercial art, and/or applied arts.

**ART 232 ADVANCED VISUAL CONCEPTS 3-D DESIGN****3 CR (0-6)**

Provides continued study of the principles and elements of three-dimensional design with an emphasis on visual communication for further application in fine art, commercial art, and/or applied arts.

**ART 251 PAINTING II****3 CR (0-6)**

This course further explores techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting with emphasis on composition and content development. (Contact hours – 90)

**ART 252 PAINTING III** 3 CR (0-6)  
Provides continued exploration of techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting, with emphasis on composition and content development. (Contact hours - 90)

**ART 253 PAINTING IV** 3 CR (0-6)  
Explores advanced techniques, materials, and concepts used in opaque painting processes with emphasis on the development of themes and a cohesive body of work. (Contact hours - 90)

**ART 261 CERAMICS II** 3 CR (0-6)  
Continuation of ART 161, this course emphasizes skill, technique, and form. (Contact hours - 90) *Prerequisite: ART 161 ("C" or better) OR instructor approval.*

**ART 275 SPECIAL TOPICS** 1-6 CR  
Provides the student with a vehicle to pursue in-depth exploration of special topics of interest.

Additional courses are available through Colorado Community College Online (CCC Online).

## ANIMAL SCIENCE

**ASC 100 ANIMAL SCIENCES** 3 CR (3-0)  
A study of the basic fundamentals of livestock production pertaining to principles of breeding, genetics, nutrition, health, anatomy and physiology of beef, sheep, swine, dairy, and horses. Other areas to be emphasized will be selection, breed classifications and identification, and the classification and marketing of meat animal products. *Prerequisite: Successful completion of REA 45 or 60 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 92.* (Contact hours - 45)

**ASC 101 ANIMAL SCIENCES LAB** 1 CR (0-2)  
Focuses on practical and laboratory applications of the fundamentals of livestock production and animal science. (Contact hours - 30)

**ASC 102 INTRODUCTION TO EQUINE SCIENCE** 4 CR (3-2)  
This course covers the basics of the equine industry, breeds, selection, form to function, care and management, soundness, health, reproduction, feeding, facilities, physiology, production systems, and management systems. (Contact hours - 75)

**ASC 105 INTRO TO LARGE ANIMAL ANATOMY** 1 CR (0-2)  
Introduction to basic gross anatomy of livestock and large animals used in agriculture. (Contact hours - 30)

**ASC 115 INTRO TO LIVESTOCK EVALUATION** 1 CR (0-2)  
Designed to explore principles and economic value of traits considered in meat animal selection. In addition, emphasis will be placed on terminology used in describing meat animal conformation. It will provide experience to the student in correctly evaluating meat animal classes and defending their evaluation with oral reasons using industry acceptable terminology. (Contact hours - 30)

**ASC 143 ELEMENTARY WESTERN EQUITATION** 2 CR (0-4)  
Provides the student with an introduction to basic safe handling and riding of the Western horse. (Contact hours - 60)

**ASC 215 LIVESTOCK JUDGING** 2 CR (0-4)  
Emphasizes comparative selection, grading, and judging of market and breeding classes of livestock based on knowledge of phenotype, performance, information, and/or carcass merit. (Contact hours - 60)

**ASC 225 FEEDS & FEEDING** 4 CR (3-2)  
A study of the basic nutrients, common feeds, and feed additives fed to livestock, anatomy of digestive systems, and basic feeding practices for beef, sheep, swine, horses, and dairy. The lab portion of this class will be

devoted to calculating and balancing rations to fulfill nutrient requirements for farm animals for growth, finishing, reproduction and lactation, and work. *Prerequisite: ASC 100 ("C" or better).* (Contact hours - 75)

**ASC 230 FARM ANIMAL ANATOMY & PHYSIOLOGY** 3 CR (3-0)  
Introduces students to the basic concepts of farm animal anatomy and physiology with emphasis on concepts relating to nutrition, reproduction, Immunology, and growth of the basic farm species. Anatomy and Physiology is taught in the context of applying basic principles to production practices in the industry including reproductive management, livestock nutrition management, and animal health practices. *Prerequisites: BIO 111 and ASC 100 ("C" or better) OR instructor approval.* (Contact hours - 45)

**ASC 243 INTERMEDIATE WESTERN EQUITATION** 2 CR (0-4)  
Provides the student basic to intermediate horsemanship and maneuvers, improved body position, and advanced control. *Prerequisites: ASC 143 ("C" or better) OR instructor approval.* (Contact hours - 60)

**ASC 250 LIVE ANIMAL & CARCASS EVALUATION** 3 CR (3-0)  
Explores meat animal carcass evaluation and the related yield and quality grading system. Selection of breeding stock based on performance data will also be emphasized. *Prerequisite: ASC 100 ("C" or better).* (Contact hours - 45)

**ASC 275 SPECIAL TOPICS** 1-6 CR  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**ASC 285 INDEPENDENT STUDY** 1-6 CR  
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**ASC 288 LIVESTOCK PRACTICUM** 2 CR (1-2)  
Provides experiential learning with beef cattle, dairy cattle, swine, and sheep. (Contact hours - 45)

## AUTO SERVICE TECHNOLOGY

**ASE 101 AUTO SHOP ORIENTATION** 2 CR (1.5-7.5)  
Provides students with safety instruction in the shop and on the automobile. Emphasis is placed on the proper use and care of test equipment, precision measuring and machining equipment, gaskets, adhesives, tubing, wiring, jacks, presses, and cleaning equipment and techniques. (Contact hours - 33.75)

**ASE 110 BRAKES I** 2 CR (1-1.5)  
Covers basic operation of automotive braking systems. Includes operation, diagnosis, and basic repair of disc brakes, drum brakes, and basic hydraulic systems. *Prerequisite: ASE 101 ("C" or better).* (Contact hours - 37.5)

**ASE 111 BRAKES II** 2 CR (1-1.5)  
Teaches skills to perform service checks and procedures to automotive foundation braking system and to identify components and types of ABS and traction control systems. *Prerequisite: ASE 101 ("C" or better).* (Contact hours - 37.5)

**ASE 120 BASIC AUTOMOTIVE ELECTRICITY** 2 CR (1-1.5)  
Introduces vehicle electricity and includes basic electrical theory, circuit designs, and wiring methods. Focuses on multi-meter usage and wiring diagrams. *Prerequisite: ASE 101 ("C" or better).* (Contact hours - 37.5)

**ASE 122 AUTO ELECTRICAL SAFETY SYSTEMS** 1 CR (0-1.5)  
Teaches the student to identify operation of vehicle lighting systems, Supplemental Inflatable Restraints (SIR), windshield wiper, driver warning systems, and vehicle accessories. *Prerequisite: ASE 101 ("C" or better).* (Contact hours - 22.5)

**ASE 123 BATTERY, STARTING & CHARGING SYS. 2 CR (1-1.5)**  
Covers the operation, testing, and servicing of the vehicle battery, starting, and charging systems. Includes voltage and amperage testing of starter and generator, load testing, and maintenance of a battery.  
*Prerequisites: ASE 101 & ASE 120 ("C" or better).* (Contact hours – 37.5)

**ASE 130 GENERAL ENGINE DIAGNOSIS 2 CR (1-1.5)**  
Teaches students how to perform basic engine diagnosis to determine condition of engine. This will include engine support systems. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 134 AUTO. FUEL & EMISSIONS SYSTEMS 2 CR (1-1.5)**  
Focuses on lecture and laboratory experiences in the diagnosis and repair of automotive fuel emission control systems, filter systems, and spark plugs. Course also includes maintenance to diesel (DEF) systems. *Prerequisites: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 140 STEERING & SUSPENSION I 2 CR (1-1.5)**  
Focuses on lecture and related experiences in the diagnosis and service of suspensions and steering systems and their components.  
*Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 141 STEERING & SUSPENSION II 2 CR (1-1.5)**  
Covers design, diagnosis, inspection, and service of suspension and steering systems used on light trucks and automobiles. Course includes power steering and SRS service. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 150 MANUAL DRIVE TRANS & AXLE 2 CR (1-1.5)**  
Studies the operating principles and repair procedures relating to axle-shaft and universal joints. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 151 MANUAL TRANS/TRANSAXLES & CLUTCHES 2 CR (1-1.5)**  
Focuses on lecture and related laboratory experiences in the diagnosis and repair of automotive manual transmissions, transaxles and clutches, and related components. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 152 MANUAL TRANS/TRANSAXLES & CLUTCHES II 2 CR (1-1.5)**  
Focuses on lecture and related laboratory experiences in the diagnosis and repair of automotive differentials, four wheel, and all wheel drive units.  
*Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 153 AUTO DRIVE AXLE O/H 1 CR (0-1.5)**  
Teaches the student skills to check, inspect, and replace parts necessary to rebuild differential assembly. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 22.5)

**ASE 154 MANUAL TRANS/TRANSAXLE O/H 1 CR (0-1.5)**  
Covers operation, diagnosis, and repair procedures of manual transmission and transaxle assemblies. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 22.5)

**ASE 160 AUTO ENGINE REPAIR 2 CR (1-1.5)**  
Focuses on lecture and laboratory experiences in the service of cylinder head, valve-train components, and components of the cooling system. Course also includes engine removal, re-installation, and re-mounting systems. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 161 ENGINE REPAIR & O/H 3 CR (1-3)**  
Focuses on lecture and laboratory experiences in the disassembly, diagnosis, and reassembly of the automotive engine. Topics include the diagnostic and repair procedures for the engine block and head assemblies. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 60)

**ASE 162 AUTO ENGINE SERVICE 2 CR (1-1.5)**  
Covers engine sealing requirements, repair procedures, engine fasteners, bolt torque, and repair of fasteners. Course will also cover cooling system and basic engine maintenance. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 165 AUTOMOTIVE MACHINING 2 CR (1-1.5)**  
Offers instruction in machining processes on the automotive engine using up-to-date machines to recondition connecting rods, bore engine blocks, machine heads for replaceable guides, and seats. Brake drum and disc machining is also discussed. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 37.5)

**ASE 175 INTRO TO AUTO REPAIR & MAINTENANCE 2 CR (1-1.5)**  
Exploration of current topics, issues, and activities related to one or more aspects of the named discipline. (Contact hours – 37.5)

**ASE 210 AUTO POWER/ABS BRAKE SYSTEMS 2 CR (1-1.5)**  
Covers the operation and theory of the modern automotive braking systems. Includes operation, diagnosis, service, and repair of the anti-lock braking systems, power assist units, and machine operations of today's automobile. *Prerequisite: ASE 110* (Contact hours – 37.5)

**ASE 220 SPECIALIZED ELECTRONICS TRAINING 2 CR (1-1.5)**  
Provides a systematic approach to automotive electrical systems. Builds from the basic electrical principles and concepts through semiconductors and microprocessors. Features on-bench exercises. Students practice diagnostic procedures that have applications to present and future automotive electronics and electrical systems. *Prerequisites: ASE 101 & ASE 120 ("C" or better).* (Contact hours – 37.5)

**ASE 221 AUTO/DIESEL BODY ELECTRICAL 4 CR (1-4.5)**  
Provides a comprehensive study of the theory, operation, diagnosis, and repair of vehicle accessories. *Prerequisites: ASE 101 & ASE 120 ("C" or better).* (Contact hours – 82.5)

**ASE 231 AUTO COMPUTERS & IGNITION SYSTEMS 2 CR (1-1.5)**  
Focuses on lecture and laboratory experiences in the inspection and testing of typical computerized engine control systems.  
*Prerequisites: ASE 101 & ASE 120 ("C" or better).* (Contact hours – 37.5)

**ASE 233 AUTO FUEL INJECTION & EMISSIONS 4 CR (2-3)**  
Focuses on lecture and related laboratory experiences in the diagnosis and repair of electronic fuel injection systems and modern exhaust systems.  
*Prerequisite: ASE 101 ("C" or better).* (Contact hours – 75)

**ASE 235 DRIVEABILITY & DIAGNOSIS 2 CR (1-1.5)**  
Emphasizes lecture and related laboratory experience in diagnostic techniques and the use of diagnostic scan tools, oscilloscopes, lab scopes, multi-meters, and gas analyzers. Students diagnose live vehicle driveability problems. *Prerequisites: ASE 101 & ASE 120 ("C" or better).* (Contact hours – 37.5)

**ASE 240 & STEERING & SUSPENSION III 2 CR (1-1.5)**  
Emphasizes lecture and related experiences in the diagnosis and service of electronic suspensions and steering systems and their components.  
*Prerequisites: ASE 101 & ASE 140 ("C" or better).* (Contact hours – 37.5)

**ASE 250 AUTOMOTIVE TRANSMISSION/TRANSAXLE SERVICES 1 CR (0-1.5)**  
Covers diagnosis, principles of hydraulics, principles of electronic components, power flow, theory of operation, remove and re-install transmission/transaxle, and replacement of components.  
*Prerequisite: ASE 101 ("C" or better).* (Contact hours – 22.5)

**ASE 251 AUTO TRANS/TRANSAXLE REPAIR 3 CR (1.5-2.5)**  
Covers diagnosis, principles of hydraulics, principles of electronic components, power flow, theory of operation, remove and re-install transmission/transaxle, and replacement of components.  
*Prerequisite: ASE 101 ("C" or better).* (Contact hours – 60)

**ASE 252 ADVANCED AUTOMATIC TRANS. O/H 2 CR (.5-2.25)**  
Provides laboratory experiences with a variety of customer work in the areas that the student received training during previous automotive transmission classes. *Prerequisite: ASE 101 ("C" or better).* (Contact hours – 41.25)

**ASE 264 INTRO TO AUTO HEATING/AC** 1 CR (0–1.5)  
Covers basic operation of the heating and air conditioning components.  
*Prerequisite:* ASE 101 (“C” or better). (Contact hours - 22.5)

**ASE 265 HVAC SYSTEMS** 4 CR (2-3)  
Emphasizes lecture and related laboratory experiences in the diagnosis and service of vehicle heating and air conditioning systems and their components. *Prerequisite:* ASE 101 (“C” or better). (Contact hours – 75)

## ASTRONOMY

**AST 101 PLANETARY ASTRONOMY w/Lab: SCI** 4 CR (3–2)  
Focuses on the history of astronomy, naked eye observations, tools of the astronomer, contents of the solar system, and life in the universe. Incorporates laboratory experience. The Colorado Commission on Higher Education has approved AST 101 for inclusion in the Guaranteed Transfer (GT) Pathways in the GT-SC1 category. For transferring students, successful completion with a minimum C- grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highered.colorado.gov/academics/transfers/gtpathways/curriculum.html> *Prerequisites:* Successful completion of REA 90 or CCR 92 (“C” or better) OR appropriate placement score (see page 139). *Corequisites:* CCR 94 and ENG 121. (Contact hours – 75) State Guaranteed Transfer Course.

**AST 102 STELLAR ASTRONOMY w/Lab: SCI** 4 CR (3–2)  
Emphasizes the structure and life cycle of the stars, the sun, galaxies, and the universe as a whole, including cosmology and relativity. Stellar phenomena including white dwarves, black holes will be explored. Incorporates laboratory experience. The Colorado Commission on Higher Education has approved AST 101 for inclusion in the Guaranteed Transfer (GT) Pathways in the GT-SC1 category. For transferring students, successful completion with a minimum C- grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highered.colorado.gov/academics/transfers/gtpathways/curriculum.html>. *Prerequisite:* Successful completion of REA 90 or CCR 92 (“C” or better) OR appropriate placement score (see page 139). *uisites:* CCR 94 and ENG 121. (Contact hours – 75) State Guaranteed Transfer Course.

## BIOLOGY

**BIO 103 PRINCIPLES OF ANIMAL BIOLOGY** 3 CR (3–0)  
Introduces the student to the study of animals from the cellular level to the interactions of the organism within its environment and their ecological contributions. This course includes principles of evolution, animal ecology, animal architecture, taxonomy, and phylogeny. It also includes the study of animal diversity, emphasizing the characteristics and classifications of animal phyla and major classes. (Contact hours – 45) State Guaranteed Transfer Course.

**BIO 104 BIOLOGY: A HUMAN APPROACH** 4 CR (3–1)  
Develops a basic knowledge of the structure and function of the human body by studying the body’s structure as a series of interrelated systems. Includes cardiovascular, respiratory, digestive, lymphatic, musculoskeletal, nervous, endocrine, reproductive and urinary systems, and genetics. Emphasizes disease prevention and wellness. This course includes laboratory experience. (Contact hours – 75) State Guaranteed Transfer Course.

**BIO 105 SCIENCE OF BIOLOGY** 4 CR (3–2)  
Designed for non-science students. 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. (Contact hours – 75) State Guaranteed Transfer Course.

**BIO 111 GENERAL COLLEGE BIOLOGY I WITH LAB** 5 CR (4–2)  
Examines the fundamental molecular, cellular, and genetic principles characterizing plants and animals. Includes cell structure and function, the metabolic processes of respiration, and photosynthesis, as well as cell reproduction and basic concepts of heredity. This course includes laboratory experience. *Prerequisites:* Successful completion of REA 90 or CCR 92 (“C” or better) OR appropriate placement score (see page 139). *Corequisite:* CCR 94 and ENG 121. (Contact hours – 90) State Guaranteed Transfer Course.

**BIO 112 GENERAL COLLEGE BIOLOGY II WITH LAB** 5 CR (4–2)  
A continuation of General College Biology I. Includes ecology, evolution, classification, structure, and function in plants and animals. This course includes laboratory experience. *Prerequisite:* BIO 111 (“C” or better) OR instructor approval. (Contact hours – 90) State Guaranteed Transfer Course.

**BIO 116 INTRODUCTION TO HUMAN DISEASE** 3 CR (3-0)  
Focused analysis of the causes and mechanics of human illness and death will be presented for each of the major human body systems. Selected diseases will be studied in greater detail including etiology, pathogenesis, epidemiology, sociology, and therapy. *May be used as Natural and Physical Science requirement for AA & AGS Degrees and as an elective for AS Degree.* (Contact hours – 45) State Guaranteed Transfer Course.

**BIO 175 SPECIAL TOPICS** 1-6 CR  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours – 0 to 90)

**BIO 201 HUMAN ANATOMY AND PHYSIOLOGY I** 4 CR (3–2)  
Focuses on an integrated study of the human body including the histology, anatomy, and physiology of each system. Examines molecular, cellular, and tissue levels of organization plus integuments, skeletal, articulations, muscular, and nervous systems. Includes a mandatory hands-on laboratory experience covering experimentation, microscopy, observations, and dissection. This is the first semester of a two semester sequence. *Prerequisite:* BIO 111 (“C” or better) OR BIO 104 (“C” or better) OR BIO 106 (“C” or better) OR instructor approval. (Contact hours – 75) State Guaranteed Transfer Course.

**BIO 202 HUMAN ANATOMY AND PHYSIOLOGY II** 4 CR (3–2)  
Focuses on the integrated study of the human body and the histology, anatomy, and physiology of the following systems and topics: endocrine system, cardiovascular, hematology, lymphatic and immune, urinary fluid and electrolyte control, digestive, nutrition, respiratory, reproductive, and development. Includes a mandatory hands-on laboratory experience involving experimentation, microscopy, observations, and dissection. This is the second semester of a two-semester sequence. *Prerequisite:* BIO 111 (“C” or better) OR BIO 104 (“C” or better) OR BIO 106 (“C” or better), OR BIO 201 or equivalent (“C” or better) OR instructor approval. (Contact hours – 75) State Guaranteed Transfer Course.

**BIO 204 MICROBIOLOGY** 4 CR (3–3)  
Designed for health science majors. Examines microorganisms with an emphasis on their structure, development, physiology, classification, and identification. The laboratory experience includes culturing, identifying, and controlling microorganisms with an emphasis on their role in infectious disease. *Prerequisite:* BIO 111 or equivalent (“C” or better), OR instructor approval. (Contact hours – 105) State Guaranteed Transfer Course.

**BIO 208 GENERAL COLLEGE MICROBIOLOGY** 5 CR (4–3)  
Designed for biology and health science majors. Surveys microorganisms with an emphasis on their structure, development, physiology, classification, and identification. Includes microbial diversity, functional anatomy, biochemistry, genetics, ecology, and disease. Mandatory hands-on laboratory experience covers sterile technique, microscopy, culture procedures, and biochemical and genetic analysis. *Prerequisite:* BIO 111 (“C” or better) OR instructor approval. (Contact hours - 105) State Guaranteed Transfer Course.

**BIO 216 PATHOPHYSIOLOGY****4 CR (3-2)**

Focuses on the alterations in physiological, cellular, biochemical processes, the associated homeostatic responses, and the manifestations of disease. Prior knowledge of cellular biology, anatomy, and physiology is essential for the study of pathophysiology. (*Prerequisite* BIO 201 OR 202 ("C" or better) OR *instructor approval*. (Contact hours – 75)

Additional courses are available through Colorado Community College Online (CCC Online).

**BUSINESS****BUS 102 ENTREPRENEURIAL OPERATIONS****3 CR (3-0)**

Covers the major aspects of small business management to enable the entrepreneur to successfully begin his own business. This course provides the basic concepts of marketing, principles of management, and finance needed to manage a small business. Further it develops the business plan and suggests methods of obtaining the financing required to launch the business. (Contact hours - 45)

**BUS 115 INTRODUCTION TO BUSINESS****3 CR (3-0)**

Focuses on the operation of the American business system. Covers fundamentals of the economy, careers and opportunities, marketing, management, production, governmental regulations, tools of business, and social responsibilities. *Prerequisite: Successful completion of REA 45 or 60 or CCR 92 ("C" or better) OR appropriate placement score (see page 139).* *Corequisite: CCR 92.* (Contact hours - 45)

**BUS 116 PERSONAL FINANCE****3 CR(3-0)**

Surveys the basic personal financial needs of most individuals. Emphasizes the basics of budgeting and buying, saving and borrowing money, the intricacies of home ownership, income tax and investments, and the wise use of insurance, wills, and trusts. (Contact hours - 45)

**BUS 120 INTRODUCTION TO E-COMMERCE****3 CR (3-0)**

Provides an introduction to electronic commerce—the business trend of the future. Covers definition of e-commerce, technology and software requirements, security issues, electronic payment, and marketing strategies. Focuses on what to expect when creating a dot com as well as the business-to-business use of e-commerce. (Contact hours - 45)

**BUS 175 SPECIAL TOPICS IN BUSINESS****1-6 CR (.25 to 7-0)**

Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as needed basis to provide current, up-to-date information. (Contact hours - 4 to 45)

**BUS 185 INDEPENDENT STUDY****1-6 CR (0 to 0)**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**BUS 187 COOPERATIVE EDUCATION/INTERNSHIP****1-6 CR (0-0)**

Provides students with the opportunity to supplement course work with practical work experience related to their educational program and occupational objectives. Students are placed at approved work stations related to their program of study. They work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.

**BUS 203 INTRO TO INTERNATIONAL BUSINESS****3 CR (3-0)**

Provides students with an understanding of the interdisciplinary nature of international business. Course will cover the development of international business: theories and methods of international trade, financing mechanisms, terms used in export documentation and export finance, effects of economics, political and cultural environment on international business and trade, impact of geography in business transactions, legal aspects of international business, and developing an effective international marketing strategy. (Contact hours - 45)

**BUS 216 LEGAL ENVIRONMENT OF BUSINESS****3 CR (3-0)**

Emphasizes public law, regulation of business, ethical considerations, and various relationships existing within society, government, and business. Specific attention will be devoted to economic regulation, social regulation, regulation and laws impacting labor-management issues, and environmental concerns. Students will develop an understanding of the role of law in social, political, and economic change. (Contact hours - 45)

**BUS 217 BUSINESS COMMUNICATION AND REPORT WRITING****3 CR (3-0)**

Emphasizes effective business writing and cover letters, memoranda, reports, application letters, and resumes. Includes the fundamentals of business communication and an introduction to international communication. *Suggested Prerequisite: Sentence Skills Accuplacer score of 95.* (Contact hours - 45)

**BUS 226 BUSINESS STATISTICS****3 CR (3-0)**

Focuses on statistical study, descriptive statistics, probability, binomial distribution, index numbers, time series, decision theory, confidence intervals, linear regression, and correlation. Intended for the business major. *Prerequisite: Elementary Algebra score of 85+ OR successful completion of MAT 50 or 90 or 96 or 99 ("C" or better) OR Math ACT score of 21 OR appropriate placement score (see page 138).* (Contact hours - 45)

**BUS 275 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as needed basis to provide current, up-to-date information.

**BUS 281 INTERNSHIP****1-6 CR**

Provides continued instruction and the opportunity for students to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

**BUS 285 INDEPENDENT STUDY****1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

**BUS 287 COOPERATIVE EDUCATION****1-6 CR**

Provides students with the opportunity to supplement course work with practical work experience related to their educational program and occupational objectives. Students are placed at approved work stations related to their program of study. They work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.

**BUS 288 PRACTICUM****0-6 CR**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Additional courses are available through Colorado Community College Online (CCC Online).

**COMPOSITION AND READING****CCR 91 COMPOSITION AND READING LAB****1 CR (1-0)**

Supports skill development for students registered in CCR 92 College Composition and Reading who score below RC 40 or SS 50. Topics covered in the course include those defined in CCR 092 and/or any foundational skills needed by the student. *Prerequisite: This course has reading placement requirements (see page 139).* Paired with CCR 92. (Contact hours - 15)

**CCR 92 COLLEGE COMPOSITION AND READING 5 CR (5-0)**  
Integrates and contextualizes college level reading and writing. Students will read and understand complex materials and respond to ideas and information through writing informative and/or persuasive texts.  
*Prerequisite: This course has reading placement requirements (see page 139).* (Contact hours - 75)

**CCR 94 STUDIO 121 3 CR (3-0)**  
Integrates and contextualizes reading and writing strategies tailored to co-requisite ENG 121 coursework. Students will read and understand complex materials and respond to ideas and information through writing informative and/or persuasive texts. *Prerequisite: This course has reading placement requirements (see page 139).* Paired with ENG 121. (Contact hours - 45)

Additional courses are available through Colorado Community College Online (CCC Online).

