

## COURSES

### ACADEMIC RELATED (ACA)

#### ACA 85 Improving Study Skills 1.0 UNIT

This course is designed to improve academic study skills and introduce resources that will complement developmental courses and engender success in college-level courses. Topics include basic study skills, memory techniques, note-taking strategies, test-taking techniques, library skills, personal improvement strategies, goal-setting, and learning resources. Upon completion, students should be able to apply techniques learned to improve performance in college-level classes.

#### ACA 111 College Student Success 1.0 UNIT

This course introduces the college's physical, academic, and social environment and promotes the personal development essential for success. Topics include campus facilities and resources; policies, procedures, and programs; study skills; and life management issues such as health, self-esteem, motivation, goal-setting, diversity, and communication. Upon completion, students should be able to function effectively within the college environment to meet their educational objectives.

#### ACA 121 Managing a Team 1.0 UNIT

This course focuses on the process of the individual with an awareness of the reality in the collective teamwork approach for the workplace emphasizing process-orientation. Topics include how teams work, team effectiveness, team-building techniques, positive thinking, and leadership principles. Upon completion, students should be able to demonstrate an understanding of how teamwork strengthens ownership, involvement, and responsibility in the workplace.

#### ACA 122 College Transfer Success 1.0 UNIT

This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college policies and culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions.

### ACCOUNTING (ACC)

#### ACC 120 Principles of Financial Accounting 4.0 UNITS

This course introduces business decision-making using accounting information systems. Emphasis is placed on analyzing, summarizing, reporting, and interpreting financial information. Upon completion, students should be able to prepare financial statements, understand the role of financial information in decision-making and address ethical considerations.

#### ACC 121 Principles of Managerial Accounting 4.0 UNITS

This course includes a greater emphasis on managerial and cost accounting skills. Emphasis is placed on managerial accounting concepts for external and internal analysis, reporting and decision-making. Upon completion, students should be able to analyze and interpret transactions relating to managerial concepts including product-costing systems.

#### ACC 131 Federal Income Taxes 3.0 UNITS

This course provides an overview of federal income taxes for individuals, partnerships, and corporations. Topics include tax law, electronic research and methodologies and the use technology for the preparation of individual and business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax laws, and complete federal tax returns for individuals, partnerships, and corporations.

#### ACC 140 Payroll Accounting 2.0 UNITS

This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; calculating social security, income, and unemployment taxes; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries using appropriate technology.

#### ACC 149 Introduction to Accounting Spreadsheets 2.0 UNITS

This course provides a working knowledge of computer spreadsheets and their use in accounting. Topics include pre-programmed problems, model-building problems, beginning-level macros, graphics, and what-if analysis enhancements of template problems. Upon completion, students should be able to use a computer spreadsheet to complete many of the tasks required in accounting.

#### ACC 150 Accounting Software Applications 2.0 UNITS

This course introduces microcomputer applications related to accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting package to accurately solve accounting problems.

#### ACC 220 Intermediate Accounting I 4.0 UNITS

This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and extensive analysis of balance sheet components. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.

### AGRICULTURE (AGR)

#### AGR 110 Agricultural Economics 3.0 UNITS

This course provides an introduction to basic economic principles in agriculture. Topics include supply and demand, the role of agriculture in the economy, economic systems, and micro- and macroeconomics. Upon completion, students should be able to explain economic systems, interpret supply and demand curves, and complete cost and revenue production schedules.

#### AGR 112 Agri Records & Accounting 3.0 UNITS

This course covers principles involved in establishing, maintaining, and analyzing livestock and farm records. Topics include computerized livestock and farm records, net worth statements, and income and cash flow statements. Upon completion, students should be able to develop a production record keeping system, calculate performance efficiencies, and establish production goals.

#### AGR 121 Biological Pest Management 3.0 UNITS

This course will emphasize the building and maintaining of healthy soil, plant and insect biological cycles as the key to pest and disease management. Course content includes study of major pests and diseases, including structure, life cycle, and favored hosts; and biological and least toxic methods of chemical control. Upon completion, students will be able to identify and recommend methods of prevention and control of selected insects and diseases.

#### AGR 130 Alternative Ag Production 3.0 UNITS

This course covers the latest nontraditional enterprises in agriculture. Topics include animal production, aquaculture, and plant production. Upon completion, students should be able to identify selected enterprises and describe basic production practices.

#### AGR 139 Introduction to Sustainable Agriculture 3.0 UNITS

This course will provide students with a clear perspective on the principles, history and practices of sustainable agriculture in our local and global communities. Students will be introduced to the economic, environmental and social impacts of agriculture. Upon completion, students will be able to identify the principles of sustainable agriculture as they relate to basic production practices.

#### AGR 140 Agricultural Chemicals 3.0 UNITS

This course covers all aspects of agricultural chemicals. Topics include safety, environmental effects, federal and state laws, pesticide classification, sprayer calibration, and licensing. Upon completion, students should be able to calibrate a sprayer, give proper pesticide recommendations (using integrated pest management), and demonstrate safe handling of pesticides.

**AGR 160 Plant Science 3.0 UNITS**

This course introduces the basic principles of botany that pertain to agricultural production. Emphasis is placed on the anatomy and physiology of flowering plants. Upon completion, students should be able to identify and explain plant systems.

**AGR 170 Soil Science 3.0 UNITS**

This course covers the basic principles of soil management and fertilization. Topics include liming, fertilization, soil management, biological properties of soil (including beneficial microorganisms), sustainable land care practices and the impact on soils, and plant nutrients. Upon completion, students should be able to analyze, evaluate, and properly amend soils/media according to sustainable practices.

**AGR 212 Farm Business Management 3.0 UNITS**

This course introduces budgeting, farm analysis, production costs, business organizations, and general management principles. Topics include enterprise budgets, partial budgets, whole farm budgets, income analysis, and business organizations. Upon completion, students should be able to prepare and analyze a farm budget.