## CHEMISTRY

**CHE 101 INTRODUCTION TO CHEMISTRY 5 CR (4-2)**  
Includes the study of measurements, atomic theory, chemical bonding, nomenclature, stoichiometry, solutions, acid and base, gas laws, and condensed states. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively. Designed for non-science majors, students in occupational and health programs, or students with no chemistry background. *Prerequisite: MAT 55 ("C" or better).* (Contact hours - 90) State Guaranteed Transfer Course.

**CHE 111 GENERAL COLLEGE CHEMISTRY I W/LAB 5 CR (4-3)**  
Focuses on basic chemistry and measurement, matter, chemical formulas, reactions and equations, stoichiometry. This course covers the development of atomic theory culminating in the use of quantum numbers to determine electron configurations of atoms, and the relationship of electron configuration to chemical bond theory. The course includes gases, liquids, and solids, and problem-solving skills are emphasized through Laboratory experiments. The Colorado Commission on Higher Education has approved CH 111 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-SC1 category. For transferring students, successful completion with a minimum C- grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to <http://highered.colorado.gov/academics/transfers/gtpathways/curriculum.html>. *Prerequisite: 1 year high school chemistry or equivalent. Corequisite: MAT 121 or instructor approval.* (Contact hours - 105) State Guaranteed Transfer Course.

**CHE 112 GENERAL COLLEGE CHEMISTRY II W/LAB 5 CR (4-3)**  
Presents concepts in the areas of solution properties, chemical kinetics, chemical equilibrium, acid-base and ionic equilibrium, thermodynamics, electrochemistry, nuclear chemistry, and organic chemistry. This course emphasizes problem solving skills and descriptive contents for these topics. Laboratory experiments demonstrate qualitative and quantitative analytical techniques. *Prerequisite: CHE 111 ("C" or better).* (Contact hours - 105) State Guarantee Transfer Course.

**CHE 211 ORGANIC CHEMISTRY I W/LAB 5 CR (4-3)**  
Designed for chemistry, premedical, and preveterinary students. Focuses on compounds associated with the element carbon including structure and reactions of aliphatic hydrocarbons and selected functional group families. The course covers nomenclature of organic compounds, stereochemistry, and reaction mechanism such as SN1, SN2, E1 and E2. Laboratory experiments demonstrate the above concepts plus the laboratory techniques associated with organic chemistry. *Prerequisite: CHE 112 ("C" or better).* (Contact hours - 105)

**CHE 212 ORGANIC CHEMISTRY II W/LAB 5 CR (4-3)**  
Continuation of CHE 211. Continues the investigation into the chemistry of carbon-based compounds, their reactions, and synthesis, including the structure, physical properties, reactivities, and synthesis of organic functional groups not covered in the first semester. The course explores functional groups including alcohols, ethers, aromatics, aldehydes, ketones,

amines, amides, esters, and carboxylic acids and the reactions and reaction mechanisms of aromatic compounds. An introduction to biochemical topics may be included if time permits. Laboratory experiences demonstrate the above concepts and the laboratory techniques associated with organic chemistry. *Prerequisite: CHE 211 ("C" or better).* (Contact hours - 105)

**CHE 275 SPECIAL TOPICS 1-6 CR**  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**CHE 285 INDEPENDENT STUDY 1-6 CR**  
Provides the opportunity for the highly motivated student to engage in intensive study and research on a specified topic under the direction of a faculty member. Allows a student to complete a course in a semester when the course has not been offered or has been canceled. The option to make independent study available is at the discretion of qualified faculty and the department chair. The student is limited to the number of independent study courses taken per semester. *Prerequisite: instructor approval.*

Additional courses are available through Colorado Community College Online (CCC Online).

## COMPUTER INFORMATION SYSTEMS

**CIS 117 INTRODUCTION TO TECHNICAL APPLICATIONS 2 CR (2-0)**  
Provides a basic introduction of standard software packages available to support a microcomputer-based workstation. Includes entry-level hands-on work with word processors, spreadsheets, electronic presentations and basic internet functionality to support the technical environment. (Contact hours - 30)

**CIS 118 INTRO TO PC APPLICATIONS 3 CR (3-0)**  
Introduces basic computer terminology, file management, and PC system components. Provides an overview of office application software including word processing, spreadsheets, databases, and presentation graphics. Includes the use of a web browser to access the Internet. (Contact hours - 45)

**CIS 175 SPECIAL TOPICS .25 to 6 CR (.25 to 6-0)**  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 4 to 45)

**CIS 259 MICROSOFT OFFICE SPECIALIST CERTIFICATION PREPARATION: EXPERT EXCEL 1 CR (1-0)**  
Covers the competencies required to pass the Microsoft User Specialist (MOS) Excel Expert Exam. *Prerequisite: CIS 118 OR CIS 159 ("C" or better) OR instructor approval.* (Contact Hours - 15)

**CIS 275 SPECIAL TOPICS 1-6 CR (1 to 6-0)**  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 4 to 45)

**CIS 285 INDEPENDENT STUDY 1-6 CR**  
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. *Prerequisite: instructor approval.*

**CIS 287 COOPERATIVE EDUCATION 1-6 CR**  
Provides students an opportunity to gain practical experience in applying their occupational skills and/or to develop specific skills in a practical work setting. The instructor works with the student to select an appropriate work site, establish learning objectives, and to coordinate learning activities with the employer work site supervisor.

Additional courses are available through Colorado Community College Online (CCC Online).

## COMMUNICATION

### COM 115 PUBLIC SPEAKING 3 CR (3-0)

Combines the basic theory of speech communication with public speech performance skills. Emphasizes on speech delivery, preparation, organization, support, and audience analysis. (Contact hours - 45)

### COM 125 INTERPERSONAL COMMUNICATION 3 CR (3-0)

Examines the communication involved in interpersonal relationships occurring in family, social, and career situations. Relevant concepts include self-concept, perception, listening, nonverbal communication, and conflict. (Contact hours - 45)

### COM 175 SPECIAL TOPICS 1-6 CR (0-0)

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

### COM 217 GROUP COMMUNICATION 3 CR (3-0)

Examines group communication theories with an emphasis on leadership and group behaviors. The course provides opportunities for group participation.

### COM 220 INTERCULTURAL COMMUNICATIONS 3 CR (3-0)

Explores the link between culture and communication and will develop and/or enhance communication skills and the abilities appropriate to a multicultural society. Emphasis will be on understanding diversity within and across cultures. Relevant concepts include perception, worldview, context, ethics, language, and nonverbal communication. (Contact hours - 45) State Guaranteed Transfer Course.

### COM 230 ARGUMENTATION AND DEBATE 3 CR (3-0)

Introduces the student to the theory of argumentation including reasoning, evidence, refutation, critical thinking, and extemporaneous speaking. The course includes practice in preparation and oral analysis of selected arguments and styles of debating. (Contact hours - 45)

Additional courses are available through Colorado Community College Online (CCC Online).

## COSMETOLOGY

(All COS, EST, and NAT courses are a part of the Cosmetology Program and cannot be taken as independent courses.)

### COS 103 SHAMPOOS, RINSES & CONDITIONERS I 1 CR (1-0)

Introduces various types of scalp treatments and shampoos. Enables student to recognize and treat disorders of hair and scalp. Covers product knowledge and proper massage techniques to help control disorders and to cleanse the hair and scalp. Includes terminology dealing with hair structure, scalp, and hair disorders. Provides training in a lab or classroom setting. (Contact hours - 15)

### COS 110 INTRODUCTION TO HAIR COLORING 2 CR (1-1.5)

Provides theory pertaining to the law of color, theory of color, chemistry of color, product knowledge, and analysis of hair and scalp. Covers basic techniques and procedures for the application of hair coloring. (Contact hours - 37.5)

### COS 111 INTERMEDIATE I: HAIR COLORING 2 CR (0-3)

Focuses on theory and practical application of color products, formulations of color, level, and shades of color. Examines techniques in a specialized class or in a supervised salon setting. *Prerequisite: COS 110 ("C" or better).* (Contact hours - 45)

### COS 120 INTRODUCTION TO HAIR CUTTING 2 CR (1-1.5)

Introduction to the theory relevant to patron protection, angles, elevations, and the analysis of hair textures as related to hair cutting. Covers the proper use and care of hair cutting implements.

Focuses on basic hair cutting techniques using all cutting implements. Disinfection and sanitation procedures as they relate to haircutting. (Contact hours - 37.5)

### COS 121 INTERMEDIATE I: HAIR CUTTING 2 CR (0-3)

Focuses on theory related to facial shapes and head and body forms to determine the client's appropriate haircut. Incorporates practical applications of hair cutting techniques in specialized classes or in a supervised salon setting. *Prerequisite: COS 120 ("C" or better).* (Contact hours - 45)

### COS 130 INTRODUCTION TO HAIR STYLING 2 CR (1-1.5)

Combines theory with the practical application of roller placement, shaping, pincurls, finger waves, air forming, iron curling, soft pressing, and hard pressing. (Contact hours - 37.5)

### COS 131 INTERMEDIATE I: HAIR STYLING 2 CR (0-3)

Focuses on the accepted methods of styling hair, air forming, roller sets, finger waves, pin curls, braiding and hair pressing. *Prerequisite: COS 130 ("C" or better).* (Contact hours - 45)

### COS 140 INTRODUCTION TO CHEMICAL TEXTURE 1 CR (1-0)

Introduces a combination of theory and practice focusing on the analysis of hair and scalp, proper equipment, and product knowledge. Includes basic techniques in permanent waving and chemical relaxing. Provides training in a classroom or lab setting on mannequins or live models. (Contact hours - 15)

### COS 141 INTERMEDIATE I: CHEMICAL TEXTURE 1 CR (0-1.5)

Emphasizes theory and practical application of permanent waves and chemical relaxers in specialized classes or a supervised salon setting. Enables the student to practice different wrapping techniques required by trend styles. *Prerequisite: COS 140 ("C" or better).* (Contact hours - 22.5)

### COS 150 LAWS, RULES & REGULATIONS 1 CR (1-0)

Provides instruction on the laws, rules, and regulations, and how they govern the cosmetology and barber industry, the affects of these on the student, licensed individual, salons, and school owners. (Contact hours - 15)

### COS 160 INTRODUCTION TO DISINFECTION, SANITATION & SAFETY 2 CR (1-1.5)

Introduces the various methods of disinfection, sanitation, and safety as used in the cosmetology industry. Includes classroom study of bacteriology and the terminology dealing with cosmetology. (Contact hours - 37.5)

### COS 161 INTERMEDIATE I: DISINFECTION, SANITATION & SAFETY 1 CR (0-1.5)

Focuses on the theory and daily practice of proper methods of disinfection, sanitation, and safety procedures as related to all phases of cosmetology. Covers terminology and training of disinfection, sanitation and safety procedures. Also includes customer service in a supervised salon setting or specialized class. *Prerequisite: COS 160 ("C" or better).* (Contact hours - 22.5)

### COS 203 SHAMPOOS, RINSES & CONDITIONERS II 1 CR (0-1.5)

Provides theory and practical training in shampoos, rinses, and conditioners. Examines advanced techniques to prepare the student for employment. Includes preparation for the State Board Licensing Examination in shampoos, rinses, and conditioners. *Prerequisite: COS 103 ("C" or better).* (Contact hours - 22.5)

**COS 210 INTERMEDIATE II: HAIR COLORING** 2 CR (0-3)  
Provides continued instruction in the theory and practical application of color products, formulations of color, level, and shades of color. Enables students to practice techniques in a specialized class or in a supervised salon setting. *Prerequisite: COS 111 ("C" or better).* (Contact hours - 45)

**COS 211 ADVANCED HAIR COLORING** 2 CR (0-3)  
Provides continued instruction on advanced theory and practical techniques in hair coloring. Focuses on the recognition of color problems and color correction procedures. Covers advanced techniques and product knowledge to prepare the student for employment. Prepares the student for the State Board Licensing Examination pertaining to hair coloring. *Prerequisite: COS 210 ("C" or better).* (Contact hours - 45)

**COS 220 INTERMEDIATE II: HAIR CUTTING** 2 CR (0-3)  
Provides continued instruction in the theory related to facial shapes, head and body forms to determine the client's appropriate haircut. Incorporates practical applications of hair cutting techniques. *Prerequisite: COS 121 ("C" or better).* (Contact hours - 45)

**COS 221 ADVANCED HAIR CUTTING** 2 CR (0-3)  
Focuses on advanced cutting techniques using all the cutting tools. Emphasizes current fashion trends. Includes student preparation for the State Board Licensing Examination. *Prerequisite: COS 220 ("C" or better).* (Contact hours - 45)

**COS 230 INTERMEDIATE II: HAIR STYLING** 2 CR (0-3)  
Provides continued instruction on accepted methods of styling hair, air forming, roll set, finger waves, and hair pressing. Examines techniques in specialized classes or in a supervised salon setting. *Prerequisite: COS 131 ("C" or better).* (Contact hours - 45)

**COS 231 ADVANCED HAIR STYLING** 1 CR (0-1.5)  
Focuses on theory and advanced techniques in all phases of hair styling to prepare the student for employment. Training is a combination of supervised salon work and specialized classes. Includes student preparation for the State Board Licensing Examination relating to hairstyling. *Prerequisite: COS 230 ("C" or better).* (Contact hours - 22.5)

**COS 240 INTERMEDIATE II: CHEMICAL TEXTURE** 1 CR (0-1.5)  
Provides continued instruction in the theory and practical application of permanent waves and chemical relaxers in specialized classes or a supervised salon setting. Enables students to practice different wrapping techniques required by trend styles. *Prerequisite: COS 141 ("C" or better).* (Contact hours - 22.5)

**COS 241 ADVANCED CHEMICAL TEXTURE** 1 CR (0-1.5)  
Focuses on advanced techniques to prepare the student for employment and the changes in current industry standards. Instruction is provided in specialized classes or supervised salon setting. Includes student preparation for the State Board Licensing Examination pertaining to permanent waves and chemical relaxers. *Prerequisite: COS 240 ("C" or better).* (Contact hours - 22.5).

**COS 250 MANAGEMENT, ETHICS, INTERPERSONAL SKILLS & SALESMANSHIP** 1 CR (1-0)  
Emphasizes the importance of salon management and the knowledge and skills necessary to build a successful business. Focuses on the importance of interpersonal skills and basic techniques in salesmanship and customer services. Integrates job readiness skills and professional ethics. (Contact hours - 15)

**COS 260 INTERMEDIATE II: DISINFECTION, SANITATION & SAFETY** 1 CR (1-1)  
Provides continued study of theory and practice of proper methods of sterilization, disinfection, sanitation, and safety procedures as related to all phases of the industry. Covers terminology and training of disinfection, sanitation, and safety procedures. The individual responsibility to provide a safe work environment is practiced. *Prerequisite: COS 161 ("C" or better).* (Contact hours - 37.5)

**COS 261 ADVANCED: DISINFECTION, SANITATION & SAFETY** 1 CR (0-1.5)  
Provides advanced training on decontamination and safety practices in a supervised salon setting. Examines advanced techniques that prepare the student for employment. Includes student preparation for the State Board Licensing Examination in decontamination and safety for all aspects of the industry. Study of OSHA requirements for schools and salon are done in a theory or practical setting. *Prerequisite: COS 260 ("C" or better).* (Contact hours - 22.5)

**COS 275 SPECIAL TOPICS** 0.5-6 CR  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 7.5 - 90)

**COS 279 SEMINAR/WORKSHOP:** 0.5-6 CR  
This course provides students with an experiential learning opportunity. (Contact hours - 7.5 - 90)

**COS 280 INTERNSHIP** 0.5-6 CR  
This course provides students with the opportunity to supplement coursework with practical work experience related to their educational programs. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. (Contact hours - 7.5 - 90)

**COS 285 INDEPENDENT STUDY** 0.5-6 CR  
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. (Contact hours - 7.5 - 90)

**COS 288 PRACTICUM** 0.5-10 CR  
Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. (Contact hours - 7.5 - 150)

**COS 289 CAPSTONE** 1-3 CR  
Provides advanced training in all course areas and prepares student for the State Board Licensing Examination. Hours will be arranged. *Prerequisite: Student must have acquired 1,000 hours or more.* (Contact hours - 15 - 45)

**COS 290 PROFESSIONAL DEVELOPMENT/ CONTINUING EDUCATION** 0.5-6 CR  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 7.5 - 90)

## CRIMINAL JUSTICE

**CRJ 110 INTRO TO CRIMINAL JUSTICE** 3 CR (3-0)  
Introduces a study of the agencies and processes involved in the criminal justice system: the legislature, the police, the prosecutor, the public defender, the courts, and corrections. Includes an analysis of the roles and problems of the criminal justice system in a democratic society, with an emphasis upon inter-component relations and checks and balances. (Contact hours - 45)

**CRJ 125 POLICING SYSTEMS** 3 CR (3-0)  
Examines the complexity and multi-dimensional aspects of the law enforcement role and career law enforcement discretion and law enforcement values and culture in modern America. Covers the role and functions of law enforcement in occupational, social, political, and organizational context. (Contact hours - 45)

**CRJ 127 CRIME SCENE INVESTIGATION** 3 CR (3-0)  
Focuses on basic procedures in crime scene management to include photography and preparing initial reports and sketches. Includes processing

evidence and related criminalistic procedures. Covers interviewing suspects, witnesses, and victims to include the recording of identifications and descriptions. Incorporates lab and lecture. (Contact Hours – 45)

**CRJ 135 JUDICIAL FUNCTIONS 3 CR (3-0)**

Examines the criminal process with an analysis of the major judicial decision-makers, i.e. prosecutors, defense attorneys, judges, and the discretionary aspects of adjudication. (Contact hours - 45)

**CRJ 145 CORRECTIONAL PROCESS 3 CR (3-0)**

Focuses on the post-conviction corrections process, the development of a correctional philosophy, theory, and practice, the description of institutional operation, programming and management, and the community-based corrections, probation, and parole. (Contact hours - 45)

**CRJ 146 COMMUNITY BASED CORRECTIONS 3 CR (3-0)**

Introduces an analysis of community based correctional programs and procedures. Emphasizes the environment and the relationship to public safety, reintegration, and punishment. (Contact hours - 45)

**CRJ 180 INTERNSHIP 1-6 CR**

Provides placement in the criminal justice field to integrate theory with practice. (Contact hours - 15-90)

**CRJ 185 INDEPENDENT STUDY 1-6 CR**

This course meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. (Contact hours - 15 - 90)

**CRJ 205 PRINCIPLES OF CRIMINAL LAW 3 CR (3-0)**

Focuses on common law and statutory law crimes, the Model Penal Code, elements defining crimes and penalties, defenses to criminal accusations, and definitions and distinctions between criminal and civil law. (Contact hours - 45)

**CRJ 209 CRIMINAL INVESTIGATION I 3 CR (3-0)**

Covers the function of the preliminary investigation at a crime scene to include securing the scene, crime scene searchers, police drawings, and recognition and collection of evidence. (Contact hours - 45)

**CRJ 235 DELINQUENT BEHAVIOR 3 CR (3-0)**

Focuses on the adolescent who violates social and legal norms and the consequences for the individual and society. Emphasizes the social and psychological factors influencing individual delinquent patterns. (Contact hours - 45)

**CRJ 236 CRJ RESEARCH METHODS 3 CR (3-0)**

Introduces and applies methods for criminal justice and criminology with an emphasis on the scientific method and the role of empirical inquiry into criminal justice and criminology. This course will include the study of methodologies of data collection and analysis, the logic of research, the role of theory, measurement, sampling, and research designs. Field research and the professional norms and ethics of criminal justice and criminology research will also be covered. (Contact hours - 45)

**CRJ 268 CRIMINAL PROFILING 3 CR (3-0)**

Examines theories of crime causation with respect to crimes committed by the most violent offenders in society. An analysis of the research done and the history of Criminal Personality Profiling, beginning with the earliest explanations through the beliefs of modern science as well as psychological and sociological explanations. Identifies various known offenders, examines their backgrounds, and explains how current research into homicide, sexual offenses, and serial killers can provide clues to the identity of unknown offenders. (Contact hours - 45)

**CRJ 275 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

**CRJ 285 INDEPENDENT STUDY**

**1-6 CR**

This course meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. (Contact hours - 15 - 90)

Additional courses are available through Colorado Community College Online (CCC Online).

## COMPUTER WEB

**CWB 110 COMPLETE WEB AUTHORING 3 CR (3-0)**

Explores the complete set of web authoring skills using HTML and/or other scripting languages. Includes links, backgrounds, controlling text and graphic placement, tables, image maps, frames, and forms. (Contact Hours – 45)

**CWB 130 COMPLETE WEB EDITING TOOLS 3 CR (3-0)**

Provides tools used for designing and building Web pages that are easy to use and have a pleasing look. The student will develop Web pages using a web page development program. Use of images, forms, frames, tables, templates, and layers will be covered. (Contact Hours – 45)

**CWB 175 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**CWB 275 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**CWB 285 INDEPENDENT STUDY 1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. *Prerequisite: instructor approval.*

Additional courses are available through Colorado Community College Online (CCC Online).

## COOPERATIVE WORK EXPERIENCE

**CWE 187 COOPERATIVE WORK EXPERIENCE 2 to 8 CR (2 to 8-0)**

Freshman student is provided an extension and application of classroom instruction through a supervised work experience that is related to the student's educational and career goals. Credit is awarded on the basis of time spent on the job and completion of additional requirements such as learning objectives, record of experiences, and final term report. (Contact hours - 80 - 320)

**CWE 287 COOPERATIVE WORK EXPERIENCE 2 to 8 CR (2 to 8-0)**

Sophomore student is provided an extension and application of classroom instruction through a supervised work experience that is related to the student's educational and career goals. Credit is awarded on the basis of time spent on the job and completion of additional requirements such as learning objectives, record of experiences, and final term report. (Contact hours - 80 - 320)

## DANCE

### DAN 115 COUNTRY SWING I 1 CR (0-2)

Includes many styles and various combinations of steps for Western dance music. Will also teach the students how to convert combinations of others dances of traditional and fad as they become popular. (Contact hours - 30)

### DAN 116 COUNTRY SWING II 1 CR (0-2)

Teaches advanced steps and dancing skills which will enable student to enjoy the art of dancing for a leisure time activity. (Contact Hours - 30)

## DIESEL POWER MECHANICS

### DPM 101 DIESEL SHOP ORIENTATION 2 CR (2-0)

Focuses on maintaining a safe and clean working heavy-duty diesel shop. Emphasis is placed on the proper use and care for hand, electric, air, and hydraulic tools safely. Covers how to clean equipment properly, to handle and dispose of hazardous materials correctly, and to apply mandated regulations. Emphasis is also placed on proper lifting equipment. (Contact hours - 30)

### DPM 103 DIESEL ENGINES I 4 CR (2-3)

Covers the theory and operation and repair of diesel engines with emphasis on cylinder heads and valve trains diagnosis and repair. Also introduces the cooling system's importance with diagnosis and repair. Enables the student to diagnose, test, and repair cylinder heads and cooling systems on diesel engines. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 75)

### DPM 105 HEAVY-DUTY POWERTRAINS I 3 CR (1.5-2.25)

Focuses on drive axles and universal joints of heavy-duty trucks and equipment. Students will cover operations, tests, removal, inspections, and repair of heavy-duty drivelines, axles, and differentials. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 56.25)

### DPM 106 DIESEL FUEL SYSTEMS 3 CR (1.5-2.25)

Covers the theory of operation and repair of fuel injection systems. Provides laboratory assignments that involve disassembly, assembly, and service procedures on fuel system components. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 56.25)

### DPM 111 CAB & ELECTRICAL PMI 1.5 CR (1-.75)

Enables the student to perform preventive maintenance on heavy

equipment, truck cab, and electrical systems and to complete appropriate maintenance records. Addresses the process of diagnostics and troubleshooting. Focuses on the importance of preventive maintenance. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 26.25)

### DPM 112 ENGINE SYSTEMS PMI 1.5 CR (1-.75)

Enables the student to perform preventive maintenance on heavy equipment and truck diesel engine systems and to complete appropriate maintenance records. Addresses the process of diagnostics and troubleshooting. Focuses on the importance of preventive maintenance. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 26.25)

### DPM 120 BASIC HEAVY-DUTY ELECTRICITY 2 CR (1-1.5)

Introduces heavy-duty equipment electricity to include basic electrical theory, circuit designs, wiring methods, multimeter usage, and wiring diagrams. The focus is the demonstration of proper basic test procedures of electrical circuits. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 37.5)

### DPM 121 HYDRAULIC SYSTEMS I 3 CR (1-3)

Offers instruction on the basic fundamentals of hydraulics and their applications. Diagnosis, service, and testing, along with safety, are stressed within this course. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 60)

### DPM 122 HYDRAULIC SYSTEMS II 3 CR (1-3)

Offers instruction on the repair, replacement, measuring, and subsequent adjustments of components. Identification and repairing pumps, control valves, and cylinders are stressed within this course. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 60)

### DPM 126 HEAVY-DUTY STARTING & CHARGING 3 CR (1-3)

Includes the operation, testing, and servicing of heavy-duty vehicle battery, starting, and charging systems. Includes voltage/voltage drop testing of starting and charging systems, diagnosis, maintenance, load testing, and repair of systems. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 60)

### DPM 140 HEAVY-DUTY STEERING & SUSPENSION I 3 CR (1.5-2.25)

Emphasizes lecture and related lab in the diagnosis and service of heavy-duty mechanical and air suspension systems, wheels/tires, and pressure management systems. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 56.25)

### DPM 203 DIESEL ENGINES II 4 CR (2-3)

Covers the theory of operation and repair of diesel engines with emphasis on the cylinder block in big-bore engines. Enables the student to disassemble, inspect, and reassemble engines. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 75)

### DPM 205 HEAVY-DUTY POWERTRAINS II 3 CR (1.5-2.25)

Teaches students to diagnosis clutch and transmission problems. Focuses on clutch, transmission, additional assembly operation, testing, and repair. Students will learn removal, rebuilding, inspection, repairing, and replacement of all components. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 56.25)

### DPM 206 HEAVY-DUTY BRAKES I 3 CR (1-3)

Focuses on the various braking systems incorporated in heavy-duty trucks and heavy equipment. Includes a study of hydraulic brake systems and covers the diagnosis and service of the mechanical and electrical components. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 60)

### DPM 207 HEAVY-DUTY BRAKES II 3 CR (1-3)

Teaches instruction in general service and maintenance procedures for the heavy-duty truck air brake system and its related pneumatic components. Operational checks, performance testing, and verifying system compliance with regulations FMVSS No. 121 will be discussed. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 60)

### DPM 208 H/D AUTO/ELEC TRANS DIAGNOSIS 1 CR (.5-.75)

Provides laboratory hands-on experiences in the diagnosis of electrically controlled heavy-duty transmissions. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 18.75)

### DPM 210 AIR INDUCTION & EXHAUST 2 CR (1-1.5)

Covers the theory of operation and repair of turbochargers, superchargers, intercoolers, and various induction and exhaust systems. Examines factors regulating engine performance failure and procedures for reclaiming engine performance. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 37.5)

### DPM 211 DRIVETRAIN & STEERING PMI 1.5 CR (1-.75)

Focuses on preventive maintenance of heavy-duty truck and equipment drivetrains and steering systems including recording of critical information for the customer. Enables students to grasp the importance of preventive maintenance while gaining an understanding of component operation. *Prerequisite: DPM 101 ("C" or better).* (Contact hours - 26.25)

COURSE DESCRIPTIONS		111
<p><b>DPM 212 BRAKE SYSTEMS PMI</b> 1.5 CR (1-.75) Focuses on preventive maintenance of heavy-duty truck and equipment hydraulic and pneumatic brake systems including recording of critical information for the customer. Enables students to grasp the importance of preventive maintenance while gaining an understanding of component operation. <i>Prerequisite: DPM 101 ("C" or better).</i> (Contact hours - 26.25)</p>	<p><b>ECE 103 GUIDANCE STRATEGIES FOR CHILDREN</b> 3 CR (3-0) Explores guidance theories, applications, goals, and techniques, as well as factors that influence behavioral expectations of children. This course includes classroom management and pro-social skills development of young children in early childhood (EC) program settings. This course addresses children ages birth through 8 years. (Contact hours - 45)</p>	
<p><b>DPM 222 HEAVY-DUTY LIGHTING &amp; INSTRUMENTATION</b> 3 CR (1-3) Provides students with diagnosis and repair of lighting systems found on medium/heavy-duty trucks and equipment. Emphasis on inspecting and testing of electrical circuits, switches, and interfacing through data bus with onboard computers. <i>Prerequisite: DPM 101 ("C" or better).</i> (Contact hours - 60)</p>	<p><b>ECE 108 THE ASSESSMENT PROCESS IN EARLY CHILDHOOD EDUCATION</b> 1 CR (0-2) Focuses on exposing students to a wide variety of screening tools and evaluations appropriate for children birth to 8 years of age. Enables students to gain beginning knowledge in the selection of developmental screening tools and evaluations important to the IFSP/IEP. (Contact hours - 30)</p>	
<p><b>DPM 223 BODY ELECTRICAL</b> 3 CR (1-3) Provides a comprehensive study of the theory, operation, diagnosis, and repair of the heavy-duty vehicle body and safety electrical systems and accessories. <i>Prerequisite: DPM 101 ("C" or better).</i> (Contact hours - 60)</p>	<p><b>ECE 111 INFANT AND TODDLER THEORY AND PRACTICE</b> 3 CR (3-0) Presents an overview of theories, applications (including observations), and issues pertinent to infant and toddler development in group and/or family settings. Includes state requirements for licensing, health, safety, and nutrition issues. Focuses on birth through age 3. (Contact hours - 45)</p>	
<p><b>DPM 240 HEAVY-DUTY STEERING &amp; SUSPENSION II</b> 3 CR (1.5-2.25) Emphasizes lecture and related lab in the diagnosis and service of heavy-duty standard and air assisted steering along with chassis and frame alignment. <i>Prerequisite: DPM 101 ("C" or better).</i> (Contact hours - 56.25)</p>	<p><b>ECE 112 INTRODUCTION TO INFANT/TODDLER LAB TECHNIQUES</b> 3 CR (1-4) Includes a classroom seminar and placement in an infant and/or toddler setting. The supervised placement provides the student with the opportunity to observe, to practice appropriate interactions, and to develop effective guidance and nurturing techniques with infants and/or toddlers. Addresses ages prenatal through age 2. <i>Prerequisite or Corequisite: ECE 111 ("C" or better).</i> (Contact hours - 75).</p>	
<p><b>DPM 264 H/D HEATING &amp; VENTILATION</b> 2 CR (1-1.5) Emphasizes lecture and related laboratory experiences in the diagnosis, service, and repair of equipment heating and ventilation systems. <i>Prerequisite: DPM 101 ("C" or better).</i> (Contact hours - 37.5)</p>	<p><b>ECE 130 THE PROFESSIONAL NANNY</b> 3 CR (3-0) Explores the nanny's role and responsibilities when working with today's families. Includes professional relationships, ethics, commitment to children, the challenges and rewards of working in a private home, communications, taking care of one's own well-being as a nanny, social skills, travel, the process of seeking a nanny position, employer responsibilities, the nanny job description and written employment agreement, and starting and leaving a job. (Contact hours - 45)</p>	
<p><b>DPM 265 H/D A/C SYSTEMS SERVICE</b> 3 CR (1-3) Emphasizes lecture and related laboratory experiences in the diagnosis, service, and repair of heavy-duty vehicle air conditioning systems and their components. <i>Prerequisite: DPM 101 ("C" or better).</i> (Contact hours - 60)</p>	<p><b>ECE 131 NANNY METHODS AND TECHNIQUES</b> 3 CR (3-0) Explores the competencies required of a nanny to care for children in a private home setting. Includes creating a safe home environment, planning and implementing developmentally appropriate play/learning activities for children, traveling with children, children's clothing, children's equipment and play materials, sleep routines, personal care, feeding, and mealtimes. Incorporates a lab where students gain practical experience in providing in-home care for children. (Contact hours - 15 hours lecture; 1 credit, 75 hours field instruction in licensed child care home; 2 credits)</p>	
<h2>DRIVING</h2>		
<p><b>DRV 130 PREPARING FOR CDL</b> 2 CR (1-1.5) Prepares students for the CDL written test with detailed study guides in conjunction with the Colorado CDL manual. Students will learn to conduct walk-around inspections and become familiar with the course layout and driving portion of the test. (Contact hours - 37.5)</p>	<p><b>ECE 175 SPECIAL TOPICS</b> 1-6 CR Explores current topics, issues, and activities related to one or more aspects of the early childhood profession. (Contact hours - 15-90)</p>	
<h2>EARLY CHILDHOOD EDUCATION</h2>		
<p><b>ECE 101 INTRODUCTION TO EARLY CHILDHOOD PROFESSION</b> 3 CR (3-0) Provides an introduction to the profession of Early Childhood Education (ECE). Course content includes eight key areas of professional knowledge related to working with young children and their families in early care and education settings: child growth and development; health, nutrition and safety; developmentally appropriate practices; guidance; family and community relationships; diversity and inclusion; professionalism; and administration and supervision. This course addresses children ages birth through 8 years. (Contact hours - 45)</p>	<p><b>ECE 178 WORKSHOP</b> 1-6 CR Provides students with an experiential learning opportunity. (Contact hours - 15 - 90)</p>	
<p><b>ECE 102 INTRODUCTION TO EARLY CHILDHOOD LAB TECHNIQUES</b> 3 CR (1-4) Focuses on a classroom seminar and placement in a child care setting. The supervised placement provides the student with the opportunity to observe children, to practice appropriate interactions, and to develop effective guidance and management techniques. Addresses ages birth through age 8. <i>Prerequisite or Corequisite: ECE 101 ("C" or better).</i> (Contact hours - 75)</p>	<p><b>ECE 179 SEMINAR</b> 1-6 CR Provides students with an opportunity to examine aspects of early childhood education in detail. (Contact hours - 15 - 90)</p>	
	<p><b>ECE 185 INDEPENDENT STUDY</b> 1-3 CR Focuses on structured, guided, and individualized research that is organized and tailored around the interests and needs of the individual student. (Contact hours - 15-90)</p>	
	<p><b>ECE 205 NUTRITION, HEALTH &amp; SAFETY</b> 3 CR (3-0) Focuses on nutrition, health, and safety as key factors for optimal growth and development of young children. Includes nutrient knowledge, menu planning, food program participation, health practices, management and safety, appropriate activities, and communication with families. Addresses ages from prenatal through age 8. (Contact hours - 45)</p>	

**ECE 209 OBSERVING & UTILIZING YOUNG CHILDREN'S ASSESSMENT INSTRUMENTS 1 CR (1-0)**

Examines the current research on the continuous practice of observing children. Incorporates practice with a variety of assessment instruments currently utilized in Colorado ECE programs. (Contact hours - 15)

**ECE 220 CURRICULUM DEVELOPMENT: METHODS AND TECHNIQUES 3 CR (3-0)**

Provides an overview of early childhood curriculum development. This course includes processes for planning and implementing developmentally appropriate environments, materials, and experiences that represent best practices in early childhood (EC) program settings. This course addresses children ages birth through 8 years. (Contact hours - 45)

**ECE 226 CREATIVITY AND THE YOUNG CHILD 3 CR (3-0)**

Provides an emphasis on encouraging and supporting creative self-expression and problem solving skills in children. Explores creative learning theories and research. Focuses on developmentally appropriate curriculum strategies in all developmental domains. Addresses ages birth through age 8. (Contact hours - 45)

**ECE 228 LANGUAGE AND LITERACY 3 CR (3-0)**

Presents strategies for optimum language development, literacy, social, and emotional development. Supports children's language and literacy in home, classroom, and community settings. Provides appropriate teacher/child verbal interactions, classroom environments, and activities. Addresses ages birth through age 8. (Contact hours - 45)

**ECE 238 CHILD GROWTH & DEVELOPMENT 3 CR (3-0)**

Covers the growth and development of the child from conception through the elementary school years. This course emphasizes physical, cognitive, language, social, and emotional domains of development as they pertain to the concept of the whole child. It also includes ways adults can provide a supportive early childhood care and educational environment through teamwork and collaboration. (Contact hours - 45)

**ECE 240 ADMINISTRATION OF EARLY CHILDHOOD CARE AND EDUCATION PROGRAMS 3 CR (3-0)**

Provides foundational knowledge in early childhood program business operations, program development, and evaluation. This course covers administrative skills, ethical decision making, risk and resource management, and components of quality Early Childhood Education (ECE) programs serving children ages birth through 12 years.

*Prerequisite: ECE 101 ("C" or better).* (Contact hours - 45)

**ECE 241 ADMINISTRATION: HUMAN RELATIONS FOR EARLY CHILDHOOD PROFESSIONS 3 CR (3-0)**

Focuses on the human relations component of an early childhood professional's responsibilities. This course includes director-staff relationships, staff development, leadership strategies, family-professional partnerships, and community interaction. (Contact hours - 45)

**ECE 256 WORKING WITH PARENTS, FAMILIES, & COMMUNITY SYSTEMS 3 CR (3-0)**

Examines personal attitudes regarding families, family values systems, and how personal attitudes affect parent-professional partnerships in the early childhood education program. This course covers communication, problem-solving, and conflict resolution strategies. Effective activities and resources to support family involvement in the classroom will be created. This course addresses children ages birth through 8 years. (Contact hours - 45)

**ECE 260 EXCEPTIONAL CHILD 3 CR (3-0)**

Presents an overview of critical elements related to educating young children with disabilities or special needs in the early childhood setting. Topics include: typical and atypical development; legal requirements; research-based practices related to inclusion; teaming and collaboration; and accommodations and adaptations. This course examines how a disability or special need may impact a young child's learning process. This course addresses children ages birth through 8 years.

*Prerequisite: ECE 238 ("C" or better).* (Contact hours - 45)

**ECE 285 INDEPENDENT STUDY 1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. (Contact hours - 15 - 90)

**ECE 288 PRACTICUM: EARLY CHILDHOOD EDUCATION 1-7 CR**

Provides students with advanced field experience opportunities in early childhood education programs. *Prerequisites or Corequisite: ECE 108 and ECE 209 ("C" or better).* (Contact hours - 15 - 105)

Additional courses are available through Colorado Community College Online (CCC Online).

**ECONOMICS****ECO 101 ECONOMICS OF SOCIAL ISSUES 3 CR (3-0)**

Examines the major socio-economic issues of the past century. Covers poverty and growth, education, health care, pollution, and discrimination. (Contact hours - 45) State Guaranteed Transfer Course.

**ECO 201 PRINCIPLES OF MACROECONOMICS 3 CR (3-0)**

Focuses on the study of the American economy, stressing the interrelationships among 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. *Prerequisites: Successful completion of CCR 92 and minimum of MAT 50 ("C" or better).* (Contact hours - 45) State Guaranteed Transfer Course.

**ECO 202 PRINCIPLES OF MICROECONOMICS 3 CR (3-0)**

Studies the firm, the nature of cost, and how these 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. *Prerequisites: Successful completion of CCR 92 and minimum of MAT 50 ("C" or better).* (Contact hours - 45) State Guaranteed Transfer Course.

Additional courses are available through Colorado Community College Online (CCC Online).

**EDUCATION****EDU 101 CRLA TUTOR CERTIFICATION - REGULAR 1 CR (1-0)**

This course is designed for tutors and learning assistants and introduces them to effective tutoring strategies. Topics include guidelines for tutoring, how to plan, conduct, and evaluate a productive tutoring session, recognizing needs of students, and developing effective learning strategies with students. *Prerequisite: instructor approval.* (Contact hours - 15)

**EDU 175 SPECIAL TOPICS .25-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. *Prerequisite: instructor approval.* (Clock hours - 3.75 - 90)

**EDU 185 INDEPENDENT STUDY 1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. *Prerequisite: instructor approval.* (Contact hours - 15 - 90)

**EDU 221 INTRODUCTION TO EDUCATION 3 CR (3-0)**

Focuses on the historical, social, political, philosophical, cultural, and economic forces that shape the United States public school system. Includes current issues of educational reform, technology as it relates to education, and considerations related to becoming a teacher in the state of Colorado.

Special interest will be paid to the topic of diversity in the K-12 school system. *Prerequisite: College level reading.* (Contact hours - 45)

**EDU 222 EFFECTIVE TEACHING 1 CR (1-0)**

Focuses on strategies for becoming an effective teacher. Topics included are: course goals and objectives, the first day, planning a lesson, higher levels of thought, test design and grading, assessment, and teaching and learning styles. (Contact hours - 15)

**EDU 234 MULTICULTURAL EDUCATION 3 CR (3-0)**

Focuses on the need to recognize and understand the similarities and differences among people and develop a respect for all individuals and groups. Assists teachers to recognize the special learning needs of children from different racial, ethnic, cultural and socioeconomic groups, and to encourage teachers to integrate multicultural/diversity teaching into the school curriculum. (Contact hours - 45)

**EDU 251 SECONDARY CTE CAPSTONE 3 CR (3-0)**

This capstone course in the secondary CTE credentialing sequence offers an in-depth analysis of secondary career and technical student organizations and competitions, the Colorado Technical Act, working with exceptional students, creating and effectively deploying program advisory committees, and an overview of educational and political systems in Colorado. The final project is an analysis of the efficiency with which one's employing school district funds, operates, and assesses CTE programs. (Contact hours - 45)

**EDU 253 ACADEMIC INSTRUCTION IN CTE FOR CTE AND CORE ACADEMIC INSTRUCTORS 2 CR (2-0)**

Provides secondary core academic teachers of Math, Language Arts, and Science the opportunity to develop lessons and assessments aligned with Career and Technical Education (CTE) competencies and that include core academic content. Partnerships between both CTE and academic teachers will better prepare them to teach career relevancy within the context of the core academic standards. This course meets the Colorado Department of Education criteria for contextual learning requirement needed for the Initial Integrated Math, Science, or Communications credential. (Contact hours - 30)

**EDU 260 ADULT LEARNING & TEACHING 3 CR (3-0)**

Examines the philosophy of community colleges and the roles and responsibilities of the faculty member within the college community. Introduces basic instructional theories and application, with particular emphasis on adult learners. Includes syllabus development, learning goals and outcomes, and lesson plans. Emphasizes teaching to a diverse student body, classroom management, assessment, and instructional technology. (Contact hours - 45)

**EDU 261 TEACHING, LEARNING & TECHNOLOGY 3 CR (3-0)**

Prepares students to integrate technology into their teaching curriculum. Enables the student to design educational and training materials incorporating instructional technology. Explores a variety of technologies including the computer, Internet, multimedia, graphics, audio, and text with an emphasis on increasing learning through their use. Examines combining technology with a variety of instructional methodologies. *Prerequisite: EDU 221 ("C" or better) OR instructor approval.* (Contact hours - 45)

**EDU 266 ADV. COLLEGE TEACHING METHODS 1 CR (1-0)**

Explores current adult learning theory and relates this theory to the practice of teaching. It also covers a variety of factors that influence teaching and learning including social and individual psychological aspects of adult learning, patterns of participation and motivation, the role of instructional technology, handling challenging classroom behaviors, and assessment and evaluation strategies. The main point raised and discussed throughout the course is that effective teaching requires that instructors utilize a range of teaching and assessment approaches and methods in order to enhance learning. (Contact hours - 15)

**EDU 275 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 3.75 - 90)

**EDU 285 INDEPENDENT STUDY 1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. (Contact hours - 3.75 - 90)

Additional courses are available through Colorado Community College Online (CCC Online).

## ENGINEERING

**EGG 271 THEORETICAL MECHANICS - STATICS 3 CR (3-0)**

Emphasizes vectors, resolution and composition of forces in two and three dimensions, free body diagrams, equilibrium conditions, moments, couples, centroids, and moments of inertia. *Prerequisite: PHY 211 ("C" or better).* (Contact hours - 45)

**EGG 272 THEORETICAL MECHANICS - DYNAMICS 3 CR (3-0)**

Focuses on a study of kinematics and kinetics of particles and rigid bodies. Addresses the concepts of work-energy and impulse-momentum using vector notation. *Prerequisite: EGG 271 ("C" or better).* (Contact hours - 45)

**EGG 275 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

## ELECTRICITY INDUSTRIAL/ COMMERCIAL

**EIC 101 JOB TRAINING AND SAFETY 3 CR (1.5-2.25)**

Studies first aid, CDL, basic use and care of personal protective equipment, use and care of climbing equipment, daily inspection and basic use of motorized equipments. (Contact hours - 56.25)

**EIC 220 INDUSTRIAL ELECTRICAL CONTROLS 4 CR (1.5-3.75)**

Studies the application of electrical and electromechanical sensing/control devices, heating, ventilating, and air conditioning applications, motor control, conveyor drives, and other industrial applications. Students design control systems to meet assigned conditions, use principles of relay logic to prepare correct ladder diagrams, and wire up, test, and trouble-shoot their systems in the laboratory. The course stresses accuracy, safety, and National Electric Code requirements. *Prerequisites: ELT 106, ELT 252, and WTG 110 ("C" or better).* (Contact hours - 78.75)

## ELECTRONICS

**ELT 106 FUNDAMENTALS OF AC/DC 4 CR (2-3)**

Introduces the basic skills needed for many careers in electronics and related fields. Covers the operations and applications of basic DC and AC circuits consisting of resistors, capacitors, inductors, transformers and diodes. Emphasizes the use of common test instruments in troubleshooting. *Coresquisite: EIC 101 ("A" or better).* (Contact hours - 75)

**ELT 107 FUNDAMENTALS OF INDUSTRIAL ELECTONICS 3 CR (1-3)**

Provides a basic knowledge of generators, motors, and the solid state devices and digital techniques used for industrial control applications. *Prerequisite: EIC 101 ("A" or better).* (Contact hours - 60)

**ELT 252 MOTORS AND CONTROLS 3 CR (1-3)**

Enables the student to study, construct, test, and evaluate basic industrial control systems including AC/DC motors, stepper motors, power sources, generators, tachometers, line diagrams, and logic functions. Covers safety standards and preventive maintenance. *Prerequisite: EIC 101 ("A" or better).* (Contact hours - 60)

**ELT 258 PROGRAMMABLE LOGIC CONTROLLERS 3 CR (1-3)**  
Covers the fundamentals of programmable logic controllers (PLCs) as they are applied in robotics and automation. Includes history, terminology, typical applications, hardware, and software. Incorporates lab and project activities that address operating, monitoring, programming, troubleshooting, and repairing PLC controlled lab trainers as well as actual industrial equipment. *Prerequisite: EIC 101 ("A" or better).* (Contact hours - 60)

**ELT 259 ADVANCED PROGRAMMABLE LOGIC CONTROL 3 CR (1.5-2.25)**  
Serves as the second in a two course sequence and covers advanced topics and applications for programmable logic controllers (PLCs) as they are applied in robotics and automation. Includes advanced programming, diagnostics, Human Machine Interfaces (HMIs), introduction to automation networking, and system integration. Incorporates lab and project activities that address designing, operating, monitoring, programming, analyzing, troubleshooting, and repairing PLC controlled lab trainers as well as actual industrial equipment. (Contact hours - 56.25)

## EMERGENCY MEDICAL SERVICES

(Also see Health Professional for additional courses.)

**EMS 115 EMERGENCY MEDICAL RESPONDER 3 CR (2-1.5)**  
Provides the student with core knowledge and skills to function in the capacity of a first responder arriving at the scene of an emergency and providing supportive care until advanced EMS help arrives. *Prerequisite: This course has reading placement requirements (see page 139). Corequisite: CCR 94 and ENG 121.* (Contact hours - 52.5)

**EMS 116 FIRST RESPONDER REFRESHER 2 CR (1-1.5)**  
Provides the First Responder student with needed updates and review materials to renew and maintain the First Responder certificate. *Prerequisite: Current First Responder Certification and CPR card.* (Contact hours - 37.5)

**EMS 121 EMT FUNDAMENTALS 3 CR (3-0)**  
Introduces the Emergency Medical Technician (EMT) student to prehospital emergency care. The topics included in this course are Emergency Medical Services (EMS) systems, well-being of the EMT, communications, documentation, anatomy, airway management, and patient assessment. *Corequisites: HPR 102, EMS 122, EMS 123, and EMS 170.* (Contact hours - 30)

**EMS 122 EMT MEDICAL EMERGENCIES 4 CR (2-2.5)**  
Provides the Emergency Medical Technician (EMT) student with the knowledge and skills to effectively provide emergency care and transportation to a patient experiencing a medical emergency. This course focuses on the integration of the physical exam, medical history, and pathophysiology when assessing and treating the medical patient. *Corequisites: EMS 121, EMS 123, and EMS 170* (Contact hours - 75)

**EMS 123 EMT TRAUMA EMERGENCIES 2 CR (1-1.5)**  
Provides the Emergency Medical Technician (EMT) student with the knowledge and skills to provide appropriate emergency care and transportation of a patient who has suffered a traumatic injury. The concepts of kinematics and the biomechanics of trauma, along with pathophysiology and injury patterns, will provide the student with the ability to assess and manage the trauma patient. *Corequisites: EMS 121, EMS 122, and EMS 170.* (Contact hours - 37.5)

**EMS 126 EMT BASIC REFRESHER 2 CR (1-1.5)**  
Provides the student with a refresher course designed to meet the recertification requirements for the State of Colorado and/or a portion of the recertification for National Registry. *Prerequisites: Current CPR card, current or less than 36 months expired EMT Basic certification.* (Contact hours - 37.5)

**EMS 130 EMT INTRAVENOUS THERAPY 2 CR (2-0)**  
Focuses on cognitive and skill practice as required by Colorado Prehospital Care program for EMT Basic level IV approval. Examines criteria, procedures, and techniques for ICV therapy, discusses fluid and electrolyte balance and principles and treatment for shock. *Prerequisite: Current EMT Basic certification or proper licensure.* (Contact hours - 30)

**EMS 170 EMT BASIC CLINICAL 1 CR (0-1)**  
Provides the EMT student with the clinical experience required of initial and some renewal processes. *Prerequisite: HPR 102 ("C" or better). Corequisite: EMS 125.* (Contact hours - 30)

**EMS 175 SPECIAL TOPICS .5 -10 CR (.5 TO 10-0)**  
Provides the student with Continuing Medical Education at the First Responder or EMT Basic Level. Courses may be combined in an entire program to meet Prehospital Care Program requirements for renewal of certificates. *Prerequisite: Current certification- EMT Basic or First Responder.* (Contact hours - 7.5 - 150)

**EMS 190 EMT PROFESSIONAL DEVELOPMENT .5 - 12 CR**  
Provides the student with the 36 hours of continuing medical education hours required for the State of Colorado Recertification at an EMT Basic level. Provide professional development continuing medical education hours for EMT basics wishing to recertify at the state or national level. *Prerequisite: Current Colorado EMT Basic certification.*

**EMS 203 EMT INTERMEDIATE I 6 CR (3-3.5)**  
Course provides preparatory information and is the first part of the EMT Intermediate program. *Prerequisites: Valid EMT Basic, HEP B vac, Current CPR cards, high school grad or GED, CPT 80, Math.* (Contact hours - 112.5)

**EMS 205 EMT INTERMEDIATE II 6 CR (3-3.5)**  
Serves as the second course for EMT Intermediate certification. *Prerequisite: EMS 203 ("C" or better).* (Contact hours - 112.5).