**AGR 213 Agricultural Law & Finance 3.0 UNITS**

This course covers the basic laws and financial aspects affecting agriculture. Topics include environmental laws, labor laws, contractual business operations, assets, liabilities, net worth, and funding sources. Upon completion, students should be able to complete loan application procedures and explain basic laws affecting the agricultural industry.

**AGR 214 Agricultural Marketing 3.0 UNITS**

This course covers basic marketing principles for agricultural products. Topics include buying, selling, processing, standardizing, grading, storing, and marketing of agricultural commodities. Upon completion, students should be able to construct a marketing plan for an agricultural product.

---

**AIR COND, HEATING & REFRIG (AHR)**

---

**AHR 110 Introduction to Refrigeration 5.0 UNITS**

This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

**AHR 111 HVACR Electricity 3.0 UNITS**

This course introduces electricity as it applies to HVACR equipment. Emphasis is placed on power sources, interaction of electrical components, wiring of simple circuits, and the use of electrical test equipment. Upon completion, students should be able to demonstrate good wiring practices and the ability to read simple wiring diagrams.

**AHR 112 Heating Technology 4.0 UNITS**

This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

**AHR 113 Comfort Cooling 4.0 UNITS**

This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychrometrics, manufacturer specifications, and test instruments to determine proper system operation.

**AHR 114 Heat Pump Technology 4.0 UNITS**

This course covers the principles of air source and water source heat pumps. Emphasis is placed on safety, modes of operation, defrost systems, refrigerant charging, and system performance. Upon completion, students should be able to understand and analyze system performance and perform routine service procedures.

**AHR 130 HVAC Controls 3.0 UNITS**

This course covers the types of controls found in residential and commercial comfort systems. Topics include electrical and electronic controls, control schematics and diagrams, test instruments, and analysis and troubleshooting of electrical systems. Upon completion, students should be able to diagnose and repair common residential and commercial comfort system controls.

**AHR 133 HVAC Servicing 4.0 UNITS**

The course covers the maintenance and servicing of HVAC equipment. Topics include testing, adjusting, maintaining, and troubleshooting HVAC equipment and record keeping. Upon completion, students should be able to adjust, maintain, and service HVAC equipment.

**AHR 160 Refrigerant Certification 1.0 UNIT**

This course covers the requirements for the EPA certification examinations. Topics include small appliances, high pressure systems, and low pressure systems. Upon completion, students should be able to demonstrate knowledge of refrigerants and be prepared for the EPA certification examinations.

**AHR 212 Advanced Comfort Systems 4.0 UNITS**

This course covers water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of water-source systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps.

**AHR 250 Heating, Ventilating, and Air 2.0 UNITS**

This course is a comprehensive study of air conditioning, heating, and refrigeration system diagnostics and corrective measures. Topics include advanced system analysis, measurement of operating efficiency, and inspection and correction of all major system components. Upon completion, students should be able to restore a residential or commercial AHR system so that it operates at or near manufacturers' specifications.

---

**ANIMAL SCIENCE (ANS)**

---

**ANS 110 Animal Science 3.0 UNITS**

This course introduces the livestock industry. Topics include nutrition, reproduction, production practices, diseases, meat processing, sustainable livestock production, and marketing. Upon completion, students should be able to demonstrate a basic understanding of livestock production practices and the economic impact of livestock locally, regionally, state-wide, and internationally.

---

**ART (ART)**

---

**ART 111 Art Appreciation 3.0 UNITS**

This course introduces the origins and historical development of art. Emphasis is placed on the relationship of design principles to various art forms including but not limited to sculpture, painting, and architecture. Upon completion, students should be able to identify and analyze a variety of artistic styles, periods, and media.

**ART 115 Art History Survey II 3.0 UNITS**

This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development.

---

**AUTOMATION & ROBOTICS (ATR)**

---

**ATR 112 Introduction to Automation 3.0 UNITS**

This course introduces the basic principles of automated systems and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems.

**ATR 212 Industrial Robots 3.0 UNITS**

This course covers the operation of industrial robots. Topics include the classification of robots, activators, grippers, work envelopes, computer interfaces, overlapping work envelopes, installation, and programming. Upon completion, students should be able to install, program, and troubleshoot industrial robots.

**ATR 214 Advanced PLCs 4.0 UNITS**

This course introduces the study of high-level programming languages and advanced I/O modules. Topics include advanced programming languages; system networking; computer interfacing; analog and other intelligent I/O modules; and system troubleshooting. Upon completion, students should be able to write and troubleshoot systems using high-level languages and complex I/O modules.

**AUTOMOTIVE BODY REPAIR (AUB)****AUB 111 Painting & Refinishing I 4.0 UNITS**

This course introduces the proper procedures for using automotive refinishing equipment and materials in surface preparation and application. Topics include federal, state, and local regulations, personal safety, refinishing equipment and materials, surface preparation, masking, application techniques, and other related topics. Upon completion, students should be able to identify and use proper equipment and materials in refinishing following accepted industry standards.

**AUB 112 Painting & Refinishing II 4.0 UNITS**

This course covers advanced painting techniques and technologies with an emphasis on identifying problems encountered by the refinishing technician. Topics include materials application, color matching, correction of refinishing problems, and other related topics. Upon completion, students should be able to perform spot, panel, and overall refinishing repairs and identify and correct refinish problems.

**AUB 114 Special Finishes 2.0 UNITS**

This course introduces multistage finishes, custom painting, and protective coatings. Topics include base coats, advanced intermediate coats, clear coats, and other related topics. Upon completion, students should be able to identify and apply specialized finishes based on accepted industry standards.