**EMS 270 CLINICAL: EMS INTERMEDIATE 3 CR (0-3)**  
Provides the EMT-I student with the required field experiences as required by the Colorado Department of Health. *Prerequisites: EMS 203-205 ("C" or better).* (Contact hours - 90)

**EMS 275 SPECIAL TOPICS .5 - 10 CR**  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 7.5 - 150)

## ENGLISH

**ENG 115 TECHNICAL ENGLISH & COMMUNICATION 3 CR (3-0)**  
Focuses on the written and oral communication needs of students in vocational and technical fields. Enables the student to practice written, oral, reading, reasoning, and interpersonal communication skills in order to become successful (or to remain successful) in the workplace. *Prerequisite: Successful completion of ENG 30 or 45 AND REA 30 or 45 or CCR 92 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45)

**ENG 121 ENGLISH COMPOSITION I 3 CR (3-0)**  
Emphasizes the planning, writing, and revising of compositions including the development of critical and logical thinking skills. This course includes a minimum of five compositions that stress analytical, evaluative, and persuasive/argumentative writing. *Prerequisite: Successful completion of ENG 90 AND REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45) State Guaranteed Transfer Course.

**ENG 122 ENGLISH COMPOSITION II 3 CR (3-0)**  
Expands and refines the objectives of English Composition I. Emphasizes critical/logical thinking and reading, problem definition, research strategies, and writing analytical, evaluative, and/or persuasive papers that incorporate research. *Prerequisite: ENG 121 ("C" or better) or ACT Writing Score of 26.* (Contact hours - 45) State Guaranteed Transfer Course.

**ENG 131 TECHNICAL WRITING****3 CR (3-0)**

Develops skills one can apply to a variety of technical documents. Focuses on principles for organizing, writing, and revising clear, readable documents for industry, business, and government. *Prerequisites: Successful completion of ENG 30 or 45 AND REA 30 or 45 or CCR 92 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45)

**ENG 175 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

**ENG 201 ENGLISH COMPOSITION III****3 CR (3-0)**

Provides students with skills necessary to enter into higher-level undergraduate academic discourse or professional workplace writing. ENG 201 extends students rhetorical knowledge and develops critical reading, thinking, and writing strategies in multiple specialized areas of discourse beyond what they encounter in ENG 122. In ENG 201, students deepen their rhetorical and writing skills by learning to analyze, synthesize, and summarize complex texts and incorporate this information into specific writing conventions for a defined discipline. As a more advanced composition course, ENG 201 provides interested students with the opportunity to continue their exploration of expository writing with the added benefit of learning to write for distinct audiences (format, language, level of specificity, length, and documentation style). Students will also learn effective editing and revising techniques, discipline-specific writing strategies, and how to extend their mastery of rhetorical strategies. While ENG 201 may be taught with the focus in a variety of disciplines (science writing, gender studies, literary criticism, writing in the humanities, business writing, political geography, philosophy, and so on), every discipline will allow students the opportunity to learn how to communicate with specialized audiences and adapt content to the needs of varying rhetorical situations. (Contact hours - 45) State Guaranteed Transfer Course.

**ENG 221 CREATIVE WRITING I****3 CR (3-0)**

Teaches techniques for creative writing. Explores imaginative uses of language through creative genres (fiction, poetry, literary nonfiction) with emphasis on the student's own unique style, subject matter, and needs. *Prerequisite: Eng 121 ("C" or better) OR instructor approval.* (Contact hours - 45)

**ENG 222 CREATIVE WRITING II****3 CR (3-0)**

Provides continued development of written expression in such forms as poetry, fiction, and/or nonfiction writing. *Prerequisite: Eng 221 ("C" or better).* (Contact hours - 45)

Additional courses are available through Colorado Community College Online (CCC Online).

**ENVIRONMENTAL SCIENCE****ENV 101 INTRO TO ENVIRONMENTAL SCIENCE****4 CR (3-2)**

Provides an introduction to the basic concepts of ecology and the relationship between environmental problems and biological systems. Includes interdisciplinary discussions on biology, chemistry, geology, energy, natural resources, pollution, and environmental protection. Using a holistic approach, students will study how the foundations of natural sciences interconnect with the environment. This course includes laboratory experience. (Contact hours - 75) State Guaranteed Transfer Course. Additional courses are available through Colorado Community College Online (CCC Online).

**EQUINE MANAGEMENT**

(All EQM and EQT courses are a part of the Equine Management Program and cannot be taken as independent courses.)

**EQM 101 STABLE OPERATIONS I****1 CR (0-10)**

Focuses on the routine daily care, grooming, feeding, stable sanitation, daily health, and feed records of horses. *Prerequisite: EQM or stall facility.* (Contact hours - 150)

**EQM 102 STABLE OPERATIONS II****1 CR (0-10)**

Builds on EQM 101 and continues focus on the routine daily care, grooming, feeding, stable sanitation, daily health, and feed records of horses. *Prerequisite: EQM or stall facility.* (Contact hours - 150)

**EQM 158 EQUINE REPRODUCTION****2 CR (2-0)**

Introduces horse reproduction and the various breeding and management practices found on breeding farms. Covers physiology of the mare and stallion reproductive systems, care of the stallion and the mare, mare heat detection, breeding, care of pregnant mares, foaling, problems in the foal, and care of the foal and yearling. (Contact hours - 30)

**EQM 175 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

**EQM 201 STABLE OPERATIONS III****1 CR (0-10)**

Familiarizes the student with the routine daily care, grooming, feeding, stable sanitation, daily health, and feed records of horses. *Prerequisite: EQM or stall facility.* (Contact hours - 150)

**EQM 202 STABLE OPERATIONS IV****1 CR (0-10)**

Familiarizes the student with the routine daily care, grooming, feeding, stable sanitation, daily health, and feed records of horses. *Prerequisite: EQM or stall facility.* (Contact hours - 150)

**EQM 210 EQUINE HEALTH****2 CR (2-0)**

Assists students in planning annual equine health programs. Introduces students to methods of prevention, recognition, and treatment of common equine diseases. (Contact hours - 30)

**EQM 211 EQUINE HEALTH LAB****1 CR (0-2)**

Application of practical skills, methods, and techniques used to prevent and treat equine diseases and health problems. (Contact hours - 30)

**EQM 275 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

**EQM 280 EQUINE INTERNSHIP****8 CR**

Students are employed or work at home on an equine operation. The work experience must cover a minimum of 320 hours with the student involved in all facets of this operation. *Prerequisite: EQM major.* (Contact hours - 320)

**EQM 285 INDEPENDENT STUDY****1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. *Prerequisite: instructor approval.* (Contact hours - 15 - 90)

**EQM 289 EQUINE MANAGEMENT CAPSTONE****.5 CR (.5-0)**

Covers information necessary for employment and job search skills. Students will receive instruction in resume writing and interviewing. *Prerequisite: Sophomore Equine Students.* (Contact hours - 8)

**EQUINE TRAINING****EQT 101 INTRODUCTION TO HORSE TRAINING****5 CR (1-8)**

Introduces handling and care of horses. Basics of grooming, hoof care, showing at halter, equitation, and horsemanship will be covered. *Prerequisite: EQM Major.* (Contact hours - 105)

**EQT 102 BEGINNING COLT TRAINING** 6 CR (0-10)  
Covers an advanced level of horsemanship involving lead changes, turn arounds, and roll backs will be covered. Students that meet minimum skills requirements may continue into specialized areas of riding.  
*Prerequisite: EQT 101 ("C" or better).* (Contact hours - 135)

**EQT 140 RANCH HORSE VERSATILITY** 3 CR (1-3)  
This is a riding intensive course designed to train the horse in the ranch horse versatility competitive events. Students will develop skills in the working cow horse, reining, ranch cutting, ranch trail, conformation, and ranch pleasure events. (Contact hours - 60)

**EQT 201 INTERMEDIATE COLT TRAINING** 6 CR (0-10)  
Covers halter breaking weanlings. Students will also receive instruction in longing, driving, saddling, and riding the two year old.  
*Prerequisite: EQT 102 ("C" or better).* (Contact hours - 135)

**EQT 202 ADVANCED COLT TRAINING** 6 CR (0-10)  
Gives the student their final experience at starting and management of a young horse to meet the industry standards for which they are entering.  
*Prerequisite: EQT 201 ("C" or better).* (Contact hours - 135)

**EQT 240 RANCH HORSE VERSATILITY II** 3 CR (1-3)  
Ranch Horse Versatility II is a continuation of Ranch Horse Versatility I. This is a riding intensive course designed to train the horse in the ranch horse versatility competitive events. Students will develop skills in the working cow horse, reining, ranch cutting, ranch trail, conformation, and ranch pleasure events. As a part of the course students will have the opportunity to travel and compete in industry competitive events. A focus of the course is to improve the level of individual skills and to gain experience in the show ring atmosphere. *Prerequisite: EQT 140 ("C" or better).* (Contact hours - 60)

## ESTHETICIAN

(All COS, EST, and NAT courses are a part of the Cosmetology Program and cannot be taken as independent courses)

**EST 110 INTRODUCTION TO FACIALS & SKIN CARE** 3 CR (1-3)  
Provides a basic understanding of massage manipulations when providing facials and the study of skin in both theory and practical applications. Benefits derived from proper facial and good skin care routines. Training is conducted in a classroom or lab setting using mannequins or models.  
*Prerequisite: COS 150 ("C" or better).* (Contact hours - 60)

**EST 111 INTERMEDIATE FACIALS & SKIN CARE** 2 CR (0-3)  
Covers theory and practical application pertaining to anatomy, skin disorders, skin types, and facial shapes. Students help patrons to select the proper skin care treatment. Practical and theory application can be done in specialized classes or supervised salon setting using models or customer service. *Prerequisite: EST 110 ("C" or better).* (Contact hours - 45)

**EST 210 ADVANCED MASSAGE & SKIN CARE** 2 CR (0-3)  
Provides the student with advanced techniques in massage, skin care,

and lash/brow tinting. Theory and practical procedures ready the student for employment. Instruction is provided in specialized classes or in a supervised salon (clinical) setting. Student preparation for State Board Licensing Examination *Prerequisite: EST 111 ("C" or better).*

**EST 211 FACIAL MAKEUP** 1 CR (0-1.5)  
Provides instruction on cosmetics and their functions. The importance of color theory, facial types, and skin tones as they relate to facial makeup. Instruction from the basic makeup application to the corrective makeup procedure is taught. Disinfection and sanitation is taught as it pertains to all aspects of makeup. *Prerequisite: EST 110 ("C" or better).* (Contact hours - 22.5)

**EST 212 HAIR REMOVAL** 3 CR (1-3)  
Provides in-depth study and practice of hair removal and the practice of patron protection and safety. Training for general waxing and body waxing procedures are provided. Demonstration of disinfection and sanitation as it pertain to Colorado rules and regulations will be practiced.  
*Prerequisite: EST 111 ("C" or better).* (Contact hours - 60)

## FIRE SCIENCE TECHNOLOGY

**FST 100 FIREFIGHTER I** 9 CR (6-4.5)  
Addresses the requirements necessary to perform at the first level of progression as identified in National Fire Protection Association (NFPA) 1001, Firefighter Professional Qualifications. This is a lecture and lab course for meeting the NFPA 1001, level I, standard using IFSTA Essentials. (Contact hours - 157.5)

**FST 101 FIREFIGHTER II** 3 CR (3-0)  
Addresses the requirements necessary to perform at the second level of progression as identified in National Fire Protection Association (NFPA) 1001, Fire Fighter Professional Qualifications. This is a lecture and lab course for meeting the NFPA 1001, level II, standard. (Contact hours - 45)

**FST 102 PRINCIPLES/EMERGENCY SERVICES** 3 CR (3-0)  
Provides an overview to fire protection, career opportunities in fire protection and related fields, philosophy and history of fire protection/service, fire loss analysis, organization and function of public and private fire protection services, fire departments as part of local government, laws and regulations affecting the fire service, fire service nomenclature, specific fire protection functions, basic fire chemistry and physics, introduction to fire protection systems, and introduction to fire strategy and tactics. (Contact hours - 45)

**FST 103 FIRE BEHAVIOR & COMBUSTION** 3 CR (3-0)  
Explores the theories and fundamentals of how and why fires start, spread, and are controlled. (Contact hours - 45)

**FST 105 BUILDING CONSTRUCTION FOR FIRE PROFESSIONALS** 3 CR (3-0)  
Provides the components of building construction that relate to fire and life safety. The focus of this course is on firefighter safety. The elements of consideration and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. (Contact hours - 45)

**FST 106 FIRE PREVENTION** 3 CR (3-0)  
Provides fundamental information regarding the history and philosophy of fire prevention, organization, and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education. (Contact hours - 45)

**FST 107 HAZMAT OPERATIONS (LEVEL I)** 3 CR (3-0)  
Introduces hazardous materials incidents, recognizing and identifying hazardous materials, planning response, implementing response procedures, decision making, and continued evaluation at the awareness and operation level. (Contact hours - 45)

**FST 128 VEHICLE EXTRICATION TECHNICIAN** 3 CR (3-0)  
Training in this course represents the highest level of operation at the rescue scene involving vehicle extrication. Students shall be capable of hazard recognition, equipment use, and techniques necessary to operate and effectively supervise at incidents involving persons injured or entrapped in a vehicle or machinery. (Contact hours - 45)

**FST 150 FIRE PREVENTION EDUCATION** 3 CR (3-0)  
Focuses on conducting, prevention, and education needs, assessment, targeting audiences, development and delivery of prevention and education programs. Includes methods of conducting fire prevention and safety inspections. (Contact hours - 45)

**FST 170 CLINICAL I** 1 CR

Offers the clinical practicum to apply the related fire science technology. (Contact hours - 15)

**FST 175 SPECIAL TOPICS** 1-12 CR

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

**FST 201 INSTRUCTIONAL METHODOLOGY** 3 CR (3-0)

Covers the role and responsibility of the fire service instructor. Includes oral communication skills, concepts of learning, planning and development of lesson plans, instructional materials and delivery methods, testing and evaluations, records and reports, and demonstration of instructional abilities. Fire Instructor I State Certificate is available. *Prerequisite:* FST 100 AND FST 102 ("C" or better) OR instructor approval. (Contact hours - 45)

**FST 202 STRATEGY & TACTICS** 3 CR (3-0)

Provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire ground. *Prerequisites:* FST 102, FST 104, AND FST 107 ("C" or better) OR instructor approval. (Contact hours - 45)

**FST 203 FIRE HYDRAULICS & WATER SUPPLY** 4 CR (4-0)

Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. (Contact hours - 60)

**FST 204 PRINCIPLES OF CODE ENFORCEMENT** 3 CR (3-0)

To provide the students with the fundamental knowledge of the role of code enforcement in a comprehensive fire prevention program. *Prerequisites:* FST 102, FST 104, AND FST 105 ("C" or better) OR instructor approval. (Contact hours - 45)

**FST 205 FIRE INVESTIGATION I** 3 CR (3-0)

Provides the student with the fundamentals and technical knowledge needed for proper fire scene interpretations including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the firesetter, and types of fire causes. (Contact hours - 45)

**FST 209 FIRE PROTECTION SYSTEMS** 3 CR (3-0)

Provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers. (Contact hours - 45)

**FST 253 NATIONAL INCIDENT MANAGEMENT** 3 CR (3-0)

Focuses on the National Incident Management System including fire ground management and resource management. Multi-agency coordination systems and organization preparedness for large scale emergencies, communication, and information are addressed. The course concludes with a review of the National Response Plan. (Contact hours - 45)

**FST 254 HAZARDOUS MATERIALS TECHNICIAN** 3 CR (3-0)

Focuses on techniques associated with hazardous materials mitigation, the use of monitoring devices, components of a mitigation teams, and command and control of hazardous materials incidents. (Contact hours - 45)

**FST 259 WILDLAND FIREFIGHTING TACTICS** 3 CR (3-0)

Focuses on management of uncontrolled fire burning, urban/wildland interface, strategy and tactics used in controlling wild land fires, prevention methods, and incident command practices. (Contact hours - 45)

**FST 280 INTERNSHIP** 1-12 CR

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. (Contact hours - 15 - 60)

**FIRE SCIENCE WILDLAND****FSW 100 S-190 INTRODUCTION TO WILDLAND FIRE BEHAVIOR** 1 CR

Provides instruction in the primary environmental factors that affect the start and spread of wildfire and recognition of potentially hazardous situations. This course can be taught in conjunction with or prior to Firefighting Training S-130.

**FSW 101 S-130 FIREFIGHTING TRAINING** 2 CR

Provide entry-level firefighters skills. A version of the L-180, Human Factors on the Fireline, has been included as part of the course. Credit should be issued for both S-130 and L-180 upon completion of this course.

**GEOGRAPHY****GEO 105 WORLD REGIONAL GEOGRAPHY** 3 CR (3-0)

Facilitates 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. Focuses on analysis of interrelationships between developed and developing regions and the interactions between human societies and natural environments. (Contact hours - 45) State Guaranteed Transfer Course.

**GEO 106 HUMAN GEOGRAPHY** 3 CR (3-0)

Introduces geographic perspectives and methods with applications to the study of human activities. Emphasizes the distribution of humans, adjustments to the natural environment, and land use practices. (Contact hours - 45) State Guaranteed Transfer Course.

**GEO 111 PHYSICAL GEOGRAPHY: LANDFORMS WITH LAB** 4 CR (3-2)

Introduces the principles of landforms as a major aspect of our natural environment. (Contact hours - 75) State Guaranteed Transfer Course.

**GEO 112 PHYSICAL GEOGRAPHY: WEATHER & CLIMATE WITH LAB** 4 CR (3-2)

Introduces the principles of meteorology, climatology, world vegetation patterns, and world regional climate classification. The course includes investigating the geographic factors which influence climate such as topography, location, elevation, winds, and latitude. (Contact hours - 75) State Guaranteed Transfer Course.

**GEO 275 SPECIAL TOPICS** 1-6 CR

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

Additional courses are available through Colorado Community College Online (CCC Online).

**GEOLOGY****GEY 111 PHYSICAL GEOLOGY** 4 CR (3-3)

Introduces the major topics of geology. Course content encompasses Earth's materials, structure, and surface landforms. Geologic time and the geologic processes responsible for Earth's internal and external features are covered. This course includes laboratory experience. The Colorado Commission on Higher Education has approved GEY 111 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-SC1 category. For transferring students, successful completion with a minimum C-grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highered.colorado.gov/academics/transfers/gtpathways/curriculum.html>.

**GEY 112 HISTORICAL GEOLOGY****4 CR (3-3)**

SCovers the development of Earth through the vast span of geologic time. Emphasis is on the investigation and interpretation of sedimentary rocks and features, the record of ancient environments, fossil life forms, and physical events in Earth's history within the framework of plate tectonics. This course includes laboratory experience. The Colorado Commission on Higher Education has approved GEY 111 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-SC1 category. For transferring students, successful completion with a minimum C-grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://higherred.colorado.gov/academics/transfers/gtpathways/curriculum.html>. *Prerequisite: GEY 111 ("C" or better) OR instructor approval.* (Contact Hours - 90) State Guaranteed Transfer Course.

**GEY 175 SPECIAL TOPICS****.25-3 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact Hours - 3.75 - 45)

Additional courses are available through Colorado Community College Online (CCC Online).

**HISTORY****HIS 101 WESTERN CIVILIZATION: ANTIQUITY TO 1650 3 CR (3-0)**

Explores a number of events, peoples, groups, ideas, institutions, and trends that have shaped Western Civilization from the prehistoric era to 1650. Reflects the multiple perspectives of gender, class, religion, and ethnic groups. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 102 WESTERN CIVILIZATION: 1650 TO PRESENT 3 CR (3-0)**

Explores a number of events, peoples, groups, ideas, institutions, and trends that have shaped Western Civilization from 1650 to the present. Reflects the multiple perspectives of gender, class, religion, and ethnic groups. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 111 THE WORLD: ANTIQUITY TO 1500 3 CR (3-0)**

Enables the student to view history up to 1500 CE in a broad global sense. Focuses on the common denominators among all people. This approach goes beyond political borders, to provide a better appreciation for different cultures. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 112 THE WORLD: 1500 TO PRESENT 3 CR (3-0)**

Enables students to view history post 1500 CE in a broad global sense. Focuses on the common denominators among all people. This approach goes beyond political borders to provide a better appreciation for different cultures. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 175 SPECIAL TOPICS 1-5 CR**

Focuses on the exploration of current topics, issues, and activities related to one or more aspects of history. (Contact hours - 5 - 75)

**HIS 121 U.S. HISTORY TO RECONSTRUCTION 3 CR (3-0)**

Explores events, trends, peoples, groups, cultures, ideas, and institutions in North America and United States history including the multiple perspectives of gender, class, and ethnicity between the period when Native American Indians were the sole inhabitants of North America and the American Civil War. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 122 U.S. HISTORY SINCE THE CIVIL WAR 3 CR (3-0)**

Explores events, trends, peoples, groups, cultures, ideas, and institutions in United States History including the multiple perspectives of gender, class,

and ethnicity between the period of the American Civil War and the present. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 203 CIVIL WAR ERA AMERICAN HISTORY 3 CR (3-0)**

Explores the causes, course, and consequences of the American Civil War, from the Colonial period to the 21st Century, in order to understand the multiple meanings of a transforming event in American history. Students will explore the meanings of the war as defined in many ways: national, sectional, racial, gender, constitutional, individual, social, intellectual, or moral. Students will closely examine four broad themes: the crisis of union and disunion in an expanding republic, slavery, race, and emancipation as national problem, personal experience, and social process, the experience of modern, total war for individuals and society, and the political and social challenges of Reconstruction. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 208 AMERICAN INDIAN HISTORY 3 CR (3-0)**

Analyzes historical and socio-cultural change for Native Americans from pre-colonial America to the present, emphasizing those processes and relations with non-Native Americans which have contributed to the current conditions. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 218 HISTORY OF SCIENCE & TECHNOLOGY 3 CR (3-0)**

Explores the complex relationship between scientific and technological developments and western society and culture. Focuses on the way social and cultural norms can impact scientific or technological progress, and vice-versa, especially in the period since the Scientific Revolution. (Contact hours - 45)

**HIS 225 COLORADO HISTORY 3 CR (3-0)**

Presents the story of the people, society, and cultures of Colorado from its earliest Native Americans, through the Spanish influx, the explorers, the fur traders and mountain men, the gold rush, the railroad builders, the cattlemen and farmers, the silver boom, the tourists, and the modern state. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 235 HISTORY OF AMERICAN WEST 3 CR (3-0)**

Traces the history of the American West from the Native American cultures and the frontier experiences of America's earliest, eastern settlers, through the Trans-Mississippi West, across the great exploratory and wagon trails, and up to the present West, be it urban, ranching, reservation, resource management, or industrial. Emphasizes the north and central parts of the West. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 236 U.S. HISTORY SINCE 1945 3 CR (3-0)**

Focuses on the major political, economic, social, and cultural developments that have shaped modern America from 1945 to the present. (Contact hours - 45) State Guaranteed Transfer Course.

**HIS 275 SPECIAL TOPICS 1-5 CR**

Focuses on the exploration of current topics, issues, and activities related to one or more aspects of history. (Contact hours - 15 - 75)

Additional courses are available through Colorado Community College Online (CCC Online).

**HONORS****HNR 100 HONORS SEMINAR 1 CR (1-0)**

Develops skills in an interdisciplinary manner including: self-efficacy, college success, interdisciplinary connections, and critical and creative thinking. A primary goal is to develop a sense of community within the class. This course increases awareness of issues relating to diversity and leadership and explores techniques for successful honors academic performance. (Contact hours - 15)

## HUMAN PERFORMANCE AND EXERCISE

### HPE 100 INTRODUCTION TO PHYSICAL EDUCATION & SPORT 2 CR (2-0)

Focuses on the field of physical education and sport. Includes trends, precedents, and their effects in the health and total wellness of those involved. (Contact hours - 30)

### HPE 101 INTRODUCTION TO COACHING 2 CR (2-0)

Acquaints the learner with the knowledge, requirements, and responsibilities of coaching, including sport philosophy, sport medicine, and sport management. Fulfills requirements for ASEP Leader Level I. (Contact hours - 30)

### HPE 102 INTRODUCTION TO SPORTS MEDICINE 2 CR (2-0)

Introduces the field of sports medicine, career options, and presents issues within the field. Emphasizes athletic training. (Contact hours - 60)

### HPE 130 ATHLETIC TRAINING PRACTICUM I 1-3 CR (0-6)

Provides the opportunity for students to observe and gain experience in the techniques used in an athletic training room. (Contact hours - 15 - 45)

### HPE 175 SPECIAL TOPICS 1-6 CR

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

### HPE 200 PERSPECTIVES IN PE & SPORT 3 CR

**(3-0)** This course discusses the breadth, scope, and nature of the profession. It is an orientation to the history and philosophy of human performance and the factors that influence its evolution. Special consideration is giving to the history of sport from antiquity to the present, particularly the Olympic Games. (Contact hours - 45)

### HPE 230 ATHLETIC TRAINING PRACTICUM II 2-3 CR (2 to 3-0)

Provides the opportunity for students to gain advanced experience in the techniques used in an athletic training room. (Contact hours - 30 -45)

### HPE 231 CARE & PREVENTION OF ATHLETIC INJURIES 3 CR (3-0)

Focuses on techniques in prevention, care, and basic rehabilitation of athletic injury. (Contact hours - 45)

## HEALTH PROFESSIONAL

### HPR 102 CPR FOR PROFESSIONALS .5 CR (.5-0)

Meets the requirement for American Red Cross Professional Rescuer CPR or American Heart Association Basic Life Support for those who work in Emergency Services, Health Care, and other professional areas. Material presented in the course is basic patient assessment, basic airway management, rescue breathing, and CPR for infant, children, and adult patients. (Contact hours - 7.5)

### HPR 108 DIETARY NUTRITION 1 CR (1-0)

Studies the basic nutritional principles in clinical practice in health care. The course will cover factors which influence the nutritional status of individuals, methods of nutritional assessment and support, and diet modification for specific disease states. (Contact hours - 15)

### HPR 175 SPECIAL TOPICS .25 to 6 CR

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 3.75 - 90)

### HPR 178 MEDICAL TERMINOLOGY 2 CR (2-0)

Introduces the student to the structure of medical terms with emphasis on combining and using the most common prefixes, roots and suffixes. Includes terms related to major body systems, oncology, and psychiatry, as well as clinical laboratory and diagnostic procedures and imaging. Classroom

structure provides accepted pronunciation of terms and relative use in the healthcare setting. (Contact hours - 30)

### HPR 190 BASIC EKG INTERPRETATION 2 CR (2-0)

Provides instruction for interpretation of EKG strips, anatomy and physiology of the heart, and using three-lead monitoring as a guide. Twelve-lead EKG may be discussed. (Contact hours - 30)

### HPR 217 KINESIOLOGY 4 CR (3-2)

Focuses on mechanical principles of kinematics, kinetics, muscle physiology, neurophysiology, and the interaction to produce function. Joint and muscle structure and function with application is a main focus. (Contact hours - 75)

Additional courses are available through Colorado Community College Online (CCC Online).

## HUMANITIES

### HUM 103 INTRODUCTION TO FILM ART 3 CR (3-0)

Studies the relationships among film's stylistic systems, narrative systems, and audience reception. Students view, discuss, and critically analyze a variety of films which represent a variety of genres and themes. The course incorporates the vocabulary of stylistic systems (for instance, cinematography, and editing) and narrative systems (for instance, story structure, and character motivation) as both relate to the kinds of meanings a film conveys. (Contact hours - 45) State Guaranteed Transfer Course.

### HUM 115 WORLD MYTHOLOGY 3 CR (3-0)

Introduces students to the mythologies of various cultures. Common themes are illustrated and an interdisciplinary approach is used incorporating some of the following: religion, philosophy, art history, theater, literature, music, cultural studies, and history. (Contact hours - 45) State Guaranteed Transfer Course.

### HUM 121 HUMANITIES: EARLY CIVILIZATIONS 3 CR (3-0)

Introduces students to the history of ideas that have defined cultures through a study of the visual arts, literature, drama, music, and philosophy. It emphasizes connections among the arts, values, and diverse cultures including European and non-European, from the Ancient world to 1000 C.E. (Contact hours - 45) State Guaranteed Transfer Course.

### HUM 122 HUMANITIES: FROM MEDIEVAL TO MODERN 3 CR (3-0)

Examines written texts, visual arts, and musical compositions to analyze and reflect the evolution and confluence of cultures in Europe, Asia, and the Americas from 800 C.E. to 1750 C.E. (Contact hours - 45) State Guaranteed Transfer Course.

### HUM 123 HUMANITIES: THE MODERN WORLD 3 CR (3-0)

Examines the cultures of the 17th through the 20th centuries by focusing on the interrelationships of the arts, ideas, and history. Considers the influences of industrialism, scientific development, and non-European peoples. (Contact hours - 45) State Guaranteed Transfer Course.

### HUM 175 SPECIAL TOPICS 1-6 CR

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

### HUM 275 SPECIAL TOPICS 1-6 CR

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15 - 90)

Additional courses are available through Colorado Community College Online (CCC Online).

## HEALTH & WELLNESS

- HWE 100 HUMAN NUTRITION** **3 CR (3-0)**  
Introduces basic principles of nutrition with emphasis on personal nutrition. Satisfies nutrition requirement of students entering health care professions. (Contact hours - 45)
- HWE 103 COMMUNITY FIRST AID & CPR** **1 CR (1-0)**  
Prepares the student for certification in CPR and Basic First Aid. Skills will include basic life support, airway obstruction, control of bleeding, shock, and patient care for the unconscious. (Contact hours - 15)
- HWE 111 HEALTH & FITNESS** **3 CR (3-0)**  
Studies health and fitness in the U.S. today. The course will look at personal health issues, managing stress, nutrition, and healthy lifestyles. (Contact hours - 45)
- HWE 117 MENTAL HEALTH FIRST AID** **1 CR (1-0)**  
Train the public and first responders on the most common mental disorders and mental health crises. Train first responders in the basic action steps to assist with the mental health issue. This course is not for the trained Mental Health Professional. (Contact hours - 15)
- HWE 124 FITNESS & WELLNESS** **2 CR (2-0)**  
Provides information on fitness and wellness and to serve as a guide to design, implement, and evaluate a complete personal fitness and wellness program. (Contact hours - 30)
- HWE 175 SPECIAL TOPICS** **.25-6 CR**  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.
- HWE 237 EXERCISE, NUTRITION & BODY COMPOSITION** **3 CR (3-0)**  
Discusses the concepts of improved performance in all fitness areas. Emphasis is placed upon updated information associated with nutrition and human performance. Measurement of body composition is used as it correlates to training and diet/exercise programs. (Contact hours - 45)
- Additional courses are available through Colorado Community College Online (CCC Online).

## INDUSTRIAL MAINTENANCE

- IMA 100 INTRO TO INDUSTRIAL MAINTENANCE** **3 CR (1.5-2.25)**  
Provides an overall perspective and foundation for the person entering the industrial maintenance field. The fundamentals of machine operations commonly utilized in the process and energy industry will be presented. Maintenance personnel duties and responsibilities, general maintenance procedures, basic maintenance tools and equipment, basic fastening and securing, and machine operating specifications will be covered. Emphasis will be placed upon the understanding of machine documentation. The student will be introduced to the logical process utilized in the diagnosis machinery and control system troubleshooting. Workplace safety will be stressed throughout the course. *Prerequisite: EIC 101 ("C" or better).* (Contact hours - 56.25)
- IMA 120 INDUSTRIAL ROTATING EQUIPMENT** **3 CR (1.5-2.25)**  
Explains the theory and operation of various types of pumps and compressors in common use in the process and energy supply industries. Mechanical power transmission systems including direct coupling and v-belt drives are studied. The principles involved in the operation of centrifugal and positive displacement pumps and compressors will be discussed, along with the function of various components in pumps and compressors, disassembly and reassembly of pumps, compressors and mechanical drives, and troubleshooting pumps and compressors. *Prerequisites: IMA 100.* (Contact hours - 56.25)

- IMA 150 INDUSTRIAL PROBLEM SOLVING METHODS** **2 CR (1-1.5)**  
Provides the student with the methodology and skills to perform a clear, concise analysis of multi-faceted problems associated with complex equipment and systems or organization performance breakdowns or failures. Methodologies for developing, analyzing, and prioritizing solutions will be presented. Demonstration of skills will be required using actual problems or failures. *Prerequisites: CIS 118 AND EIC 101 ("C" or better).* (Contact hours - 37.5)

- IMA 160 BASIC FLUID POWER** **3 CR (1-3)**  
Provide an understanding of the fundamentals of fluid power, hydraulic transmission of force and energy, operation at the suction side of the pump, petroleum based hydraulic fluids, fire resistant hydraulic fluids, flow rates and velocity, properties of hydraulic fluids, and the function and construction of basic elements of a hydraulic or fluid power system. The course will cover hydraulic symbols and prints used in industry. *Prerequisite: EIC 101 ("C" or better).* (Contact hours - 60)

## JOURNALISM

- JOU 105 INTRODUCTION TO MASS MEDIA** **3 CR (3-0)**  
Places the mass media in a historical and cultural perspective, considering the validity, integrity, and influence of the media in a democracy. (Contact hours - 45) State Guaranteed Transfer Course.
- JOU 111 PRINCIPLES OF ADVERTISING** **3 CR (3-0)**  
Employs design concepts, principles, and practices for advertising management for the mass media. (Contact hours - 45)

Additional courses are available through Colorado Community College Online (CCC Online).

## LITERATURE

- LIT 115 INTRODUCTION TO LITERATURE I** **3 CR (3-0)**  
Introduces students to fiction, poetry, and drama. Emphasizes active and responsive reading. (Contact hours - 45) State Guaranteed Transfer Course.
- LIT 175 SPECIAL TOPICS** **1-3 CR**  
Provides students with a vehicle to pursue in depth exploration of special topics of interest. (Contact hours - 15-45)
- LIT 205 ETHNIC LITERATURE** **3 CR (3-0)**  
Focuses on significant texts by ethnic Americans including African-American, Native American, Latino/a, and Asian Americans. Emphasizes careful reading and understanding of the cultural and literary elements of the works. (Contact hours - 45) State Guaranteed Transfer Course.
- LIT 255 CHILDREN'S LITERATURE** **3 CR (3-0)**  
Evaluates the criteria for selecting appropriate literature for children through exploration of genres, age levels, values taught through literature, and the literary and artistic quality of various texts. (Contact hours - 45)
- LIT 275 SPECIAL TOPICS** **1-3 CR**  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 15-45)

Additional courses are available through Colorado Community College Online (CCC Online).

## MANAGEMENT

**MAN 128 HUMAN RELATIONS IN ORGANIZATIONS 3 CR (3-0)**

*(Core Course for AGS or AAS)*

Explores the importance of effective communication in our personal lives as well as in the world of business. Practical business applications such as employee motivation, handling customer complaints, and effectively resolving conflict in the workplace will be a major part of the curriculum. (Contact hours - 45)

**MAN 175 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as-needed basis to provide current, up-to-date information. (Contact hours - 15 - 90)

**MAN 200 HUMAN RESOURCE MANAGEMENT I 3 CR (3-0)**

Provides the student with a broad overview of the contemporary issues, theories, and principles used to effectively manage human resources. Topics include recruiting, hiring, compensation and benefits, training and development, employee relations, and legal issues. (Contact hours - 45)

**MAN 205 EVENT PLANNING 3 CR (3-0)**

Presents the components of meeting planning, organization, personnel, finances, site selection, transportation, program design, promotion, arranging exhibits, and evaluation. (Contact hours - 45)

**MAN 215 ORGANIZATIONAL BEHAVIOR 3 CR (3-0)**

Examines the behaviors of groups and individual members of organizations and how that behavior can be influenced. Course emphasis is on the tools managers use to achieve organizational effectiveness. (Contact hours - 45)

**MAN 223 EVENT MANAGEMENT 3 CR(3-0)**

Give students a comprehensive foundation to build a career in the vast spectrum of the events industry including real world analysis and frequent speakers from prominent event professionals. (Contact hours - 45)

**MAN 226 PRINCIPLES OF MANAGEMENT 3 CR (3-0)**

Presents a survey of the principles of management. Emphasis is on the primary functions of planning, organizing, leading, and controlling with a balance between the behavioral and operational approach. (Contact hours - 45)

**MAN 275 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as needed basis to provide current, up-to-date information.

Additional courses are available through Colorado Community College Online (CCC Online).

## MANICURING TECHNICIAN

*(See Nail Technician)*

## MARKETING

**MAR 111 PRINCIPLES OF SALES 3 CR (3-0)**

Enables the student to understand and develop proper sales techniques, and covers the role of selling in the market place. Areas of emphasis include behavioral considerations in the buying and selling process and sales techniques. *Prerequisite: BUS115 ("C" or better).* (Contact hours - 45)

**MAR 187 COOPERATIVE EDUCATION/INTERNSHIP 1-6 CR**

Provides students with the opportunity to supplement course work with practical work experience related to their educational program and occupational objectives. Students are placed at approved work stations which are related to their program of study. They work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.

**MAR 216 PRINCIPLES OF MARKETING 3 CR (3-0)**

Presents the analysis of theoretical marketing processes and the strategies of product development, pricing, promotion, distribution, and their applications to businesses and the individual consumer. (Contact hours - 45)

**MAR 220 PRINCIPLES OF ADVERTISING 3 CR (3-0)**

Examines the principles and practices of advertising and its relationship to business in order to promote a business or organization. Areas of major emphasis include advertising principles, strategies, media, copy and layout, and ethical considerations. (Contact hours - 45)

**MAR 275 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as needed basis to provide current, up-to-date information.

**MAR 278 SEMINAR 1-6 CR**

Provides students with an experiential learning opportunity. (Contact hours - 160 per enrollment)

Additional courses are available through Colorado Community College Online (CCC Online).

## MATHEMATICS

**MAT 50 QUANTITATIVE LITERACY 4 CR (4-0)**

Develops number sense and critical thinking strategies, introduce algebraic thinking, and connect mathematics to real world applications. Topics in the course include ratios, proportions, percents, measurement, linear relationships, properties of exponents, polynomials, factoring, and math learning strategies.

This course prepares students for Math in Liberal Arts, Statistics, Integrated Math, and college level career math courses. *Prerequisite: This course has math placement requirements (see page 139).* (Contact hours - 60)

**MAT 55 ALGEBRAIC LITERACY 4 CR (4-0)**

Develops algebraic skills necessary for manipulating expressions and solving equations. Topics in the course include radicals, complex numbers, polynomials, factoring, rational expressions, quadratic equations, absolute value equations and inequalities, systems of linear equations, related applications, and math learning strategies. This course prepares students for College Algebra and Finite Math. *Prerequisite: Successful completion of MAT 50 or 90 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 60)

**MAT 80 MATH FOR LIBERAL ARTS LAB 2 CR**

Supports skill development for students registered in MAT 120. Topics covered in this course include those defined in MAT 120 and/or any pre-requisite skills needed by the student. *Pre-requisite: This course has math placement requirements (see page 139).* Paired with Math 120 (Contact hours - 22.5)

**MAT 81 COLLEGE ALGEBRA LAB 2 CR**

Supports skill development for students registered in MAT 121. Topics covered in this course include those defined in MAT 121 and/or any pre-requisite skills needed by the student. *Pre-requisite: This course has math placement requirements (see page 139).* Paired with Math 121 (Contact hours - 22.5).

**MAT 85 Introduction to Statistics Lab****2 CR**

Supports skill development for students registered in MAT 135. Topics covered in this course include those defined in MAT 135 and/or any pre-requisite skills needed by the student. *Pre-requisite: This course has math placement requirements (see page 139). Paired with Math 135 (Contact hours - 22.5)*

**MAT 102 SKILLED TRADES & INDUSTRIAL MATH****2 CR (2-0)**

Provides a review of general mathematics, introductory algebra, and an opportunity to learn systems of measurement and methods of solving problems related to skilled trades and general industrial repair. It is designed for students in the repair industry. Topics may include algebra, geometry, graphs, measurement, and conversion between various systems of measurement. *Prerequisite: Successful completion of MAT 30, 45, or 50 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 30)

**MAT 103 MATH FOR CLINICAL CALCULATIONS****3 CR (3-0)**

Provides a review of general mathematics, introductory algebra, and an opportunity to learn systems of measurement and methods of solving problems related to drug dosage and intravenous fluid administration. It is designed for students in the health disciplines. Topics may include algebra, graphs, measurement, and conversion between various systems of measurement. *Prerequisite: Successful completion of MAT 50, 90, or 96 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45)

**MAT 107 CAREER MATH****3 CR (3-0)**

Covers material designed for career technical or general studies students who need to study particular mathematical topics. Topics may include measurement, algebra, geometry, trigonometry, graphs, and/or finance. These are presented on an introductory level and the emphasis is on applications. *Prerequisite: Successful completion of MAT 30, 45, or 50 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45)

**MAT 112 FINANCIAL MATHEMATICS****3 CR (3-0)**

Covers topics including pricing, taxes, insurance, interest, annuities, amortization, investments using financial calculators, and spreadsheets. *Prerequisite: Successful completion of MAT 45, 50, or 60 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45)

**MAT 120 MATHEMATICS FOR THE LIBERAL ARTS****4 CR (4-0)**

Develops mathematical and problem-solving skills. Appropriate technological skills are included. Content is selected to highlight connections between mathematics and the society in which we live. Topics include set theory and logic, mathematical modeling, probability and statistical methods, and consumer mathematics. Additional content will include one topic in geometry, numeration systems, decision theory, or management science. The Colorado Commission on Higher Education has approved MAT 201 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA1 category. For transferring students, successful completion with a minimum C-grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highered.colorado.gov/academics/tranfers/gtpathways/curriculum.html>.

*Prerequisite: Successful completion of MAT 50, 90, 96, or 99 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 60) State Guaranteed Transfer Course. AA & AGS Degrees only.

**MAT 121 COLLEGE ALGEBRA****4 CR (4-0)**

Includes a brief review of intermediate algebra, equations, and inequalities, functions and their graphs, exponential and logarithmic functions, linear and non-linear systems, selection of topics from among graphing of the conic sections, introduction to sequences and series permutations and combinations, the binomial theorem, and theory of equations. The Colorado Commission on Higher Education has approved MAT 201 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA1 category. For transferring students, successful completion with a minimum C-grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highered.colorado.gov/academics/tranfers/gtpathways/curriculum.html>.

*Prerequisite: Successful completion of MAT 55, 96, or 99 ("C" or higher)*

*OR appropriate placement score (see page 139).* (Contact hours - 60) State Guaranteed Transfer Course.

**MAT 122 COLLEGE TRIGONOMETRY****3 CR (3-0)**

Covers topics including trigonometric functions (with graphs and inverse functions), identities and equations, solutions of triangles, complex numbers, and other topics as time permits. This is a traditional prerequisite course to the calculus sequence. *Prerequisite: Successful completion of MAT 121 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45) State Guaranteed Transfer Course.

**MAT 125 SURVEY OF CALCULUS****4 CR (4-0)**

Includes derivatives, integrals, and their applications with attention restricted to algebraic, exponential, and logarithmic functions for business, life science, and/or social science majors. The Colorado Commission on Higher Education has approved MAT 201 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA1 category. For transferring students, successful completion with a minimum C-grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highered.colorado.gov/academics/tranfers/gtpathways/curriculum.html>. *Prerequisite: Successful completion of MAT 121 or MAT 123 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 60) State Guaranteed Transfer Course. AA & AGS Degrees only.

**MAT 135 INTRODUCTION TO STATISTICS****3 CR (3-0)**

Includes data presentation and summarization, introduction to probability concepts and distributions, statistical inference, estimation, hypothesis testing, comparison of populations, correlation, and regression. The Colorado Commission on Higher Education has approved MAT 201 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA1 category. For transferring students, successful completion with a minimum C-grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highered.colorado.gov/academics/tranfers/gtpathways/curriculum.html>. *Prerequisite: Successful completion of MAT 50, 90, 96, or 99 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45) State Guaranteed Transfer Course. AA & AGS Degrees only.

**MAT 155 INTEGRATED MATH I****3 CR (3-0)**

Engages students in the concepts of school mathematics. The course will include the recognition of numerical and geometric patterns and their application to a variety of mathematical situations; mathematical problem-solving, reasoning, critical thinking, and communication; algebraic thinking, representation, analysis, manipulation, generalizations, and extensions. *Prerequisite: Successful completion of MAT 90, 96, or 99 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 45)

**MAT 156 INTEGRATED MATH II****3 CR (3-0)**

Furtheres MAT 155 concepts. The course will include fundamentals of probability, statistics, and Euclidean geometry. Mathematical problem-solving, reasoning, critical thinking, and communication will continue to be an integral part of this sequence. *Prerequisite: Successful completion of MAT 155 ("C" or better).* (Contact hours - 45)

**MAT 166 PRE-CALCULUS****5 CR (5-0)**

Reviews college algebra and college trigonometry intended for those planning to take calculus. Topics include algebraic manipulations, properties of algebraic and trigonometric functions and their graphs, trigonometry identities and equations, conic sections, polar coordinates, and parametric equations. *Prerequisite: Successful completion of MAT 121 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 75)

**MAT 175 SPECIAL TOPICS****1-3 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**MAT 201 CALCULUS I****5 CR (5-0)**

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. The Colorado Commission on Higher Education has approved MAT 201 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA1 category. For transferring students, successful completion with a minimum C-grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to: <http://highereducation.colorado.gov/academics/transfers/gtpathways/curriculum.html>.

*Prerequisites: Successful completion of MAT 121 and 122 or MAT 121 and 166 ("C" or better) OR appropriate placement score (see page 139).* (Contact hours - 75)

State Guaranteed Transfer Course.

#### **MAT 202 CALCULUS II** **5 CR (5-0)**

Continuation of single variable calculus which will include techniques of integration, polar coordinates, analytic geometry, improper integrals, and infinite series. *Prerequisite: MAT 201 ("C" or better) OR instructor approval.* (Contact hours - 75) State Guaranteed Transfer Course.

#### **MAT 203 CALCULUS III** **4 CR (4-0)**

Completes the traditional subject matter of Calculus. Topics include vectors, vector-valued functions, and multivariable calculus including partial derivatives, multiple integrals, line integrals, and application. *Prerequisite: MAT 202 ("C" or better).* (Contact hours - 60)

State Guaranteed Transfer Course.

#### **MAT 261 DIFFERENTIAL EQUATIONS WITH ENGINEERING APPLICATION: MA1** **4 CR (4-0)**

Introduces ordinary differential equations. The content of this course includes all the topics of MAT 265 Differential Equations with an additional emphasis on applications and problem solving. A graphing calculator is required for this course. *Prerequisite: MAT 203 ("C" or better).* (Contact hours - 60) State Guaranteed Transfer Course.

Additional courses are available through Colorado Community College Online (CCC Online).

## MULTIMEDIA GRAPHIC DESIGN

#### **MGD 111 ADOBE PHOTOSHOP I** **3 CR (3-0)**

Concentrates on the high-end capabilities of a raster photo-editing software as an illustration, design, and photo retouching tool. Students explore a wide range of selection and manipulation techniques that can be applied to photos, graphics, and videos. (Contact hours - 45)

#### **MGD 112 ADOBE ILLUSTRATOR I** **3 CR (3-0)**

Acquaints students with the processes of a vector drawing program on the computer. Students learn how to use the tools to create digital artwork that can be used in web design, print media, and digital screen design. (Contact hours - 45)

#### **MGD 114 ADOBE INDESIGN** **3 CR (3-0)**

Introduces students to InDesign, a page layout program which integrates seamlessly with other Adobe design programs. InDesign delivers creative freedom and productivity to DTP. Class discussions and independent projects supplement hands-on classroom work. (Contact hours - 45)

#### **MGD 133 GRAPHIC DESIGN I** **3 CR (3-0)**

Focuses upon the study of design layout and conceptual elements concerning graphic design projects such as posters, advertisements, logos, and brochures. (Contact hours - 45)

#### **MGD 141 WEB DESIGN I: DREAMWEAVER** **3 CR (3-0)**

Introduces web site planning, design, and creation using industry-standards-based web site development tools. Screen-based color theory, web aesthetics, use of graphics editors, and intuitive interface design are explored. (Contact hours - 45)

#### **MGD 211 ADOBE PHOTOSHOP II** **3 CR (3-0)**

Develops and reinforces image composition techniques learned in Adobe Photoshop I, MGD 111. Fundamentals are continuously reinforced as new design techniques are introduced. (Contact hours - 45)

## MILLWRIGHT - WIND TECHNOLOGY

#### **MIL 101 LIFTING DEVICES** **1 CR (0-1.5)**

Introduces the student to the types of rigging/ lifting devices used in industry. Skills include the correct use of slings and common rigging hardware including safe loading practices and the use of ANSI hand signals. *Prerequisite: EIC 101 ("C" or better).* (Contact hours - 22.5)

## MUSIC

#### **MUS 100 FUNDAMENTALS OF MUSIC THEORY** **3 CR (3-0)**

Designed to help the beginning music student, or those students with a limited background in music theory, study the basic elements of music including notation, rhythm, scales, key signatures, intervals and chords. (Contact hours - 45)

#### **MUS 106 SONGWRITING** **3 CR (3-0)**

Examines the various processes and styles of songwriting and offers techniques and ideas for creating songs ranging from functional to original. You will explore the common factors in all styles of songwriting and use them to bring out creative song ideas whether you have written songs before or have just always wanted to see if you could. A basic knowledge of music reading for any instrument and elementary music theory is recommended, but not required. (Contact hours - 45)

#### **MUS 110 MUSIC THEORY I** **3 CR (3-0)**

Presents music fundamentals, diatonic four-part harmony, analysis, ear training, and keyboard harmony. For music majors transferring to a 4-year program. *Prerequisite: MUS 100 ("C" or better) OR instructor approval.* (Contact hours - 45)

#### **MUS 111 MUSIC THEORY II** **3 CR (3-0)**

Presents chromatic four-part harmony, analysis, ear training, and keyboard harmony. *Prerequisites: MUS 110 & MUS 112 ("C" or better).* (Contact hours - 45)

#### **MUS 112 EAR TRAINING/SIGHT-SINGING I LAB** **1 CR (1-0)**

Presents exercises in sight-singing with melodic and rhythmic dictation. *Prerequisite: instructor approval. Corequisite: MUS 110* (Contact hours - 15)

#### **MUS 113 EAR TRAINING/SIGHT-SINGING II LAB** **1 CR (1-0)**

Presents exercises in sight-singing with melodic and rhythmic dictation. *Prerequisite: MUS 112 ("C" or better). Corequisite: MUS 111* (Contact hours - 15)

#### **MUS 120 MUSIC APPRECIATION** **3 CR (3-0)**

Covers the basic materials of music, musical forms, media, genres, and musical periods. Emphasizes the development of tools for intelligent listening and appreciation. (Contact hours - 45) State Guaranteed Transfer Course.