**AUB 121 Non-Structural Damage I 3.0 UNITS**

This course introduces safety, tools, and the basic fundamentals of body repair. Topics include shop safety, damage analysis, tools and equipment, repair techniques, materials selection, materials usage, and other related topics. Upon completion, students should be able to identify and repair minor direct and indirect damage including removal/repairing/replacing of body panels to accepted standards.

**AUB 122 Non-Structural Damage II 4.0 UNITS**

This course covers safety, tools, and advanced body repair. Topics include shop safety, damage analysis, tools and equipment, advanced repair techniques, materials selection, materials usage, movable glass, and other related topics. Upon completion, students should be able to identify and repair or replace direct and indirect damage to accepted standards including movable glass and hardware.

**AUB 131 Structural Damage I 4.0 UNITS**

This course introduces safety, equipment, structural damage analysis, and damage repairs. Topics include shop safety, design and construction, structural analysis and measurement, equipment, structural glass, repair techniques, and other related topics. Upon completion, students should be able to analyze and perform repairs to a vehicle which has received light/moderate structural damage.

**AUB 136 Plastics & Adhesives 3.0 UNITS**

This course covers safety, plastic and adhesive identification, and the various repair methods of automotive plastic components. Topics include safety, identification, preparation, material selection, and the various repair procedures including refinishing. Upon completion, students should be able to identify, remove, repair, and/or replace automotive plastic components in accordance with industry standards.

**AUB 150 Automotive Detailing 2.0 UNITS**

This course covers the methods and procedures used in automotive detailing facilities. Topics include safety, engine, interior and trunk compartment detailing, buffing/polishing exterior surfaces, and cleaning and reconditioning

exterior trim, fabrics, and surfaces. Upon completion, students should be able to improve the overall appearance of a vehicle.

**AUB 160 Body Shop Operations 1.0 UNIT**

This course introduces the day-to-day operations of autobody repair facilities. Topics include work habits and ethics, customer relations, equipment types, materials cost and control, policies and procedures, shop safety and liabilities, and other related topics. Upon completion, students should be able to understand the general operating policies and procedures associated with an autobody repair facility.

**AUB 162 Autobody Estimating 2.0 UNITS**

This course provides a comprehensive study of autobody estimating. Topics include collision damage analysis, industry regulations, flat-rate and estimated time, and collision estimating manuals. Upon completion, students should be able to prepare and interpret a damage report.

**BIOLOGY (BIO)****BIO 110 Principles of Biology 4.0 UNITS**

This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life.

**BIO 111 General Biology I 4.0 UNITS**

This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, molecular and cellular biology, metabolism and energy transformation, genetics, evolution, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels.

**BIO 112 General Biology II 4.0 UNITS**

This course is a continuation of BIO 111. Emphasis is placed on organisms, evolution, biodiversity, plant and animal systems, ecology, and other related topics. Upon completion, students should be able to demonstrate comprehension of life at the organismal and ecological levels.

**BIO 163 Basic Anatomy & Physiology 5.0 UNITS**

This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships.

**BIO 168 Anatomy and Physiology I 4.0 UNITS**

This course provides a comprehensive study of the anatomy and physiology of the human body. Topics include body organization, homeostasis, cytology, histology, and the integumentary, skeletal, muscular, and nervous systems and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships.

**BIO 169 Anatomy and Physiology II 4.0 UNITS**

This course provides a continuation of the comprehensive study of the anatomy and physiology of the human body. Topics include the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems as well as metabolism, nutrition, acid-base balance, and fluid and electrolyte balance. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships.

**BIO 275 Microbiology 4.0 UNITS**

This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms.

## BIOMEDICAL EQUIPMENT (BMT)

### BMT 111 Introduction to Biomedical Field 2.0 UNITS

This course introduces the fundamental concepts of the health care delivery system. Topics include hospital organization and structure, BMET duties and responsibilities, and the professional and social interrelationships between services. Upon completion, students should be able to demonstrate an understanding of hospital organization as related to BMET duties.

### BMT 112 Hospital Safety Standards 3.0 UNITS

This course covers national, state, and local standards pertaining to hospital safety. Topics include electrical safety, gas safety, SMDA reporting, and JCAHO and FPA compliance. Upon completion, students should be able to conduct PM and safety inspections in compliance with safety regulations.

### BMT 212 BMET Instrumentation I 6.0 UNITS

This course covers theory of operation, circuit analysis, troubleshooting techniques, and medical applications for a variety of instruments and devices. Topics include electrodes, transducers, instrumentation amplifiers, electrocardiographs, monitors, recorders, defibrillators, ESU units, and related equipment used in clinical laboratories, intensive care units, and research facilities. Upon completion, students should be able to calibrate, troubleshoot, repair, and certify that instrumentation meets manufacturer's original specifications.

### BMT 213 BMET Instrumentation II 3.0 UNITS

This course provides continued study of theory of operation, circuit analysis, troubleshooting techniques, and medical applications for a variety of instruments and devices. Topics include instruments found in clinical laboratories, intensive care units, and research facilities. Upon completion, students should be able to repair, calibrate, and certify that instrumentation meets manufacturers' original specifications.

### BMT 223 Imaging Techniques/Laser Fundamentals 4.0 UNITS

This course covers techniques associated with X-Ray, CT Scan, Magnetic Resonance Imaging and ultrasound, along with fundamental concepts and applications of medical lasers. Topics include radiation interaction with matter, X-Ray emissions, beam restricting devices, laser energy generation, and laser usage in surgery and other related medical procedures. Upon completion, students should be able to understand the operation of imaging devices, evaluate, calibrate, align, and provide safety instruction in usage of medical lasers.