#### **MUS 121 MUSIC HISTORY: MEDIEVAL TO CLASSICAL** **3 CR (0-6)**

Studies the various periods of music history with regard to the composers, esthetics, forms, and genres of each period. Considers music from the Middle Ages through the Classical period. (Contact hours - 45) State Guaranteed Transfer Course.

<p><b>MUS 122 MUSIC HISTORY: ROMANTIC TO PRESENT 3 CR (0-6)</b> Studies the various periods of music history with regard to the composers, aesthetics, forms, and genres of each period. Considers music from the early Romantic period to the present. (Contact hours - 45) State Guarantee Transfer Course.</p>	<p><b>MUS 152 ENSEMBLE II 1 CR (0-3)</b> Rehearses and performs various types of musical literature. First year, second term. <i>Prerequisite: instructor approval.</i> (Contact hours - 45)</p> <p><b>MUS 153 ENSEMBLE III 1 CR (0-3)</b> Rehearses and performs various types of musical literature. First year, third term. <i>Prerequisite: instructor approval.</i> (Contact hours - 45)</p>
<p><b>MUS 123 STUDY OF WORLD MUSIC 3 CR (3-0)</b> Provides an overview of non-Western music from around the world as well as provides basic listening skills and the historical/cultural context for a variety of world music styles to enable an understanding and appreciation of non-Western musical expression. (Contact hours - 45) State Guaranteed Transfer Course.</p>	<p><b>MUS 154 ENSEMBLE IV 1 CR (0-3)</b> Rehearses and performs various types of musical literature. First year, fourth term. <i>Prerequisite: instructor approval.</i> (Contact hours - 45)</p> <p><b>MUS 161 MUSIC TECHNOLOGY I 3 CR (3-0)</b> Considers in-depth music engraving applications through course projects designed to demonstrate engraving skills in a variety of score styles, arranging, part extraction, arranging, and scanning techniques. Project-oriented course covers current music notation/engraving software. (Contact hours - 45)</p>
<p><b>MUS 125 HISTORY OF JAZZ 3 CR (0-6)</b> Provides a survey of the basic materials of music and the forms, media, genres, historical, and cultural style periods of jazz. It emphasizes the development of tools for intelligent listening and appreciation. (Contact hours - 45) State Guaranteed Transfer Course.</p>	<p><b>MUS 163 MUSIC AUDIO PRODUCTION I 3 CR (3-0)</b> Designed to give music majors and students with a strong interest in music a basic understanding of the Music Production process. This includes the basic knowledge of audio/music production, the fundamentals of sound and microphone, digital and analog technology, recording, and mixing. (Contact hours - 45)</p>
<p><b>MUS 127 MUSIC IN FILM 3 CR (0-6)</b> Provides an overview of cinema music from the origins of film to the present. This course covers basic listening skills, basics of how music is used in film, and a historical/cultural context for Western and world cinematic styles to enable an understanding and appreciation of musical expression in film. (Contact hours - 45)</p>	<p><b>MUS 164 MUSIC AUDIO PRODUCTION II 3 CR (3-0)</b> Designed to build on the concepts of MUS 163, this class will be more project oriented with emphasis on using the techniques discussed in MUS 163. An emphasis on critical listening through each phase of the recording process will be made. (Contact hours - 45)</p>
<p><b>MUS 131 MUSIC CLASS I: PIANO 2 CR (0-4)</b> Applies the fundamentals of music to the voice or specific musical instruments. This course also introduces basic techniques, repertoire, and sight-reading. First year, first term. (Contact hours - 30)</p>	<p><b>MUS 167 MUSIC BUSINESS I 3 CR (3-0)</b> Designed to give music students, or those students with a strong interest in business and music, a complete overview and in-depth examination of the current, historic, and projected business practices in the music industry. Designed to give music majors and students with a strong interest in music a basic understanding of the Music Production process. (Contact hours - 45)</p>
<p><b>MUS 141 PRIVATE INSTRUCTION I 1-2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4-year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at, and participation in, student performances is required for 2 credits. First year, first term. <i>Prerequisite: instructor approval.</i> (Contact hours - 7.5 - 15)</p>	<p><b>MUS 168 AUDIO: POST PRODUCTION I 3 CR (3-0)</b> Explores the steps in audio production following initial sound capture and overdubbing of sound. Key concepts include sound design, mixing, and addition of effects. Integration of music with picture is also discussed and key concepts such as automatic dialogue replacement, foley, score, and voiceover recording are covered. (Contact hours - 45)</p>
<p><b>MUS 142 PRIVATE INSTRUCTION II 1-2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4 year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. First year, second term. <i>Prerequisite: instructor approval.</i> (Contact hours - 7.5 - 15)</p>	<p><b>MUS 175 SPECIAL TOPICS 1-6 CR</b> Provides students with a vehicle to pursue in-depth exploration of special topics of interest. <i>Prerequisite: instructor approval.</i></p>
<p><b>MUS 143 PRIVATE INSTRUCTION III 1-2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4 year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at, and participation in, student performances is required for 2 credits. First year, third term. <i>Prerequisite: instructor approval.</i> (Contact hours - 7.5 - 15)</p>	<p><b>MUS 185 INDEPENDENT STUDY 1-6 CR</b> Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. <i>Prerequisite: instructor approval.</i></p>
<p><b>MUS 144 PRIVATE INSTRUCTION IV 1-2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4-year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at, and participation in, student performances is required for 2 credits. First year, fourth term. May be repeated for credit more than once per individual institution policy. <i>Prerequisite: instructor approval.</i> (Contact hours - 7.5 - 15)</p>	<p><b>MUS 210 MUSIC THEORY III 3 CR (3-0)</b> Continues study of four-part music including extended harmonic progressions of ninth, eleventh, thirteenth chords, extended alteration, non-chord tones, modulation, and compositions. <i>Prerequisite: MUS 111 and MUS 113.</i> (Contact Hours - 45)</p>
<p><b>MUS 151 ENSEMBLE I 1 CR (0-3)</b> First year, first term. Rehearses and performs various types of musical literature. <i>Prerequisite: instructor approval.</i> (Contact hours - 45)</p>	<p><b>MUS 211 MUSIC THEORY IV 3 CR (3-0)</b> Offers a continuation of chromatic harmony, analysis, ear-training, and keyboard harmony. New topics will include Impressionism and 20th Century styles of composition. <i>Prerequisite: MUS 210 and MUS 212.</i> (Contact Hours - 45)</p> <p><b>MUS 212 ADVANCED EAR-TRAINING/SIGHT-SINGING I LAB 1 CR (1-0)</b> Presents modulating and chromatic exercises in sight-singing and dictation. Dictation includes four-part writing. <i>Corequisite: MUS 210.</i> (Contact Hours - 15)</p>

COURSE DESCRIPTIONS		125
<p><b>MUS 213 ADVANCED EAR-TRAINING/SIGHT-SINGING II LAB</b> <b>1 CR (1-0)</b> Presents modulating and chromatic exercises in sight-singing and dictation. Dictation includes four-part writing. <i>Prerequisite: MUS 212 or instructor approval.</i> (Contact Hours - 15)</p> <p><b>MUS 241 PRIVATE INSTRUCTION I</b> <b>2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4-year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at, and participation in, student performances is required for 2 credits. Second year, first term. <i>Prerequisites: Class instruction OR instructor approval.</i> (Contact Hours - 7.5 - 15)</p> <p><b>MUS 242 PRIVATE INSTRUCTION II</b> <b>2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4-year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at, and participation in, student performances is required for 2 credits. Second year, second term. <i>Prerequisites: Class instruction or instructor approval.</i> (Contact Hours - 7.5 - 15)</p> <p><b>MUS 243 PRIVATE INSTRUCTION III</b> <b>2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4-year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at, and participation in, student performances is required for 2 credits. Second year, third term. <i>Prerequisites: Class instruction or instructor approval.</i> (Contact Hours - 7.5 - 15)</p> <p><b>MUS 244 PRIVATE INSTRUCTION IV</b> <b>2 CR (0-4)</b> 1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4-year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at, and participation in, student performances is required for 2 credits. Second year, fourth term. May be repeated for credit more than once per individual institution policy. <i>Prerequisites: Class instruction or instructor approval.</i> (Contact Hours - 7.5 - 15)</p> <p><b>MUS 251 ENSEMBLE I</b> <b>1 CR (0-3)</b> Rehearses and performs various types of musical literature. Second year, first term. <i>Prerequisite: instructor approval.</i> (Contact Hours - 45)</p> <p><b>MUS 252 ENSEMBLE II</b> <b>1 CR (0-3)</b> Rehearses and performs various types of musical literature. Second year, second term. <i>Prerequisite: instructor approval.</i> (Contact Hours - 45)</p> <p><b>MUS 253 ENSEMBLE III</b> <b>1 CR (0-3)</b> Rehearses and performs various types of musical literature. Second year, third term. <i>Prerequisite: instructor approval.</i> (Contact Hours - 45)</p> <p><b>MUS 254 ENSEMBLE IV</b> <b>1 CR (0-3)</b> Rehearses and performs various types of musical literature. Second year, fourth term. <i>Prerequisite: instructor approval.</i> (Contact Hours - 45)</p> <p><b>MUS 265 LIVE AUDIO RECORDING</b> <b>3 CR (3-0)</b> Teaches the concepts and technical skills of live sound reinforcement. Topics include basic audio concepts, the operation and interconnection of a sound system, signal processing, and live sound recording. Students will participate in special class projects and live sound sessions. (Contact Hours - 45)</p> <p><b>MUS 275 SPECIAL TOPICS</b> <b>1-6 CR</b> Covers specific topics in music. This course is offered as needed for credit appropriate to the topic and each offering includes a description of the topic(s). <i>Prerequisite: instructor approval.</i></p> <p><b>MUS 276 SPECIAL TOPICS</b> <b>1-6 CR</b> Provides students with a vehicle to pursue in-depth exploration of special topics of interest. <i>Prerequisite: instructor approval.</i></p>	<p><b>MUS 285 INDEPENDENT STUDIES</b> <b>1-6 CR</b> Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. <i>Prerequisite: instructor approval.</i></p> <p>Additional courses are available through Colorado Community College Online (CCC Online).</p>	
<b>NAIL TECHNICIAN</b>		
(All COS, EST, and NAT courses are a part of the Cosmetology Program and cannot be taken as independent courses.)		
	<p><b>NAT 110 INTRO TO MANICURES &amp; PEDICURES</b> <b>3 CR (1-3)</b> Provides a basic introduction in the proper use of implements used in manicures and pedicures. Theory and practical application of proper set-up, safety, sanitation, nail shapes, anatomy, product knowledge, and terminology dealing with manicures and pedicures is covered. Training is done in a classroom or lab setting using models or other techniques. <i>Prerequisite: COS 150 ("C" or better).</i> (Contact hours - 60)</p> <p><b>NAT 111 INTERMEDIATE MANICURES &amp; PEDICURES</b> <b>2 CR (0-3)</b> Presents theory and practical application dealing with different types of manicures, pedicures, nail art, and massage techniques. Theory and practical application of procedures, products, nail shapes, and maintenance of natural nails is covered. Students learn to recognize different nail disorders and their proper treatment. Training is done in a specialized class or in supervised salon setting using models or customer service. Proper sanitation and sterilization as it pertains to all aspect of manicures, pedicures, and nail art is taught. <i>Prerequisite: NAT 110 ("C" or better).</i> (Contact hours - 45)</p> <p><b>NAT 210 ADVANCED MANICURES &amp; PEDICURES</b> <b>2 CR (0-3)</b> Presents theory and practical application dealing with different types of manicures, pedicures, massage techniques, and nail art. Theory and practical application of procedures, products, nail shapes, and maintenance of natural nails is covered. Students learn to recognize different nail disorders and their proper treatment. Training is done in a specialized class or in supervised salon setting using models or customer service. <i>Prerequisite: NAT 111 ("C" or better).</i> (Contact hours - 45).</p> <p><b>NAT 211 APPLICATION OF ARTIFICIAL NAILS</b> <b>5 CR (1-6)</b> Provides advanced theory and practical application of nail wraps, tip overlays, acrylics, and product knowledge to ready the student for employment. Theory and practical application of removal techniques for artificial nails is covered. Instruction is provided in specialized classes or in supervised salon (clinical) setting using models or customer service. Student preparation for State Board Licensing Examination pertaining to artificial nails is covered. <i>Prerequisite: COS 160 ("C" or better).</i> (Contact hours - 105).</p> <p><b>NAT 290 ADVANCED NAIL TECHNICIAN STUDIES</b> <b>1 CR (7.5-11.5)</b> Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact Hours - 19)</p>	
<b>NURSE AIDE</b>		
	<p><b>NUA 101 CERTIFIED NURSING AIDE HEALTH CARE SKILLS</b> <b>4 CR (4-0)</b> Prepares the student to perform the fundamental skills of the nurse aide. Basic nursing skills, communication skills, restorative services, personal care skills, safety, and emergency care issues are covered. Includes knowledge and/or principles of asepsis, OSHA, and HIPAA regulations. Ethical behaviors, cultural sensitivity, and principles of mental health will be addressed as well as patient/resident rights. (Contact hours - 64)</p>	

**NUA 102 CERTIFIED NURSING AIDE ??? 0.5 CR (0-0.5)**  
Helps prepare the student for the National Nurse Aide Assessment Program (NNAAP) examination.

**NUA 170 NURSE AIDE CLINICAL EXPERIENCE 1 CR (0-1)**  
Applies knowledge gained from NUA 101 to patient care.  
*Prerequisite: satisfactory progress in NUA 101. (Contact hours - 32)*

**NUR 169 TRANSITION INTO PRACTICAL NURSING 4 CR (2-0-2)**  
NUR 169 facilitates the transition into the role of the practical nurse with emphasis on distinguishing the defined practical nurse scope of practice related to clinical practice, communication, nursing process, ethical/legal issues, and leadership skills. The student practices in the role of the practical nurse in the associated clinical experience. *Prerequisite: Successful completion of the first year of the ADN course work.*  
(Theory: 2 cr/30 contact hours, Clinical: 2 cr/90 contact hours)

Additional courses are available through Colorado Community College Online (CCC Online).

## NURSING - PRACTICAL

**NUR106 MED SURG NURSING CONCEPTS 7 CR (3.4-0.3-3.3)**  
NUR 106 is the first medical/surgical nursing course. Building on NUR 109, this course provides for the acquisition of basic medical/surgical nursing theory as well as application of mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe patient-centered care to a developmentally and culturally diverse adult patient population experiencing various medical/surgical interventions. Incorporates evidence-based practice, quality improvement, professional standards, and legal and ethical responsibilities of the nurse. Application of knowledge and skills occurs in the nursing skills laboratory and a variety of clinical settings. *Prerequisite: Successful completion of first semester of the ADN program. Satisfactory completion of BIO 204 Microbiology, MAT 103 Math for Clinical Calculations or higher level math course, and social science elective. Student must also have completed or be enrolled in BIO 216 Pathophysiology. Successful completion of preceding required program course work.* (Theory: 3.4 cr/51 contact hours, Lab: 0.3 cr/13.5 contact hours, Clinical: 3.3 cr/148.5 contact hours)

**NUR 109 FUNDAMENTALS OF NURSING 6 CR (2-2-2)**  
NUR 109 introduces the fundamental concepts necessary for safe, patient-centered nursing care to a diverse patient population while integrating legal and ethical responsibilities of the nurse. Introduces caring, critical thinking, the nursing process, quality improvement, communication used when interacting with patients and members of the interdisciplinary team, and relates evidence-based nursing practice. Application of knowledge and skills occurs in the nursing skills laboratory and a variety of clinical settings providing care to stable patients with common health alterations. *Prerequisite: Acceptance into ADN program.* (Theory: 2 cr/30 contact hours, Lab: 2 cr/90 contact hours, Clinical: 2 cr/90 contact hours)

**NUR 112 BASIC CONCEPTS OF PHARMACOLOGY 2 CR (2-0-0)**  
NUR 112 is an overview of the basic principles of pharmacology including major drug classifications and prototypes of commonly used medications. Principles of medication administration include aspects of best practice for safe, quality, patient-centered care. Central points include safety, quality improvement factors in the administration of medications, patient teaching, and variation encountered when administering medications to diverse patient populations across the lifespan. *Prerequisite: Acceptance into ADN program.* (Theory: 2 cr/30 contact hours)

**NUR 150 MATERNAL CHILD NURSING 6 CR (3.3-0.7-2)**  
NUR 150 provides for the acquisition of maternal/child nursing theory as well as application of mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, family-centered nursing care to childbearing families and children that is developmentally and culturally appropriate. Incorporates evidence-based practice, standards of practice, quality improvement, and legal and ethical responsibilities of the nurse. Application of knowledge and skills occurs in the nursing skills laboratory and in a variety of maternal/child and pediatric clinical settings. *Prerequisite: Satisfactory completion of first semester of the ADN program. Satisfactory completion of BIO 204 Microbiology, MAT 103 Math for Clinical Calculations or higher level math course, and social science elective. Student must also have completed or be enrolled in BIO 216 Pathophysiology. Successful completion of preceding required program course work.* (Theory: 3.3 cr/49.5 contact hours, Lab: 0.7 cr/31.5 contact hours, Clinical: 2 cr/90 contact hours)

## NURSING - ASSOCIATE DEGREE

**NUR106 MEDICAL SURGICAL NURSING CONCEPTS 7 CR (3.4-0.3-3.3)**  
NUR 106 is the first medical/surgical nursing course. Building on NUR 109, this course provides for the acquisition of basic medical/surgical nursing theory, as well as application of mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe patient-centered care to a developmentally and culturally diverse adult patient population experiencing various medical/surgical interventions. Incorporates evidence-based practice, quality improvement, professional standards, and legal and ethical responsibilities of the nurse. Application of knowledge and skills occurs in the nursing skills laboratory and a variety of clinical settings. *Prerequisite: Successful completion of first semester of the ADN program. Satisfactory completion of BIO 204 Microbiology, MAT 103 Math for Clinical Calculations or higher level math course, and social science elective. Student must also have completed or be enrolled in BIO 216 Pathophysiology. Successful completion of preceding required program course work.* (Theory: 3.4 cr/51 contact hours, Lab: 0.3 cr/13.5 contact hours, Clinical: 3.3 cr/148.5 contact hours)

**NUR 109 FUNDAMENTALS OF NURSING 6 CR (2-2-2)**  
NUR 109 introduces the fundamental concepts necessary for safe, patient-centered nursing care to a diverse patient population while integrating legal and ethical responsibilities of the nurse. Introduces caring, critical thinking, the nursing process, quality improvement, and communication used when interacting with patients and member of the interdisciplinary team, and relates evidence-based nursing practice. Application of knowledge and skills occurs in the nursing skills laboratory and a variety of clinical settings providing care to stable patients with common health alterations. *Prerequisite: Acceptance into ADN program.* (Theory: 2 cr/30 contact hours, Lab: 2 cr/90 contact hours, Clinical: 2 cr/90 contact hours)

**NUR 112 BASIC CONCEPTS OF PHARMACOLOGY 2 CR (2-0-0)**  
NUR 112 is an overview of the basic principles of pharmacology including major drug classifications and prototypes of commonly used medications. Principles of medication administration include aspects of best practice for safe, quality, patient-centered care. Central points include safety, quality improvement factors in the administration of medications, patient teaching, and variation encountered when administering medications to diverse patient populations across the lifespan. *Prerequisite: Acceptance into ADN program.* (Theory: 2 cr/30 contact hours)

**NUR 150 MATERNAL CHILD NURSING 6 CR (3.3-0.7-2)**  
NUR 150 provides for the acquisition of maternal/child nursing theory as well as application of mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, family-centered nursing care to childbearing families and children that is developmentally and culturally appropriate. Incorporates evidence-based practice, standards of practice, quality improvement, and legal and ethical responsibilities of the nurse. Application of knowledge and skills occurs in the nursing skills laboratory and in a variety of maternal/child and pediatric clinical settings. *Prerequisite: Satisfactory completion of first semester of the ADN program. Satisfactory completion of BIO 204 Microbiology, MAT 103 Math for Clinical Calculations or higher level math course, and social science elective. Student must also have completed or be enrolled in BIO 216*

*Pathophysiology. Successful completion of preceding required program course work. (Theory: 3.3 cr/49.5 contact hours, Lab: 0.7 cr/31.5 contact hours, Clinical: 2 cr/90 contact hours)*

**NUR 169 IS ONLY REQUIRED FOR THOSE WHO WANT TO BE ELIGIBLE TO TAKE THE NCLEX-PN (STATE BOARD EXAM) TO BECOME A LICENSED PRACTICAL NURSE.**

#### **NUR 169 TRANSITION INTO PRACTICAL NURSING**

**4 CR (2-0-2)**

Facilitates the transition into the role of the practical nurse with emphasis on distinguishing the defined practical nurse scope of practice related to clinical practice, communication, nursing process, ethical/legal issues, and leadership skills. The student practices in the role of the practical nurse in the associated clinical experience.

**NUR 189 - THIS COURSE IS ONLY REQUIRED TO THOSE NEW ADMITS SECOND YEAR.**

#### **NUR 189 TRANSITION FROM LPN TO ADN**

**3 CR (2-0.5-0.5)**

NUR 189 facilitates transition of the LPN to new roles and responsibilities of the ADN, the nursing process, critical thinking, legal and ethical issues in nursing practice, and the nursing care of childbearing families and pediatric clients. Application of knowledge and skills occurs in the laboratory and maternal/child and pediatric clinical settings. *Prerequisite: Must be a LPN. (Theory: 2 cr/30 contact hrs; Lab: 0.5/22.5 contact hours, Clinical: 0.5 cr/22.5 contact hours.)* The clinical focus will be the care of the pediatric and obstetric client.

#### **NUR 206 ADVANCED CONCEPTS OF MEDICAL-SURGICAL NURSING I**

**6.5 CR (3-0.5-3)**

NUR 206 builds on NUR 106 focusing on advanced concepts of nursing applied to care of patients with high acuity medical/surgical conditions. Builds on medical/surgical nursing theory, mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, patient-centered nursing care to developmentally and culturally diverse adult patients. Incorporates evidence-based practice, quality improvement, professional standards, and legal and ethical responsibilities of the professional nurse as applied in a variety of healthcare settings. Application of knowledge and skills occurs in the nursing skills laboratory and in a variety of clinical settings. *Prerequisite: Successful completion of the first year of ADN course work to include successful completion of BIO 216 Pathophysiology, BIO 204 Microbiology, MAT 103 Math for Clinical Calculations or higher level math course, and 3 credits of social science elective. (Theory: 3 cr/45 contact hrs; Lab: .5 cr/22.5 contact hrs; Clinical: 3 cr/135 contact hrs.)*

#### **NUR 211 PSYCH MENTAL HEALTH NURSING**

**4 CR (2.7-0-1.3)**

NUR 211 develops concepts of psychosocial integrity and emphasizes the function and responsibility of nursing in promoting and maintaining mental health of individuals and families. This course emphasizes communication and caring through the application of the therapeutic relationship and nursing process in the care and treatment of common psychiatric clinical conditions/disorders. *Prerequisite: Successful completion of the first year of ADN course work to include successful completion of BIO 216 Pathophysiology, BIO 204 Microbiology, MAT 103 Math for Clinical Calculations or higher level math course, and 3 credits of social science elective. (Theory: 2.7 cr/40.5 contact hrs, Clinical: 1.3 cr/58.5 contact hrs.)*

#### **NUR 212 PHARMACOLOGY II**

**2 CR (2-0)**

NUR 212 builds on previously introduced pharmacological concepts and applies that learning to pharmacologic therapy to provide safe, quality, evidence-based nursing care to patients with complex healthcare needs. Focuses on safety and quality improvement factors in the administration of medications within a variety of healthcare systems. Advanced dosage calculations included. *Prerequisite: Successful completion of the first year of ADN course work to include successful completion of BIO 216 Pathophysiology, BIO 204 Microbiology, MAT 103 Math for Clinical Calculations or higher level math course, and 3 credits of social science elective. Successful completion of preceding required program course work. (Theory 2 cr/30 contact hours.)*

#### **NUR 216 ADVANCED CONCEPTS MEDICAL - SURGICAL NURSING II**

**5 CR (2.3-0-2.7)**

NUR 216 is a continuation of NUR 206, focusing on complex medical/surgical conditions of the high acuity patient. Builds on medical/surgical nursing theory, mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, patient-centered nursing care to developmentally and culturally diverse adult patients experiencing high acuity medical/surgical conditions. Incorporates evidence-based practice, quality improvement, professional standards, and legal and ethical responsibilities of the professional nurse as applied in the acute care and high acuity settings. Application of knowledge and skills occurs in a variety of clinical settings. *Prerequisite: Successful completion of preceding required program course work. (Theory: 2.3 cr/34.5 contact hrs; Clinical: 2.7 cr/121.5 contact hrs.)*

#### **NUR 230 TRANSITION TO PROFESSIONAL NURSING**

**4 CR (1.6-0-2.4)**

NUR 230 is a seminar and practice capstone course that provides an integrative experience applying all dimensions of the professional nurse in the care of diverse patient populations across a variety of healthcare settings. All major concepts of the nursing program are addressed. Leadership and the management of multiple patients are emphasized. Application of knowledge and skills occurs in the clinical setting to facilitate an effective transition from student to registered professional nurse. *Prerequisite: Successful completion of preceding required program course work. (Theory: 1.6 cr/24 contact hrs; Clinical: 2.4 cr/108 contact hrs.)*

## **PHYSICAL EDUCATION**

#### **PED 101 CONDITIONING LAB**

**1 CR (0-2)**

Offers an independent self-paced format of conditioning exercises to meet individual needs. Emphasizes the value of lifetime fitness and its contribution to achieving personal health and wellness. Students utilize cardiorespiratory, muscular strength, and endurance exercises to promote positive changes in health-related fitness components. (Contact hours - 30)

#### **PED 102 WEIGHT TRAINING I**

**1 CR (0-2)**

Offers basic instruction and practice in weight training. Students utilize weight training equipment in accordance to their abilities and goals. Emphasizes weight training equipment orientation, correct lifting techniques, and basic program design for men and women. (Contact hours - 30)

#### **PED 103 WEIGHT TRAINING II**

**2 CR (0-2)**

Offers guided instruction and independent practice in weight training for men and women. Students practice various weight training techniques in accordance with their abilities. Emphasizes physiological considerations, equipment orientation, correct lifting techniques, program design, and nutrition. (Contact hours - 60)

#### **PED 104 CROSS TRAINING**

**1 CR (0-2)**

Introduces basic cross-training techniques designed to improve physical work capacity of an individual. Enables the student to gain an understanding of the basic principles of cross training, the effects cross training has upon the body's energy systems and muscles, program design and terminology. (Contact hours - 30)

#### **PED 106 FIRE ACADEMY FITNESS**

**2.5 CR (1-1.5)**

Focuses on Basic Fire Academy students who are interested in improving total fitness. Includes an individual fitness evaluation, computerized analysis of results and a prescribed exercise program. Emphasizes improving cardiovascular fitness, muscular strength, muscular endurance and addressing any fitness deficiencies revealed in the initial testing. (Contact hours - 75)

<p><b>PED 140 BODY TONING &amp; SCULPTING</b> <b>1 CR (0-2)</b> Introduces exercise techniques to improve overall physical fitness. Emphasizes the interaction between cardiovascular conditioning, muscular strength and endurance, flexibility, and program design integrated into an aerobic format. Focuses on blending together different combinations and sequences of exercises while conditioning the entire body. Students exercise using various types of resistance equipment. (Contact hours - 30)</p>	<p><b>PHI 112 ETHICS</b> <b>3 CR (3-0)</b> 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. <i>Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121.</i> (Contact hours - 45) State Guaranteed Transfer Course.</p>
<p><b>PED 143 YOGA I</b> <b>1 CR (0-2)</b> Offers a guided instruction in yoga. Students practice yoga according to their individual fitness levels and abilities. Emphasizes enhancing general health and well-being through the performance of yoga strength, flexibility, balance, and relaxation techniques and exercises. (Contact hours - 30)</p>	<p><b>PHI 113 LOGIC</b> <b>3 CR (3-0)</b> Studies effective thinking using language-oriented logic. Provides tools and develops skills for creative and critical thinking. Emphasizes the development of decision-making and problem-solving. <i>Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121.</i> (Contact hours - 45) State Guaranteed Transfer Course.</p>
<p><b>PED 144 YOGA II</b> <b>1 CR (0-2)</b> Continues to build on the concepts of basic yoga. Increases awareness of yoga including physical and mental benefits. (Contact hours - 30)</p>	<p><b>PHI 114 COMPARATIVE RELIGION</b> <b>3 CR (3-0)</b> Introduces students to the similarities and differences among concepts predominant in the major world religions, comparing sociological, philosophical, and phenomenological similarities between major world faiths. It is designed to transfer to any 4-year college philosophy, religious studies, or humanities department. <i>Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121.</i> (Contact hours - 45) State Guaranteed Transfer Course.</p>
<p><b>PED 151 WALKING &amp; JOGGING</b> <b>1 CR (0-2)</b> Enables the student to understand the values in walking and jogging. Safety precautions and emphasis on personal programs are emphasized. (Contact hours - 30)</p>	<p><b>PHI 115 WORLD RELIGIONS – WEST</b> <b>3 CR (3-0)</b> Introduces the student to the common and different concepts predominant in the major world religions. Includes sociological, political, psychological, and philosophical aspects of a variety of belief systems. Focuses on the concept of religion as a cultural system and a way that people make sense of a complex world. Particular emphasis is placed on how myths, legends, and folk tales reveal religious concerns. <i>Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121.</i> (Contact hours - 45) State Guaranteed Transfer Course.</p>
<p><b>PED 175 SPECIAL TOPICS</b> <b>1 CR (0-2)</b> Provides students with a vehicle to pursue in-depth exploration of special topics of interest. (Contact hours - 30)</p>	<p><b>PHI 116 WORLD RELIGIONS – EAST</b> <b>3 CR (3-0)</b> Emphasizes the diversity and richness of Eastern religions within a cross-cultural context. Concepts such as fate, reincarnation, enlightenment, and morality are analyzed. <i>Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121.</i> (Contact hours - 45) State Guaranteed Transfer Course.</p>
<p><b>PED 208 TENNIS I</b> <b>1 CR (0-2)</b> Introduces tennis and focuses on improving the skill level of the student. Emphasizes the elements of tennis including the rules of the game, groundstrokes, serving, the various shots, singles and doubles play and strategies. (Contact hours - 30)</p>	<p><b>PHI 175 SPECIAL TOPICS</b> <b>1-6 CR (0-0)</b> Consists of specially offered courses as a response to interest or need. <i>Prerequisite: instructor approval.</i> (Contact hours - 45)</p>
<p><b>PED 211 BOWLING</b> <b>1 CR (0-2)</b> Introduces bowling fundamentals to improve the student's skill level. The primary emphasis is on teaching the student the elements of bowling, rules and regulations, footwork, courtesies, delivery, selection of ball, scoring, and team and individual competition. (Contact hours - 30)</p>	<p><b>PHI 205 BUSINESS ETHICS</b> <b>3 CR (3-0)</b> Examines philosophical theories about ethics and relevant subsidiary theories about the nature of justice in order to gather ethical decision-making criteria. Such criteria will be applied through logical argumentation to various moral issues and challenges in today's business environment. Issues covered will include economic distribution, the presuppositions of business, job discrimination, worker's rights, consumerism, advertising, and responsibility to the environment as well as compassionate and fair responsibility to society. (Contact hours - 45)</p>
<p><b>PED 221 DYNAMIC WORKOUT</b> Designed for those who want to increase fitness and improve muscle tone through proper exercise techniques using mat work. Body alignment, breathing, and work on the abdominals, hips, and thighs will be emphasized. (Contact hours - 30)</p>	<p><b>PHI 214 PHILOSOPHY OF RELIGION</b> <b>3 CR (3-0)</b> Focuses on the critical examination of the fundamental concepts, ideas, and implications of religion. Includes the nature of God, the varieties of religious experience, argument concerning God's existence, the Problem of Evil, faith and reason, religion and human destiny, and the connection between religion and ethics. (Contact hours - 45) State Guaranteed Transfer Course.</p>
<p><b>PED 237 VARSITY SPORTS</b> <b>1 CR (0-5)</b> <b>GOLF</b> <b>VOLLEYBALL</b> <b>BASKETBALL - MEN</b> <b>BASKETBALL - WOMEN</b> <b>BASEBALL</b> <b>SOCCER - MEN</b> <b>SOCCER - WOMEN</b> <b>SOFTBALL</b> <b>WRESTLING</b></p>	<p><b>PHI 218 ENVIRONMENTAL ETHICS</b> <b>3 CR (3-0)</b> Critically analyzes theories of value of the natural world. Topics include the relation between scientific and moral principles, theories of the moral worth of persons, animals, plants, and other natural objects, historical, religious,</p>
<p>Allows the student-athletes an opportunity to participate in a competitive varsity sports program. (Contact hours - 75)</p>	
<p><b>PHILOSOPHY</b></p> <p><b>PHI 111 INTRODUCTION TO PHILOSOPHY</b> <b>3 CR (3-0)</b> Introduces significant human questions and emphasizes understanding the meaning and methods of philosophy. Includes human condition, knowledge, freedom, history, ethics, the future, and religion. <i>Prerequisites: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121.</i> (Contact hours - 45) State Guaranteed Transfer Course.</p>	

and cultural influences on conceptions of nature, alternative accounts of human relationships and responsibilities to nature including deep ecology and eco-feminism, and the connection between moral and political values and economic policies. (Contact hours - 45) State Guaranteed Transfer Course.

**PHI 220 PHILOSOPHY OF DEATH & DYING 3 CR (3-0)**

Explores the major philosophical questions surrounding death and dying: the metaphysical arguments for and against the existence of a soul and life after bodily death, the epistemological assessment of arguments for the soul and life after death, the ethical justifications taken on positions such as rational suicide and physician assisted suicide, as well as a focus on philosophy's existentialist contribution to questions about the meaning of life and the meaning of death. (Contact hours - 45) State Guaranteed Transfer Course.

Additional courses are available through Colorado Community College Online (CCC Online).

## PHYSICS

**PHY 103 PHYSICS FOR CTE OCCUPATIONS 2 CR (1-2)**

Focuses on physics of mechanics, heat, properties of matter, electricity, magnetism, light and sound as applied in career & technical occupations. (Contact hours - 45)

**PHY 105 CONCEPTUAL PHYSICS 4 CR (3-2)**

Focuses on mechanics, heat, properties of matter, electricity and magnetism, light and modern physics. Incorporates laboratory experience. *Prerequisite: MAT 55 ("C" or better).* (Contact hours - 75) State Guaranteed Transfer Course.

**PHY 111 PHYSICS: ALGEBRA-BASED I WITH LAB 5 CR (4-2)**

Enables the student to explore the truth about physical reality through reasoning, mathematics, and experimentation. Examines kinematics, force, circular motion, energy, momentum, torque, rotational dynamics, simple harmonic motion, temperature, heat, and thermodynamics. The concepts and theories presented are explored through demonstrations and hands-on experiments. It is a general physics course that is recommended for all of the health sciences and all other interested students. Students entering engineering or one of the advance sciences should register for PHY 211. *Prerequisite: MAT 121 OR MAT 122 OR MAT 166 recommended ("C" or better).* (Contact hours - 90) State Guaranteed Transfer Course.

**PHY 112 PHYSICS ALGEBRA-BASED II WITH LAB 5 CR (4-2)**

Expands upon PHY 111 and covers sound waves, electric fields, electric circuits, magnetic fields, optics, and modern physics. Explores the concepts and theories presented in class through demonstrations and hands-on experiments. *Prerequisite: PHY 111 ("C" or better).* (Contact hours - 90) State Guaranteed Transfer Course.

**PHY 175 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**PHY 211 PHYSICS: CALCULUS-BASED I WITH LAB 5 CR (4-2)**

Enables the student to examine the truth about physical reality through reasoning, mathematics, and experimentation. Covers kinematics, force, gravity, energy, momentum, torque, rotational dynamics, fluids, and waves. The concepts and theories presented in class are explored through demonstrations and hands-on experiments. This first semester calculus-based physics course is recommended for students entering engineering or one of the advance sciences. *Prerequisites: MAT 201 ("C" or better).* (Contact hours - 90) State Guaranteed Transfer Course.

**PHY 212 PHYSICS: CALCULUS-BASED II WITH LAB 5 CR (4-2)**

Expands upon PHY 211 and examines thermodynamics, electric fields, electric circuits, magnetic fields, light and optics, and modern physics. The concepts and theories presented in class are explored through

demonstrations and hands-on experiments. *Prerequisite: PHY 211 ("C" or better).* (Contact hours - 90) State Guaranteed Transfer Course.

**PHY 275 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

Additional courses are available through Colorado Community College Online (CCC Online).

## POLITICAL SCIENCE

**POS 105 INTRODUCTION TO POLITICAL SCIENCE 3 CR (3-0)**

Focuses on a survey of the discipline of political science including political philosophy and ideology, democratic and non-democratic governments, and processes, and international relations. (Contact hours - 45) State Guaranteed Transfer Course.

**POS 111 AMERICAN GOVERNMENT 3 CR (3-0)**

Includes the background of the U.S. Constitution, the philosophy of American government, general principles of the Constitution, federalism, and civil liberties. Examines public opinion and citizen participation, political parties, interest groups, the electoral process, and the structure and functions of the national government. (Contact hours - 45) State Guaranteed Transfer Course.

**POS 125 AMERICAN STATE/LOCAL GOVERNMENT 3 CR (3-0)**

Emphasizes the structure and function of state, county, and municipal governments including their relations with each other and with national government. Includes a study of Colorado government and politics. (Contact hours - 45) State Guaranteed Transfer Course.

**POS 175 SPECIAL TOPICS 1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**POS 205 INTERNATIONAL RELATIONS 3 CR (3-0)**

Examines relationships among modern nation states. Topics include diplomacy, nationalism, ideologies, power and influence, conflict and cooperation, the role of nonstate actors, the international economy and theoretical attempts to understand international behavior. (Contact hours - 45) State Guaranteed Transfer Course.

**POS 225 COMPARATIVE GOVERNMENT 3 CR (3-0)**

Focuses on a comparison of the basic features of selected developed and developing countries. Topics include ideologies, political parties, interest groups, and governmental institutions. (Contact hours - 45) State Guaranteed Transfer Course.

Additional courses are available through Colorado Community College Online (CCC Online).

## PRODUCTION AGRICULTURE

*(See Agriculture-Production)*

## PSYCHOLOGY

**PSY 101 GENERAL PSYCHOLOGY I 3 CR (3-0)**

Focuses on the scientific study of behavior including motivation, emotion, physiological psychology, stress and coping, research methods, consciousness, sensation, perception, learning, and memory. *Prerequisites: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121.* (Contact hours - 45) State Guaranteed Transfer Course.

**PSY 102 GENERAL PSYCHOLOGY II****3 CR (3-0)**

Focuses on the scientific study of behavior including cognition, language, intelligence, psychological assessment, personality, abnormal psychology, therapy, life span development, and social psychology.

*Prerequisites: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121. (Contact hours - 45) State Guaranteed Transfer Course.*

**PSY 175 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**PSY 205 PSYCHOLOGY OF GENDER****3 CR (3-0)**

Examines gender comparisons in work, courtship, family life, and sexual behavior throughout the life span. (Contact hours - 45) State Guaranteed Transfer Course.

**PSY 207 INTRODUCTION TO FORENSIC PSYCHOLOGY****3 CR (3-0)**

Introduction to Forensic Psychology is an overview of forensic psychology. As such it explores both current research and practice in five areas. These areas are police psychology, criminal psychology, victimology, correctional psychology, and the interface of psychology and the courts. The course facilitates an understanding of the numerous careers related to forensic psychology, how to prepare for them, and current research and practice in each of the five broad areas of forensic psychology. (Contact hours - 45)

**PSY 217 HUMAN SEXUALITY****3 CR (3-0)**

Surveys physiological, psychological, and psychosocial aspects of human sexuality. Topics include relationships, sexual identity, and sexual health. (Contact hours - 45) State Guaranteed Transfer Course.

**PSY 226 SOCIAL PSYCHOLOGY****3 CR (3-0)**

Focuses on the behavior of humans in social settings including attitudes, aggression, conformity, cooperation, competition, prejudice, and interpersonal attraction. *Prerequisites: 3 hrs General PSY, 3 hrs General SOC OR instructor approval. (Contact hours - 45) State Guaranteed Transfer Course.*

**PSY 227 PSYCHOLOGY OF DEATH AND DYING****3 CR (3-0)**

Examines the philosophies of life and death, emphasizing dying, death, mourning, and the consideration of one's own death. (Contact hours - 45) State Guarantee Transfer Course.

**PSY 230 BASIC HUMAN POTENTIAL****2 CR (2-0)**

Focuses on the self-actualization principles of psychologists, Abraham Maslow and Herbert Otto. Students engage in structured activities designed to develop skills for understanding and improving self-motivation and self-determination in a variety of relationships. (Contact hours - 30)

**PSY 231 POSITIVE PSYCHOLOGY****3 CR (3-0)**

Focuses on human strengths rather than the traditional view of psychology that tends to focus on the worst of human nature. This course is designed to explore strengths-based research, concepts of happiness, helpfulness, and resiliency. The research and theories about human nature will go beyond simply not being mentally ill as a form of mental health, which will include optimism, post-traumatic growth, and how to increase emotional, psychological and social functioning. Overall, this course will be focused on understanding one's own sense of life satisfaction and how to further improve well-being. (Contact hours - 45) State Guarantee Transfer Course.

**PSY 235 HUMAN GROWTH & DEVELOPMENT****3 CR (3-0)**

Examines human development from conception through death emphasizing physical, cognitive, emotional and psychosocial factors. *Prerequisites: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). Corequisite: CCR 94 AND ENG 121. (Contact hours - 45) State Guarantee Transfer Course.*

**PSY 237 CHILD & ADOLESCENT PSYCHOLOGY****3 CR (3-0)**

Explores human development from conception through adolescence, emphasizing physical cognitive, emotional, and psychosocial factors. (Contact hours - 45)

**PSY 238 CHILD DEVELOPMENT****3 CR (3-0)**

Focuses on growth and development of the individual from conception through childhood, emphasizing physical, cognitive, emotional, and psychosocial factors. (Contact hours - 45) State Guaranteed Transfer Course.

**PSY 240 HEALTH PSYCHOLOGY****3 CR (3-0)**

Students will learn an overview of the scientific study of attitudes, behaviors and personality variables related health, illness, and bodily systems. Emphasis is on the interaction of biological, psychological, and social factors that cause illness and influence its treatment and prevention. *Prerequisites: BIO 105, BIO 111, PSY 101, PSY 102 OR PSY 235 (Contact hours - 45) State Guaranteed Transfer Course.*

**PSY 245 EDUCATIONAL PSYCHOLOGY****3 CR (3-0)**

Focuses on the relationships between theory, research, and practice in the areas of learning, child development, motivation, and educational assessment. (Contact hours - 45)

**PSY 249 ABNORMAL PSYCHOLOGY****3 CR (3-0)**

Examines abnormal behavior and its classification, causes, treatment, and prevention. (Contact hours - 45) State Guaranteed Transfer Course.

**PSY 265 PSYCHOLOGY OF PERSONALITY: GT-SS3****3 CR (3-0)**

Examines the structure, function, and development of personality. Investigates the major contemporary theories of personality. Covers psychodynamic, behavioral, cognitive-social learning, humanistic, trait, and, optionally, neurobiological, existential, and/or Eastern perspectives. The underlying assumptions and research support for these theories are appraised. Enables the student to gain an appreciation of the value of alternative theoretical approaches to this subfield of psychology. (Contact Hours - 45)

**PSY 275 SPECIAL TOPICS****1-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**PSY 285 INDEPENDENT STUDY****1-6 CR**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. *Prerequisite: instructor approval.*

Additional courses are available through Colorado Community College Online (CCC Online).

**RANGE MANAGEMENT****RAM 205 PRINCIPLES OF RANGE MANAGEMENT****3 CR (2-2)**

Presents the historical and current status of the range livestock industry. Management principles for private and public rangelands, range plant identification, and range plant communities are covered. (Contact hours - 60)

**READING****REA 130 APPLIED AND TECHNICAL READING****2 CR (2-0)**

*(Core Course for AGS or AAS)*

Focuses on the appropriate reading strategies to understand technical, vocational and academic texts, manuals, professional journals, and pleasure materials, to complete a task in the workplace, and to comprehend a new process. *Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139). (Contact hours - 30)*

**RECREATION****REC 100 INTRODUCTION TO RECREATION 2 CR (2-0)**

Studies the history, principles, philosophy, contemporary problems, and trends of recreation and their influence upon today's American society. (Contact hours - 30)

**REC 120 INTRO TO SPORTS MANAGEMENT 3 CR (3-0)**

Provides the student with knowledge of management in the areas of facilities, professional organizations, educational institutions, and promotions as well as the different managerial styles that can be applied. This course will also provide the student with individual topics such as quality control, leadership, strategic planning, information systems, and sport research. (Contact hours - 45)

**REC 210 PRINCIPLES OF OUTDOOR RECREATION 3 CR (3-0)**

Includes lecture and practical outdoor experience relating to problems and trends in outdoor recreation. (Contact hours - 45)

**REC 220 SOCIAL RECREATION & LEADERSHIP 3 CR (3-0)**

Enables the student to study effective leadership methods and techniques used in social recreation programming. Students experience actual settings of appropriate activities in community organizations with different age groups. (Contact hours - 45)

**REC 221 RECREATION SKILLS 3 CR (3-0)**

Focuses on skills necessary to organize effectively and conduct various recreation activities for the recreation major. Covers sports and games, community centers, fine arts, and playground skills. (Contact hours - 45)

**SCIENCE****SCI 105 SCIENCE IN SOCIETY 3 CR (3-0)**

Examines issues relating to the way science affects society. Students will investigate issues in information technology, the environment, physics, astronomy, biology, medicine, and the interaction of science with politics. The class will focus on gathering accurate scientific information and applying critical thinking skills and the scientific method to analyze how science plays both positive and negative roles in society. Emphasis will be on student research, inquiry, and analysis of science related issues. (Contact Hours - 45) State Guaranteed Transfer Course.

**SCI 155 INTEGRATED SCIENCE I 4 CR (3-2)**

Examines the nature of energy and matter, their interactions and changes, and the application of fundamental concepts to the study of our natural world. *Prerequisite: MAT 50 ("C" or better).* (Contact Hours - 75) State Guaranteed Transfer Course.

**SCI 156 INTEGRATED SCIENCE II 4 CR (3-2)**

Examines earth and biological systems, living and non-living environments, through the applications and refinement of fundamental energy and matter concepts. *Prerequisite: MAT 50 ("C" or better).* (Contact hours - 75) State Guaranteed Transfer Course.

Additional courses are available through Colorado Community College Online (CCC Online).

**SOCIOLOGY****SOC 101 INTRODUCTION TO SOCIOLOGY I 3 CR (3-0)**

Examines the basic concepts, theories, and principles of sociology as well as human culture, social groups, and the social issues of age, gender, class, and race. *Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139).*

*Corequisite: CCR 94 AND ENG 121.* (Contact hours - 45) State Guaranteed Transfer Course.

**SOC 102 INTRODUCTION TO SOCIOLOGY II 3 CR (3-0)**

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. *Prerequisite: Successful completion of REA 90 or CCR 92 ("C" or better) OR appropriate placement score (see page 139).* *Corequisite: CCR 94 AND ENG 121.* (Contact hours - 45) State Guaranteed Transfer Course.

**SOC 175 SPECIAL TOPICS 0-6 CR**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**SOC 218 SOCIOLOGY OF DIVERSITY 3 CR (3-0)**

Explores the variety of intergroup relations regarding race, nationality, ethnicity, gender, sexual orientation, and other diversity issues. Patterns of prejudice, discrimination, and possible solutions to these issues will be addressed. (Contact hours - 45) State Guaranteed Transfer Course.

**SOC 231 SOCIOLOGY OF DEVIANT BEHAVIOR 3 CR (3-0)**

Examines the nature, identification, and explanation of deviant categories. Theories, and philosophies as well as methods of treatment related to deviancy will also be considered. The course will study society's attempts to control, change, and institutionalize those acts, individuals or groups that a population may deem unacceptable. (Contact hours - 45) State Guaranteed Transfer Course.

**SOC 275 SPECIAL TOPICS 0-6 CR**

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

Additional courses are available through Colorado Community College Online (CCC Online).

**SPANISH****SPA 101 CONVERSATIONAL SPANISH I 3 CR (0-6)**

Offers beginning students the skills necessary to understand and speak Spanish. The material includes basic vocabulary, grammar, and expressions that are used in daily situations and in travel. (Contact hours - 45)

**SPA 102 CONVERSATIONAL SPANISH II 3 CR (0-6)**

Offers students the skills necessary to understand and speak Spanish. The material continues to cover basic conversations patterns, expressions, and grammar. *Prerequisite: SPA 101 ("C" or better) OR instructor approval.* (Contact hours - 45)

**SPA 111 SPANISH LANGUAGE I 5 CR (5-0)**

Deals with the development of functional proficiency in listening, speaking, reading, and writing the Spanish language. Note: The order of the topics and methodology will vary according to individual texts and instructors. (Contact hours - 75)

**SPA 112 SPANISH II 5 CR (5-0)**

Continues Spanish Language I in the development of functional proficiency in listening, speaking, reading, and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. *Prerequisite: SPA 111 ("C" or better) OR instructor approval.* (Contact hours - 75)

**SPA 175 SPECIAL TOPICS 1-6**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**SPA 211 SPANISH III** **3 CR (3-0)**  
Continues Spanish Language I and II in the development of increased functional proficiency in listening, speaking, reading, and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. *Prerequisites: SPA 112 AND SPA 114 ("C" or better) OR instructor approval.* (Contact hours - 45) State Guaranteed Transfer Course.

**SPA 212 SPANISH IV** **3 CR (3-0)**  
Continues Spanish Language I, II, and III in the development of increased functional proficiency in listening, speaking, reading, and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. *Prerequisite: SPA 211 OR instructor approval.* (Contact hours - 45) State Guaranteed Transfer Course.

**SPA 275 SPECIAL TOPICS** **1-6 CR**  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**SPA 285 INDEPENDENT STUDY** **1-6 CR**  
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. *Prerequisite: instructor approval.*

Additional courses are available through Colorado Community College Online (CCC Online).