### BMT 225 Biomedical Trouble Shooting 3.0 UNITS

This course is designed to provide students with basic problem solving skills, and to track down and identify problems frequently encountered with medical instrumentation. Emphasis is placed on developing logical troubleshooting techniques using technical manuals, flowcharts, and schematics, to diagnose equipment faults. Upon completion, students should be able to logically diagnose and isolate faults, and perform repairs to meet manufacturer specifications.

## BLUEPRINT READING (BPR)

### BPR 111 Print Reading 2.0 UNITS

This course introduces the basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system.

### BPR 130 Print Reading-Construction 3.0 UNITS

This course covers the interpretation of prints and specifications that are associated with design and construction projects. Topics include interpretation of documents for foundations, floor plans, elevations, and related topics. Upon completion, students should be able to read and interpret construction prints and documents.

## BUSINESS (BUS)

### BUS 110 Introduction to Business 3.0 UNITS

This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects.

### BUS 115 Business Law I 3.0 UNITS

This course introduces the student to the legal and ethical framework of business. Contracts, negotiable instruments, the law of sales, torts, crimes, constitutional law, the Uniform Commercial Code, and the court systems are examined. Upon completion the student should be able to identify legal and ethical issues that arise in business decisions and the laws that apply to them.

### BUS 125 Personal Finance 3.0 UNITS

This course provides a study of individual and family financial decisions. Emphasis is placed on building useful skills in buying, managing finances, increasing resources, and coping with current economic conditions. Upon completion, students should be able to develop a personal financial plan.

### BUS 137 Principles of Management 3.0 UNITS

This course is designed to be an overview of the major functions of management. Emphasis is placed on planning, organizing, controlling, directing, and communicating. Upon completion, students should be able to work as contributing members of a team utilizing these functions of management.

### BUS 151 People Skills 3.0 UNITS

This course introduces the basic concepts of identity and communication in the business setting. Topics include self-concept, values, communication styles, feelings and emotions, roles versus relationships, and basic assertiveness, listening, and conflict resolution. Upon completion, students should be able to distinguish between unhealthy, self-destructive, communication patterns and healthy, non-destructive, positive communication patterns.

### BUS 153 Human Resource Management 3.0 UNITS

This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns.

### BUS 240 Business Ethics 3.0 UNITS

This course introduces contemporary and controversial ethical issues that face the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society.

### BUS 253 Leadership and Management Skills 3.0 UNITS

This course includes a study of the qualities, behaviors, and personal styles exhibited by leaders. Emphasis is placed on coaching, counseling, team building, and employee involvement. Upon completion, students should be able to identify and exhibit the behaviors needed for organizational effectiveness.

### BUS 260 Business Communication 3.0 UNITS

This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the work place.

### BUS 280 REAL Small Business 4.0 UNITS

This course introduces hands-on techniques and procedures for planning and opening a small business, including the personal qualities needed for entrepreneurship. Emphasis is placed on market research, finance, time management, and day-to-day activities of owning/operating a small business. Upon completion, students should be able to write and implement a viable business plan and seek funding.

## CARPENTRY (CAR)

### CAR 111 Carpentry I 8.0 UNITS

This course introduces the theory and construction methods associated with the building industry, including framing, materials, tools, and equipment. Topics include safety, hand/power tool use, site preparation, measurement and layout, footings and foundations, construction framing, and other related topics. Upon completion, students should be able to safely lay out and perform basic framing skills with supervision.



**CAR 112      Carpentry II      8.0 UNITS**

This course covers the advanced theory and construction methods associated with the building industry including framing and exterior finishes. Topics include safety, hand/power tool use, measurement and layout, construction framing, exterior trim and finish, and other related topics. Upon completion, students should be able to safely frame and apply exterior finishes to a residential building with supervision.

**CAR 113      Carpentry III      6.0 UNITS**

This course covers interior trim and finishes. Topics include safety, hand/power tool use, measurement and layout, specialty framing, interior trim and finishes, cabinetry, and other related topics. Upon completion, students should be able to safely install various interior trim and finishes in a residential building with supervision.

**CHILD ADVOCACY STUDIES (CAS)****CAS 110      Perspectives on Child Maltreat      3.0 UNITS**

This course covers the critical examination of child maltreatment and advocacy. Emphasis is placed on the history, comparative perspectives, legal framework, responses to child maltreatment, pertinent issues in maltreatment and advocacy. Upon completion, students should be able to apply the knowledge and skills necessary for recognition and advocacy on behalf of child victims.

**CAS 120      Cultural Awareness in Child Ma      3.0 UNITS**

This course is designed to deepen students' understanding of the intersection between cultural dynamics and child maltreatment, emphasizing the significance of cultural awareness in effective advocacy. Emphasis is placed on an exploration of diverse cultural contexts, promoting cultural competence as an integral aspect of advocating for the rights and well-being of children. Upon completion, students should be able to navigate the complexities of child maltreatment while respecting and valuing the diverse backgrounds of children and families.

**CAS 210      Professional & Systems Respons      3.0 UNITS**

This course is designed to focus on the responses of professionals to allegations of child maltreatment. Emphasis is placed on the multifaceted nature of child abuse and neglect and explores evidence-based strategies for intervention, prevention, and collaboration across diverse professional settings. Upon completion, student should be able to identify the knowledge, skills, and ethical considerations essential for responding effectively to child maltreatment within various systems.

**CAS 220      Responding to the Survivor of      3.0 UNITS**

This course is designed to equip students with the knowledge, skills, and compassion necessary to effectively recognize and respond to the effects of child maltreatment. Emphasis is placed on intervention strategies for children and their families, exploring the multifaceted dimensions of child abuse, emphasizing trauma-informed approaches, and the cultivation of a supportive environment for survivors. Upon completion, students should be able to demonstrate the practical skills and compassionate mindset needed to effectively recognize, respond to, and support survivors of child maltreatment.