## THEATRE

**THE 105 THEATRE APPRECIATION** **3 CR (3-0)**  
Includes discussions, workshops, and lectures designed to discover, analyze, and evaluate all aspects of the theatre experience: scripts, acting, directing, staging, history, criticism, and theory. (Contact hours - 45) State Guaranteed Transfer Course.

**THE 108 THEATER SCRIPT ANALYSIS** **3 CR (3-0)**  
Introduces students to methods of reading and analyzing literature for the stage. In addition, students will apply staging and design concepts in visualizing and analyzing how a play looks, sounds, and feels when produced. (Contact hours - 45) State Guaranteed Transfer Course.

**THE 111 ACTING I** **3 CR (3-0)**  
Covers basic acting techniques and approaches including scene study, improvisation, and script analysis. It includes practical application through classroom performance. (Contact hours - 45)

**THE 112 ACTING II** **3 CR (3-0)**  
Continues to explore basic acting techniques and approaches including scene study, improvisation, and intermediate script analysis. It includes practical application through classroom performance. *Prerequisite: THE 111 ("C" or better) OR instructor approval. THE 105 is strongly advised.* (Contact hours - 45)

**THE 131 THEATRE PRODUCTION I** **3 CR (3-0)**  
Allows students to put into practice theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing, and administration is available. (Contact hours - 45)

**THE 132 THEATRE PRODUCTION II** **3 CR (3-0)**  
Allows students to put into practice theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing, and administration is available. (Contact hours - 45)

**THE 141 IMPROVISATION I** **1 CR (1-0)**  
Helps students learn improvisation skills for performance and character

development. Emphasis is placed on Second City style of improvisation. (Contact hours - 15)

**THE 211 DEVELOPMENT OF THEATRE: GREEK RENAISSANCE** **3 CR (3-0)**  
Surveys the history and evolution of drama from Ancient Greece to the Renaissance emphasizing all aspects of the art from period values to analysis of dramatic literature and performance. (Contact hours - 45) State Guaranteed Transfer Course.

**THE 212 DEVELOPMENT OF THEATRE: RESTORATION-MODERN** **3 CR (3-0)**  
Surveys the history and evolution of drama from the Renaissance to the present emphasizing all aspects of the art from period values to the analysis of dramatic literature and performance. (Contact hours - 45) State Guaranteed Transfer Course.

**THE 215 PLAYWRITING** **3 CR (3-0)**  
Gives students the opportunity to learn and practice playwriting techniques, thereby improving creative writing skills. Elements of dramatic structure, dialogue, styles, and theatrical practices are emphasized. (Contact hours - 45) State Guaranteed Transfer Course.

**THE 246 REHEARSAL & PERFORMANCE** **1 CR (0-2)**  
Gives the student actor practical experience in a real acting environment. Through the audition and rehearsal process the student's imagination and creative potential will be stimulated. Special attention will be given to characterization, stage movement, speech techniques, dramatic form and the rehearsal / production / performance process. The successful rehearsal and presentation of the current production to the public will be the focal point of their activities. Previous acting experience is helpful but not required. (Contact hours - 60)

**THE 247 REHEARSAL & PERFORMANCE II** **2 CR (0-4)**  
Gives the student actor practical experience in a real acting environment. Through the audition and rehearsal process the student's imagination and creative potential will be stimulated. Special attention will be given to characterization, stage movement, speech techniques, dramatic form, and the rehearsal/production/performance process. The successful rehearsal and presentation of the current production to the public will be the focal point of their activities. Previous acting experience is helpful, but not required. (Contact hours - 60)

**THE 248 REHEARSAL & PERFORMANCE III** **3 CR (0-6)**  
Gives the student actor practical experience in a real acting environment. Through the audition and rehearsal process the student's imagination and creative potential will be stimulated. Special attention will be given to characterization, stage movement, speech techniques, dramatic form, and the rehearsal/production/performance process. The successful rehearsal and presentation of the current production to the public will be the focal point of their activities. Previous acting experience is helpful but not required. (Contact hours - 60)

**THE 275 SPECIAL TOPICS** **1-3 CR**  
Explores current topics, issues, and activities related to one or more aspects of the named discipline.

**THE 285 INDEPENDENT STUDY** **1-3 to 5 CR**  
Emphasizes structured, guided, and individualized study that is organized and tailored around the interests and needs of the individual student.

## WELDING

**WEL 100 SAFETY FOR WELDERS** **1 CR (1-0)**  
Covers the hazards of welding on health and safety, locating essential safety information from a code or other standard, and identifying and applying shop safety procedures. (Contact Hours - 15)

**WEL 106 BLUEPRINT READ-WELDERS/FITTERS (4-0)** 4 CR  
Covers interpreting weld symbols on blueprints, identifying proper layout methods and tools, and proper joint design necessary for various welding processes. *Corequisite: WEL 100 or AME 151.* (Contact hours - 60)

**WEL 110 ADVANCED SHIELDED METAL ARC I** 4 CR (2-3)  
Covers safety inspections, minor repairs, operating parameters, operation of SMAW equipment, and SMAW operations on groove and fillet welds utilizing E-6010 and E-7018 electrodes. Layout procedures will be practiced during this course. *Corequisite: WEL 100 or AME 151.* (Contact hours - 75)

**WEL 113 OXYFUEL AND PLASMA CUTTING** 2 CR (1-1.5)  
Outlines the skills needed to set up equipment and perform cutting and gouging operations utilizing the oxyacetylene and plasma arc cutting processes. *Corequisite: WEL 100 or AME 151.* (Contact hours - 37.5)

**WEL 124 INTRO-GAS TUNGSTEN ARC WELDING** 4 CR (1.5-3.75)  
Covers welding in all positions and on various joint configurations using the GTAW (tig) welding process on carbon steel, stainless steel, and aluminum. Student should be familiar with basic metallurgy pertaining to the weldability of metals, structural joints, and safety in the welding industry. *Corequisite: WEL 100 or AME 151.* (Contact hours - 78.75)

**WEL 140 WELDING PRACTICES & PROCEDURES** 1.5 CR (1.5-1.5)  
Teaches applied metallurgy, welding process applications, and related safety. This intensive course provides a one-of-a-kind opportunity for welding operators, technicians, and supervisors to learn more about the maintenance process and is ideal for improving the skills and on-the-job expertise of a wide range of personnel including: inexperienced welding operators, experienced welding operators in management positions, and anyone else working in a plant or equipment maintenance position where welding repairs are required. (Contact hours - 30) *"Open to Any Student"*

**WEL 175 INTRO TO WELDING INDUSTRY** 3 CR (3-0)  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest (Contact hours - 45)

**WEL 201 GAS METAL ARC WELDING I** 4 CR (1.5-3.75)  
Covers safety inspections, minor repairs, operating parameters, operation of GMAW equipment on plain carbon steel utilizing short circuit and spray transfer, and fundamental metallurgy principles. *Corequisite: WEL 100 or AME 151.* (Contact hours - 78.75)

**WEL 203 FLUX CORED ARC WELDING I** 4 CR (1.5-3.75)  
Covers safety inspections, minor repairs, operating parameters, operation of FCAW equipment utilizing self shielded wire, and principles of joint design, preparation, and material selection to welding operations. *Corequisite: WEL 100 or AME 151.* (Contact hours - 78.75)

**WEL 230 PIPE WELDING I** 4 CR (2-3)  
Covers safety inspections, minor repairs, operating parameters, and operation of SMAW, GMAW, and FCAW equipment in a variety of positions on plain carbon steel pipe joints. Also covers evaluating and solving complex welding and fabrication problems and administering hands on training and supervision to other students during assigned fabrication and welding operations. *Corequisite: WEL 100 or AME 151.* (Contact hours - 75)

**WEL 231 PIPE WELDING II** 4 CR (2-3)  
Learn to perform safety inspections, make minor repairs, adjust operating parameters, and operate SMAW and GTAW equipment on plain carbon steel pipe joints. The student should also be able to evaluate and solve complex welding and fabrication problems, administer hands on training, and supervise other students during assigned fabrication and welding operations. *Corequisite: WEL 100 or AME 151.* (Contact hours - 75)

**WEL 251 DESIGN, LAYOUT & FABRICATION** 4 CR (1-4.5)  
Develops advanced welding and associated skills in the use of drawings and blueprints in planning. This course includes designing and layout projects. *Corequisite: WEL 100 or AME 151.* (Contact hours - 82.5)

**WEL 263 APPLIED METAL PROPERTIES** 4 CR (2-3)  
Introduces the study of metal properties, hardness testing, heat treatment, cold working microscopic examination, and application of common commercial alloys in industry. *Corequisite: WEL 100 or AME 151.* (Contact hours - 75)

## WIND TURBINE GENERATOR

**WTG 100 INTRODUCTION TO WIND INDUSTRY** 3 CR (3-0)  
Introduces students to the wind power generation industry. Topics covered will include physics of wind energy, various sizes and types of wind turbines, and reading wind maps for finding the best wind locations. Students will also engage in discussions of the impact of the wind industry on social, environmental, economic, and political issues. *Prerequisite: EIC 101 ("A" or better).* (Contact hours - 45)

**WTG 110 WIND TURBINE GENERATOR POWER DISTRIBUTION & CONTROL SYSTEMS** 3 CR (1-3)  
Provides a comprehensive overview of the wind turbine generator systems. Focus will be on the power distribution and systems controls including theory, application, component identification, and schematics. Safety and appropriate Personal Protective Equipment will be emphasized in lab environment. *Prerequisite: EIC 101 ("A" or better).* (Contact hours - 60)

**WTG 175 SPECIAL TOPICS** 1-12 CR  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**WTG 220 WIND TURBINE GENERATOR TROUBLE-SHOOTING & REPAIR** 4 CR (1-4.5)  
Introduces students to standards and techniques of wind turbine technician operations, maintenance, troubleshooting, and repair. Emphasis on teamwork, safety, accuracy, and efficiency as well as basic troubleshooting techniques. Discussion will cover building, commissioning, warranty, operations and maintenance, and hotshot troubleshooting crews and work environments. *Prerequisite: EIC 101 ("A" or better).* (Contact hours - 82.5)

**WTG 230 WIND TURBINE SYSTEMS** 3 CR (1.5-2.25)  
Covers the standards and techniques to safely and efficiently troubleshoot and repair combined electrical, hydraulic, and mechanical systems and associated equipment. Emphasis will be on teamwork, communication, proper documentation, root cause analysis, and reporting. Discussions will cover converter systems, component repair, cooling/heating/pressure/level systems, PLC controls, gearbox and hydraulic systems, and the tools needed for root cause identification. *Prerequisites: IMA 150, IMA 160, WTG 110 ("C" or better).* (Contact hours - 56.25)

**WTG 275 SPECIAL TOPICS** 1-12 CR  
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

**WTG 280 WIND TECHNICIAN INTERNSHIP** 6 CR  
Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. (Internship hours - 240) *Prerequisite: EIC 101 ("A" or better).*

**WTG 289 WIND TECHNICIAN CAPSTONE** 2 CR (2-0)  
Provides a comprehensive overview of the Wind Technician Program, giving the student a unified picture of the wind industry and the role of the wind technician. Students are further prepared for entering industry by developing their own resume, introduced to online job services, and industry organizations. Current and future wind industry niches and trends will be discussed to give the students possible career paths to look further into and plan for. *Prerequisite: EIC 101 ("A" or better).* (Contact hours - 30)

College Level Class	ACT Placement	SAT Placement	Accuplacer Placement	CCPT Placement	Other Comments
AAA 75					Paired with MAT 50
AAA 76					Paired with MAT 55
AAA 77					Paired with MAT 102
AAA 78/79					Paired with MAT 107
ASC 100			Read Comp $\geq 62$	Rdg $\geq 101$ & Essay 3 or Rdg $\geq 89$ & Essay 4 or Rdg $\leq 95$ & Essay 5 or Rdg $\leq 79$ & Essay 6	
AST 101 / 102	Reading $\geq 17$	Rdg/Wrtg 470*	Read Comp $\geq 80$	Reading $\geq 96$ & Essay 5 or Reading $\geq 80$ & Essay 6	
BIO 111					
BUS 115			Read Comp $\geq 62$	Rdg $\geq 101$ & Essay 3 or Rdg $\geq 89$ & Essay 4 or Rdg $\leq 95$ & Essay 5 or Rdg $\leq 79$ & Essay 6	
BUS 226	Math 19	Math 530*	Elem. Algebra $\geq 61$	BAAD $\geq 106$ or PADI $\geq 80$ or any IADI score	
CCR 091			Sentence Skills $\leq 49$ &/or Read Comp $\leq 39$	Reading $\geq 50$ & Essay 1 or Reading $\leq 75$ & Essay 2	Paired with CCR 92
CCR 092			Sentence Skills 50-69 &/or Read Comp 40-61	Reading $\geq 76$ & Essay 2 or Reading 50-100 & Essay 3 or Reading $\leq 88$ & Essay 4	
CCR 94			Sentence Skills 70-94 &/or Read Comp 62-79	Rdg $\geq 101$ & Essay 3 or Rdg $\geq 89$ & Essay 4 or Rdg $\leq 95$ & Essay 5 or Rdg $\leq 79$ & Essay 6	Paired with ENG 121
EMS 115	Reading $\geq 17$	Rdg/Wrtg 470*	Read Comp $\geq 80$	Reading $\geq 96$ & Essay 5 or Reading $\geq 80$ & Essay 6	
EMS 121					
ENG 115	English $\geq 18$ & Reading $\geq 17$	Rdg/Wrtg 470*	Sentence Skills 70-94 &/or Read Comp 62-79	Rdg $\geq 101$ & Essay 3 or Rdg $\geq 89$ & Essay 4 or Rdg $\leq 95$ & Essay 5 or Rdg $\leq 79$ & Essay 6	
ENG 131					
ENG 121	English $\geq 18$ & Reading $\geq 17$	Rdg/Wrtg 470*	Sentence Skills $\geq 95$ &/or Read Comp $\geq 80$	Reading $\geq 96$ & Essay 5 or Reading $\geq 80$ & Essay 6	
MAT 50			Elem. Algebra 45-60	LADI $\geq 67$ or PADI $\leq 79$	
MAT 55	Math 19	Math 530*	Elem. Algebra 61-79	IADI $< 60$	
MAT 80					Paired with MAT 120
MAT 81					Paired with MAT 121
MAT 85					Paired with MAT 135
MAT 102				BAAD $\geq 106$ or LADI $\geq 67$ or PADI $\geq 80$ or Any IADI score	Career/Tech Programs only
MAT 103	Math 19	Math 530*	Elem. Algebra $\geq 45$		
MAT 107					
MAT 112					
MAT 120	Math 19	Math 530*	Elem. Algebra $\geq 61$	BAAD $\geq 106$ or PADI $\geq 80$ or any IADI score	
MAT 121	Math 23	Math 590*	Elem. Algebra $\geq 85$	IADI $\geq 60$ or TCDI $\leq 28$	
MAT 122	Math 25	Math 610*	CLM 63-102	TCDI 29 - 81	
MAT 123	Math 23	Math 590*	Elem. Algebra $\geq 85$	TCDI 29 - 81	
MAT 125	Math 25	Math 610*	CLM 63-102	TCDI 29 - 81	
MAT 135	Math 19	Math 530*	Elem. Algebra $\geq 61$	BAAD $\geq 106$ or PADI $\geq 80$ or any IADI score	
MAT 155	Math 19	Math 530*	Elem. Algebra $\geq 61$	BAAD $\geq 106$ or PADI $\geq 80$ or any IADI score	
MAT 166	Math 25	Math 610*	CLM 63-102	TCDI 29 - 81	
MAT 201	Math 28	Math 650*	CLM $\geq 103$	TCDI $\geq 82$	
PHI 111-116					
PSY 101/102	Reading $\geq 17$	Rdg/Wrtg 470*	Read Comp $\geq 80$	Reading $\geq 96$ & Essay 5 or Reading $\geq 80$ & Essay 6	
PSY 135					
REA 112					
REA 130			Sentence Skills 70-94 &/or Read Comp 62-79	Rdg $\geq 101$ & Essay 3 or Rdg $\geq 89$ & Essay 4 or Rdg $\leq 95$ & Essay 5 or Rdg $\leq 79$ & Essay 6	ASE/DPM Programs only
SOC 101/102	Reading $\geq 17$	Rdg/Wrtg 470*	Read Comp $\geq 80$	Reading $\geq 96$ & Essay 5 or Reading $\geq 80$ & Essay 6	

\*New SAT scores effective March 1, 2016



Course Placement & Course Exemptions at a Glance

**Placement Testing: NOT REQUIRED:**

- Student has prior college-level English and college-level math course work with a final grade of C or better
- Student has valid (non-expired) college-level ACT, SAT, Accuplacer, CCPT, GED, HiSet, TASC, PARCC, SBAC, AP, IB, CLEP, DSST, PLA scores
- Student has 3.0 high school GPA w/B in Algebra II or Geometry (for CTE math, MAT 120, 135 & 155), B in Pre-Calculus (for MAT 121) within last 18 months
- Student has 3.0 high school GPA w/B in 11<sup>th</sup> grade English (for ENG 121) within last 2 years
- Degree program doesn't require testing

**Placement Testing: REQUIRED:**

- First time college student who does not have valid college-level ACT, SAT, Accuplacer, CCPT, GED, HiSet, TASC, PARCC, SBAC, AP, IB, CLEP < DSST, PLA scores
- Student has not taken college-level course work in English and Math

**For questions, contact:**  
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**Maret Felzien - 521-6698**

**Developmental Level Test Scores for Placement**

Developmental Ed. Class	ACT Placement	Accuplacer Placement	CCPT Placement	Next Course in Sequence
CCR 092/CCR 091	N/A	RC <40 or SS <50 *Use LOWEST score	Reading ≥ 50 & Essay 1 or Reading 50-75 & Essay 2	ENG 121; ENG 115; ENG 131 *Optional-ENG 121 w/STUDIO 121
CCR 092	N/A	RC 40-61 &/or SS 50-69 *Use LOWEST score	Reading ≥ 76 & Essay 2 or Reading 50-100 & Essay 3 or Reading 50-88 & Essay 4	ENG 121; ENG 115; ENG 131 *Optional ENG 121 w/STUDIO 121
CCR 094/ENG 121	N/A	RC 62-79 &/or SS 70-94 *Use LOWEST score	Reading ≥ 101 & Essay of 3 or Reading ≥ 89 & Essay of 4 or Reading 50-95 & Essay of 5 or Reading 50-79 & Essay 6	ENG 122
MAT 050 w/AAA 75	N/A	AR ≥ 20 or EA 20-44	LADI ≤ 66	MAT 055 – STEM Pathway only MAT 102, 103, 107, 112, 120, 135, 155 –Non-STEM Pathway
MAT 050	N/A	EA 45-60	LADI ≥ 67 or PADI ≤ 79	MAT 055 – STEM Pathway only MAT 102, 103, 107, 112, 120, 135, 155 –Non-STEM Pathway
MAT 055 w/AAA 76	N/A	AR ≥ 45 or EA 45-60	PADI > 80	MAT 121 – STEM Pathway
MAT 055	19	EA 61-79	IADI < 59	MAT 121 – STEM Pathway

College Level Test Scores for Placement

College Level Class	ACT		SAT		Accuplacer		CCPT		GED		Next Course in Sequence
	Placement	English 18 & Reading 17	Placement	Reading 17	Placement	RC 62-79 &/or SS 70-94 * Use LOWEST Score	Placement	Reading ≥ 101- & Essay 3 or Reading ≥ 89 & Essay 4 or Reading 50-95 & Essay 5 or Reading 50-79 & Essay 6	Placement	Reading ≥ 101- & Essay 3 or Reading ≥ 89 & Essay 4 or Reading 50-95 & Essay 5 or Reading 50-79 & Essay 6	
ENG 115/131	English 18 & Reading 17	S11: 470	S11: 470	RC 62-79 &/or SS 70-94 * Use LOWEST Score	RC ≥ 80	Reading ≥ 101- & Essay 3 or Reading ≥ 89 & Essay 4 or Reading 50-95 & Essay 5 or Reading 50-79 & Essay 6	Reading ≥ 101- & Essay 3 or Reading ≥ 89 & Essay 4 or Reading 50-95 & Essay 5 or Reading 50-79 & Essay 6	Reading ≥ 101- & Essay 3 or Reading ≥ 89 & Essay 4 or Reading 50-95 & Essay 5 or Reading 50-79 & Essay 6	N/A	N/A	
ENG 121	English 18 & Reading 17	S11: 470	S11: 470	SS ≥ 95 & RC ≥ 80	RC ≥ 80	Reading 96-150 & Essay 5 or Reading 80-150 & Essay 6	Reading 96-150 & Essay 5 or Reading 80-150 & Essay 6	Reading 96-150 & Essay 5 or Reading 80-150 & Essay 6	≥ 165	≥ 165	ENG 122
MAT 102 w/ AAA 77	N/A	N/A	N/A	AR ≥ 20 or EA 20-44	EA ≥ 20 or EA 20-44	LADI ≥ 67 PADI ≤ 79	LADI ≥ 67 PADI ≤ 79	LADI ≥ 67 PADI ≤ 79	N/A	N/A	
MAT 107 w/ AAA 78 or w/ AAA 79	Math 19	S12: 530	S12: 530	EA ≥ 45	EA ≥ 45	BAAD ≥ 106 or PADI ≥ 80 or LADI ≥ 67 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or LADI ≥ 67 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or LADI ≥ 67 or any IADI score	N/A	N/A	
MAT 103	Math 19	S12: 530	S12: 530	EA ≥ 61	EA ≥ 61	BAAD ≥ 106 or PADI ≥ 80 or LADI ≥ 67 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or LADI ≥ 67 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or LADI ≥ 67 or any IADI score	≥ 165	≥ 165	
MAT 107	Math 19	S12: 530	S12: 530	EA ≥ 80 and <85	EA ≥ 80 and <85	IADI ≥ 60 or TCDI ≤ 28	IADI ≥ 60 or TCDI ≤ 28	IADI ≥ 60 or TCDI ≤ 28	N/A	N/A	
MAT 112	Math 23	S12: 590	S12: 590	EA ≥ 85	EA ≥ 85	IADI ≥ 60 or TCDI ≤ 28	IADI ≥ 60 or TCDI ≤ 28	IADI ≥ 60 or TCDI ≤ 28	≥ 165	≥ 165	
MAT 120	Math 19	S12: 530	S12: 530	CLM ≥ 63	CLM ≥ 63	TCDI 29-81	TCDI 29-81	TCDI 29-81	N/A	N/A	
MAT 121 w/ MAT 81	Math 25	S12: 610	S12: 610	EA ≥ 85	EA ≥ 85	TCDI 29-81	TCDI 29-81	TCDI 29-81	N/A	N/A	
MAT 121	Math 23	S12: 590	S12: 590	EA ≥ 85	EA ≥ 85	TCDI 29-81	TCDI 29-81	TCDI 29-81	N/A	N/A	
MAT 122	Math 25	S12: 610	S12: 610	CLM ≥ 63	CLM ≥ 63	TCDI 29-81	TCDI 29-81	TCDI 29-81	N/A	N/A	
MAT 123	Math 23	S12: 590	S12: 590	EA ≥ 85	EA ≥ 85	TCDI 29-81	TCDI 29-81	TCDI 29-81	N/A	N/A	
MAT 125/166	Math 25	S12: 610	S12: 610	CLM ≥ 63	CLM ≥ 63	TCDI 29-81	TCDI 29-81	TCDI 29-81	N/A	N/A	
MAT 135/ BUS 226	Math 19	S12: 530	S12: 530	EA ≥ 61	EA ≥ 61	BAAD ≥ 106 or PADI ≥ 80 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or any IADI score	≥ 165	≥ 165	MAT 156
MAT 155	Math 19	S12: 530	S12: 530	EA ≥ 61	EA ≥ 61	BAAD ≥ 106 or PADI ≥ 80 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or any IADI score	BAAD ≥ 106 or PADI ≥ 80 or any IADI score	≥ 165	≥ 165	
MAT 201	Math 28	S12: 650	S12: 650	CLM ≥ 103	CLM ≥ 103	TCDI ≥ 82	TCDI ≥ 82	TCDI ≥ 82	N/A	N/A	

Key Terminology:

Updated: 4.30.2018

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**Exemption-** student has already met the criteria for that class and does not need to take the course because requirement has been met  
**Placement-** student has a test score that places him/her into the class and no credit currently exists for that course

**IB-**International Baccalaureate Course

**AP-**Advanced Placement Course

**CLEP-**Credit for Prior Learning

**DSST-**Dantes/Credit for Prior Learning

**Accuplacer-**College Placement Test

**CCPT\***-Community College Placement Test

**PLA-**Prior Learning Credit

**ACT-**National College Admissions Exam Achievement Based

**SAT-**National College Admissions Exam Aptitude Based

**CRQL-**College Readiness – Quantitative (literacy)

**CRAL-**College Readiness – Algebra

**CRCM-**College Readiness – College Math

**CRCW-**College Readiness – Writing

**CZAL-**Expired College Readiness Algebra

**CZCM-**Expired College Readiness College Math

**CZCW-**Expired College Readiness Writing

**CZQL-**Expired College Readiness Quantitative

**EX50-**Exempt MAT 50

**EX55-**Exempt MAT 55

**AL-**Algebraic Literacy Pathway

**QL-**Quantitative Literacy Pathway

**BAAD-**Basic Adaptive Algebra Diagnostic Test

**LADI-**Linear Algebra Diagnostic Test

**PADI-**Pre-Algebra Diagnostic Test

**IADI-**Intermediate Algebra Diagnostic Test

**TCDI-**Trigonometry & Calculus Diagnostic Test

**HL-**Higher Level required **not** SL or Standard Level

**EXMA-**Exempt MAT 030

**EXCR-**Exempt CCR 091 or 092