**CYBER CRIME TECHNOLOGY (CCT)****CCT 110      Introduction to Cyber Crime      3.0 UNITS**

This course introduces and explains the various types of offenses that qualify as cyber crime activity. Emphasis is placed on identifying cyber crime activity and the response to these problems from both the private and public domains. Upon completion, students should be able to accurately describe and define cyber crime activities and select an appropriate response to deal with the problem.

**CCT 121      Computer Crime Investigation      4.0 UNITS**

This course introduces the fundamental principles of computer crime investigation processes. Topics include crime scene/incident processing, information gathering techniques, data retrieval, collection and preservation of evidence, preparation of reports and court presentations. Upon completion, students should be able to identify cyber crime activity and demonstrate proper investigative techniques to process the scene and assist in case prosecution.

**CCT 240      Data Recovery Techniques      3.0 UNITS**

This course introduces the unique skills and methodologies necessary to assist in the investigation and prosecution of cyber crimes. Topics include hardware and software issues, recovering erased files, overcoming encryption, advanced imaging, transient data, Internet issues and testimony considerations. Upon completion, students should be able to recover digital evidence, extract information for criminal investigation and legally seize criminal evidence.

**CCT 250      Network Vulnerabilities I      3.0 UNITS**

This course introduces students to penetration testing, network vulnerabilities, and hacking. Topics include an overview of traditional network security, system hardening, and known weaknesses. Upon completion, students should be able to evaluate weaknesses of traditional and wireless network for the purpose of incident response, reconstruction, and forensic investigation.

**CCT 251      Network Vulnerabilities II      3.0 UNITS**

This course advances students' knowledge of penetration testing, network vulnerabilities, and hacking. Topics include analyzing advanced techniques for circumventing network security hardware and software. Upon completion, students should be able to assemble test kits for multiple operating systems, scan and footprint networks, and perform advanced forensic investigation.

**CHEMISTRY (CHM)****CHM 090      Chemistry Concepts      4.0 UNITS**

This course provides a non-laboratory based introduction to basic concepts of chemistry. Topics include measurements, matter, energy, atomic theory, bonding, molecular structure, nomenclature, balancing equations, stoichiometry, solutions, acids and bases, gases, and basic organic chemistry. Upon completion, students should be able to understand and apply basic chemical concepts necessary for success in college-level science courses.

**CHM 151      General Chemistry I      4.0 UNITS**

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152.

**CHM 152      General Chemistry II      4.0 UNITS**

This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields.

**INFORMATION SYSTEMS (CIS)****CIS 110      Introduction to Computers      3.0 UNITS**

This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems.

**CIS 111      Basic PC Literacy      2.0 UNITS**

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills.

**CIS 115      Introduction to Programming and Logic      3.0 UNITS**

This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to use top-down algorithm design and implement algorithmic solutions in a programming language.

## CRIMINAL JUSTICE (CJC)

### CJC 110 Basic Law Enforcement BLET 20.0 UNITS

This course covers the basic skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Topics include those mandated by North Carolina Administration Code as essential for functioning in law enforcement. Upon completion, the student should be able to demonstrate competence in the topics required for the state comprehensive certification examination.

### CJC 111 Introduction to Criminal Justice 3.0 UNITS

This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options.

### CJC 112 Criminology 3.0 UNITS

This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.

### CJC 113 Juvenile Justice 3.0 UNITS

This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition.

### CJC 121 Law Enforcement Operations 3.0 UNITS

This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations.

### CJC 131 Criminal Law 3.0 UNITS

This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements.

### CJC 132 Court Procedure & Evidence 3.0 UNITS

This course covers judicial structure/process/procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence.

### CJC 141 Corrections 3.0 UNITS

This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system.

### CJC 212 Ethics & Community Relations 3.0 UNITS

This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to apply ethical considerations to the decision-making process in identifiable criminal justice situations.

### CJC 213 Substance Abuse 3.0 UNITS

This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be

able to identify various types of drugs, their effects on human behavior and society, and treatment modalities.

### CJC 215 Organization & Administration 3.0 UNITS

This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations.

### CJC 221 Investigative Principles 4.0 UNITS

This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation.

### CJC 222 Criminalistics 3.0 UNITS

This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence.

### CJC 225 Crisis Intervention 3.0 UNITS

This course introduces critical incident intervention and management techniques as they apply to operational criminal justice practitioners. Emphasis is placed on the victim/offender situation as well as job-related high stress, dangerous, or problem-solving citizen contacts. Upon completion, students should be able to provide insightful analysis of emotional, violent, drug-induced, and other critical and/or stressful incidents that require field analysis and/or resolution.

### CJC 231 Constitutional Law 3.0 UNITS

The course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/procedures as interpreted by the courts.

### CJC 232 Civil Liability 3.0 UNITS

This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues.

## CONSTRUCTION MANAGEMENT (CMT)

### CMT 120 Codes and Inspections 3.0 UNITS

This course covers building codes and the code inspections process used in the design and construction of residential and commercial buildings. Emphasis is placed on commercial, residential, and accessibility (ADA) building codes. Upon completion, students should understand the building code inspections process and apply building code principals and requirements to construction projects.

### CMT 210 Construction Management Fundam 3.0 UNITS

This course introduces the student to the fundamentals of effective supervision emphasizing professionalism through knowledge and applied skills. Topics include safety, planning and scheduling, contracts, problem-solving, communications, conflict resolution, recruitment, employment laws and regulations, leadership, motivation, teamwork, discipline, setting objectives, and training. Upon completion, students should be able to demonstrate the basic skills necessary to be successful as a supervisor in the construction industry.

## COMMUNICATION (COM)

### COM 120 Introduction to Interpersonal Communication 3.0 UNITS

This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations.

### COM 231 Public Speaking 3.0 UNITS

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support.

## COSMETOLOGY (COS)

### COS 111 Cosmetology Concepts I 4.0 UNITS

This course introduces basic cosmetology concepts. Topics include safety, first aid, sanitation, bacteriology, anatomy, diseases and disorders, hygiene, product knowledge, chemistry, ethics, manicures, and other related topics. Upon completion, students should be able to safely and competently apply cosmetology concepts in the salon setting.

### COS 112 Salon I 8.0 UNITS

This course introduces basic salon services. Topics include scalp treatments, shampooing, rinsing, hair color, design, haircutting, permanent waving, pressing, relaxing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate salon services.

### COS 113 Cosmetology Concepts II 4.0 UNITS

This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, chemistry, manicuring, chemical restructuring, and hair coloring. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

### COS 114 Salon II 8.0 UNITS

This course provides experience in a simulated salon setting. Topics include basic skin care, manicuring, nail application, scalp treatments, shampooing, rinsing, hair color, design, haircutting, chemical restructuring, pressing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

### COS 115 Cosmetology Concepts III 4.0 UNITS

This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, salon management, salesmanship, skin care, electricity/light therapy, wigs, thermal hair styling, lash and brow tinting, superfluous hair removal, and other related topics. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

### COS 116 Salon III 4.0 UNITS

This course provides comprehensive experience in a simulated salon setting. Emphasis is placed on intermediate-level of skin care, manicuring, scalp treatments, shampooing, hair color, design, haircutting, chemical restructuring, pressing, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

### COS 117 Cosmetology Concepts IV 2.0 UNITS

This course covers advanced cosmetology concepts. Topics include chemistry and hair structure, advanced cutting and design, and an overview of all cosmetology concepts in preparation for the licensing examination. Upon completion, students should be able to demonstrate an understanding of these cosmetology concepts and meet program completion requirements.

### COS 118 Salon IV 7.0 UNITS

This course provides advanced experience in a simulated salon setting. Emphasis is placed on efficient and competent delivery of all salon

services in preparation for the licensing examination and employment. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology Licensing Examination and meet entry-level employment requirements.

### COS 223 Contemporary Hair Coloring 2.0 UNITS

This course covers basic color concepts, hair coloring problems, and application techniques. Topics include color theory, terminology, contemporary techniques, product knowledge, and other related topics. Upon completion, students should be able to identify a clients color needs and safely and competently perform color applications and correct problems.

### COS 240 Contemporary Design 2.0 UNITS

This course covers methods and techniques for contemporary designs. Emphasis is placed on contemporary designs and other related topics. Upon completion, students should be able to demonstrate and apply techniques associated with contemporary design.

### COS 250 Computerized Salon Ops 1.0 UNIT

This course introduces computer and salon software. Emphasis is placed on various computer and salon software applications. Upon completion, students should be able to utilize computer skills and software applications in the salon setting.

## COMPUTER SCIENCE (CSC)

### CSC 134 C++ Programming 3.0 UNITS

This course introduces computer programming using the C++ programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level.

## CONSTRUCTION (CST)

### CST 150 Building Science 3.0 UNITS

This course introduces concepts and techniques for the design and interaction of the mechanical systems of high performance buildings. Topics include building envelope, heating, ventilation and air conditioning (HVAC), indoor air quality, lighting, plumbing and electrical. Upon completion, students should be able to understand building systems interaction and performance.

### CST 221 Statics/Structures 4.0 UNITS

This course covers the principles of statics and strength of materials as applied to structural building components. Topics include forces on columns, beams, girders, and footings and connection points when timber, steel, and concrete members are used. Upon completion, students should be able to accurately analyze load conditions present in structural members.

### CST 241 Planning/Estimating I 3.0 UNITS

This course covers the procedures involved in planning and estimating a construction/building project. Topics include performing quantity take-offs of materials necessary for a building project. Upon completion, students should be able to accurately complete a take-off of materials and equipment needs involved in a construction project.

## COMPUTER TECHNOLOGY INTEGRATION (CTI)

### CTI 110 Web, Programming, and Database 3.0 UNITS

This course covers the introduction of the tools and resources available to students in programming, mark-up language and services on the Internet. Topics include standard mark-up language Internet services, creating web pages, using search engines, file transfer programs; and database design and creation with DBMS products. Upon completion students should be able to demonstrate knowledge of programming tools, deploy a web-site with mark-up tools, and create a simple database table.

### CTI 120 Network and Security Foundation 3.0 UNITS

This course introduces students to the Network concepts, including networking terminology and protocols, local and wide area networks, and network standards. Emphasis is placed on securing information systems and the various implementation policies. Upon completion, students should be

able to perform basic tasks related to networking mathematics, terminology, media and protocols.

**CTI 141 Cloud and Storage Concepts 3.0 UNITS**  
This course introduces cloud computing and storage concepts. Emphasis is placed on cloud terminology, virtualization, storage networking and access control. Upon completion, students should be able to perform tasks related to installation, configuration and management of cloud storage systems.

**CTI 289 Computer Technology Integration Capstone 3.0 UNITS**  
This course provides students an opportunity to complete a significant integrated technology project from the design phase through implementation with minimal instructor support. Emphasis is placed on technology policy, process planning, procedure definition, systems architecture, and security issues to create projects for the many areas in which computer technology is integrated. Upon completion, students should be able to create, implement, and support a comprehensive technology integration project from the planning and design phase through implementation.

---

## COMPUTER INFORMATION TECHNOLOGY (CTS)

**CTS 115 Information Systems Business Concepts 3.0 UNITS**  
The course introduces the role of IT in managing business processes and the need for business process and IT alignment. Emphasis is placed on industry need for understanding business challenges and developing/managing information systems to contribute to the decision making process based on these challenges. Upon completion, students should be able to demonstrate knowledge of the 'hybrid business manager' and the potential offered by new technology and systems.

**CTS 120 Hardware/Software Support 3.0 UNITS**  
This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers.

**CTS 125 Presentation Graphics 3.0 UNITS**  
This course provides hands-on experience with a graphics presentation package. Topics include terminology, effective chart usage, design and layout, integrating hardware components, and enhancing presentations with text, graphics, audio and video. Upon completion, students should be able to design and demonstrate an effective presentation.

**CTS 130 Spreadsheet 3.0 UNITS**  
This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts.

**CTS 220 Advanced Hardware/Software Support 3.0 UNITS**  
This course provides advanced knowledge and competencies in hardware and operating system technologies for computer technicians to support personal computers. Emphasis is placed on: configuring and upgrading; diagnosis and troubleshooting; as well as preventive maintenance of hardware and system software. Upon completion, students should be able to install, configure, diagnose, perform preventive maintenance, and maintain basic networking on personal computers.

**CTS 240 Project Management 3.0 UNITS**  
This course introduces computerized project management software. Topics include identifying critical paths, cost management, and problem solving. Upon completion, students should be able to plan a complete project and project time and costs accurately.

---

## DATABASE MANAGEMENT TECHNOLOGY (DBA)

**DBA 110 Database Concepts 3.0 UNITS**  
This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms.

---

## DEVELOPMENTAL DISABILITIES (DDT)

**DDT 110 Developmental Disabilities 3.0 UNITS**  
This course identifies the characteristics and causes of various disabilities. Topics include history of service provision, human rights, legislation and litigation, advocacy, and accessing support services. Upon completion, students should be able to demonstrate an understanding of current and historical developmental disability definitions and support systems used throughout the life span.

---

## DESIGN: CREATIVE (DES)

**DES 125 Visual Presentation I 2.0 UNITS**  
This course introduces visual presentation techniques for communicating ideas. Topics include drawing, perspective drawing, rendering and mixed media. Upon completion, students should be able to present a design concept through graphic media.

**DES 135 Principles and Elements of Design I 4.0 UNITS**  
This course introduces the basic concepts and terminology of design as they relate to the design profession. Topics include line, pattern, space, mass, shape, texture, color, unity, variety, rhythm, emphasis, balance, proportion, scale, and function. Upon completion, students should be able to demonstrate an understanding of the principles covered through 2D and 3D exploration.

---

## DRAFTING (DFT)

**DFT 151 CAD I 3.0 UNITS**  
This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.

---

## ECONOMICS (ECO)

**ECO 251 Principles of Microeconomics 3.0 UNITS**  
This course introduces economic analysis of individual, business, and industry in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, income distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to efficiently achieve economic objectives.

**ECO 252 Principles of Macroeconomics 3.0 UNITS**  
This course introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socioeconomic goals.

---

## EDUCATION (EDU)

**EDU 119 Introduction to Early Childhood Education 4.0 UNITS**  
This course introduces the foundations of culturally responsive, equitable and inclusive early childhood education, planning intentional developmentally appropriate experiences, learning activities, and teaching strategies for indoor and outdoor environments for all young children, guidance techniques, and professionalism. Topics include theoretical foundations, national early learning standards, NC Foundations for Early Learning and Development, state regulations, program types, career options, professionalism, ethical conduct, quality inclusive environments, guidance



techniques, and curriculum responsive to the needs of each child/family. Upon completion, students should be able to implement developmentally appropriate environments, guidance techniques, schedules, and teaching strategies across developmental domains to support culturally, linguistically, and ability diverse children and their families in inclusive settings, and design a personal career/professional development plan.

**EDU 131 Child, Family, and Community 3.0 UNITS**

This course covers the development of partnerships among culturally, linguistically and ability diverse families, children, schools and communities through the use of evidence-based strategies. Emphasis is placed on developing skills and identifying benefits for establishing and supporting respectful relationships between diverse families, programs/schools, and community agencies/resources reflective of the NAEYC Code of Ethical Conduct and the Code of Ethics for North Carolina Educators. Upon completion, students should be able to identify appropriate relationship building strategies between diverse families, children birth through adolescence, schools, and communities and demonstrate a variety of communication skills including appropriate use of technology to support every child.

**EDU 144 Child Development I 3.0 UNITS**

This course includes the theories of child development, observation and assessment, milestones, and factors that influence development, from conception through approximately 36 months. Emphasis is placed on knowledge, observation and assessment of developmental sequences in approaches to play/learning, emotional/social, health/physical, language/communication and cognitive domains. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain biological and environmental factors that impact development, and identify evidence-based strategies for enhancing development for children that are culturally, linguistically, and ability diverse.

**EDU 145 Child Development II 3.0 UNITS**

This course includes the theories of child development, observation and assessment, milestones, and factors that influence development, from preschool through middle childhood. Emphasis is placed on knowledge, observation and assessment of developmental sequences in approaches to play/learning, emotional/social, health/physical, language/communication and cognitive domains. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain biological and environmental factors that impact development, and identify evidence-based strategies for enhancing development for children that are culturally, linguistically, and ability diverse.

**EDU 146 Child Guidance 3.0 UNITS**

This course introduces evidence-based strategies to build nurturing relationships with each child by applying principles and practical techniques to facilitate developmentally appropriate guidance. Topics include designing responsive/supportive learning environments, cultural, linguistic and socio-economic influences on behavior, appropriate expectations, the importance of communication with children/families including using technology and the use of formative assessments in establishing intentional strategies for children with unique needs. Upon completion, students should be able to demonstrate direct/indirect strategies to encourage social skills, self-regulation, emotional expression and positive behaviors while recognizing the relationship between children's social, emotional and cognitive development.

**EDU 149 Introduction to Autism Spectrum Disorder 3.0 UNITS**

This course is an introduction to Autism Spectrum Disorders and the skills and competencies needed to work within programs and facilities providing supervised services to persons diagnosed with ASD. Topics include knowledge of characteristics and services, evidence based practices to address social, behavioral, educational, developmental and communication needs through appropriate assessment, planning, implementation of services, and strategies for effective family/community engagement and advocacy for persons with ASD. Upon completion, students should be able to demonstrate knowledge of the characteristics of ASD, application of techniques and interventions used when working with the ASD population, understanding of how to write and implement plans to provide approved documentation, and provide hands-on experiences within programs or facilities serving persons with ASD.

**EDU 150 Building an Inclusive Classroom 3.0 UNITS**

This course provides a comprehensive introduction of best strategies for creating and planning an inclusive and diverse environment to meet

the individual needs of children using research-based practices. Topics include adaptations and accommodations to the indoor/outdoor classroom environments, materials, schedules, learning experiences, and assistive technologies. Upon completion, students should be able to make adaptations to environments, materials, schedules, learning experiences, and assistive technologies to create inclusive classroom settings.

**EDU 151 Creative Activities 3.0 UNITS**

This course introduces developmentally supportive, diverse, equitable, and inclusive creative learning environments with attention to divergent thinking, creative problem-solving, evidence-based teaching practices, and open-ended learning materials and activities that align with the NC Foundations for Early Learning and Development. Emphasis is placed on best practices providing process-driven culturally diverse, learning experiences in art, music, creative movement, dance, and dramatic play integrated across all domains and academic content in indoor/outdoor environments for every young child age birth through age eight. Upon completion, students should be able to observe, examine, create, adapt, and advocate for developmentally appropriate creative learning materials, experiences, and environments for children that are culturally, linguistically, and ability diverse.

**EDU 153 Health, Safety and Nutrition 3.0 UNITS**

This course covers promoting and maintaining the health and well-being of every child. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy learning environments, health benefits of active play, recognition and reporting of abuse/neglect, and state regulations. Upon completion, students should be able to apply knowledge of NC Foundations for Early Learning and Development for health, safety, nutritional needs and safe learning environments.

**EDU 154 Social/Emotion/Behavior Development 3.0 UNITS**

This course covers the emotional/social development of young children and the varied causes, expressions, prevention methods and management strategies of challenging behaviors. Emphasis is placed on culturally responsive and supportive caregiver/family/child relationships, positive emotional/social environments, developmental concerns, risk factors, and planning culturally responsive, equitable, developmentally appropriate intervention strategies. Upon completion, students should be able to identify factors that influence emotional/social development, utilize screening measures, and design positive behavioral supports for children and the environment, as well as effective teaching strategies.

**EDU 157 Active Play 3.0 UNITS**

This course introduces physical activities to promote the development of children with diverse abilities, birth through middle childhood. Topics include active play, outdoor learning, design of the environment, development of play skills, loose parts play, nature play, risk/benefit assessment, advocacy, and family/community connection. Upon completion, students should be able to discuss the stages of play, the role of teachers in play, active play environments, advocate for the child's right to play, and plan and assess culturally responsive, equitable and developmentally appropriate experiences using NC Foundations for Early Learning and Development.

**EDU 184 Early Childhood Introductory Practicum 2.0 UNITS**

This course introduces students to early childhood settings and applying skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on observing children, assisting in the implementation of developmentally appropriate, culturally responsive, equitable, and ability diverse activities in indoor/outdoor environments for young children, supporting/engaging families, and modeling reflective/professional practices based on national/state guidelines. Upon completion, students should be able to implement respectful/reciprocal relationships with children and families, design, implement, and adapt developmentally appropriate activities, plans, and daily routines that align with NC Foundations for Early Learning and Development and demonstrate ethical/professional behaviors as indicated by assignments and onsite/virtual faculty assessments.

**EDU 187 Teaching and Learning for All 4.0 UNITS**

This course introduces students to knowledge, concepts, and best practices needed to provide developmentally appropriate, effective, inclusive, and culturally responsive educational experiences in the classroom. null Topics include growth and development, learning theory, student motivation, teaching diverse learners, classroom management, inclusive environments, student-centered practices, instructional strategies, teaching methodologies, observation/assessment techniques, educational planning, reflective practice, collaboration, cultural competence, ethics,

professionalism, and leadership. Upon completion, students should be able to identify the knowledge, skills, roles, and responsibilities of an effective educator as defined by state and national professional teaching standards.

**EDU 216 Foundations of Education 3.0 UNITS**

This course introduces the examination of the American educational systems and the teaching profession. Topics include the historical and philosophical influences on education, various perspectives on educational issues, and experiences in birth through grade 12 classrooms. Upon completion, students should be able to reflect on classroom observations, analyze the different educational approaches, including classical/traditional and progressive, and have knowledge of the various roles of educational systems at the federal, state and local level.

**EDU 221 Children With Exceptionalities 3.0 UNITS**

This course covers atypical patterns of child development, inclusive/diverse settings, evidenced-based educational/family plans, differentiated instruction, adaptive materials, and assistive technology. Emphasis is placed on the characteristics of exceptionalities and delays, early intervention/special education, transitions, observation, developmental screening, formative assessment of children, and collaborating with families and community partners. Upon completion, students should be able to recognize diverse abilities, describe the referral process, identify community resources, explain the importance of collaboration with families/professionals, and develop appropriate strategies/adaptations to support children in all environments with best practices as defined by laws, policies and the NC Foundations for Early Learning and Development.

**EDU 222 Learners with Behavior Disorders 3.0 UNITS**

This course provides a comprehensive study of learners with emotional or behavioral disorders encompassing characteristics, assessments, placement alternatives, inclusive environments and family interventions. Topics include etiology of emotional or behavioral disorders, appropriate intervention strategies, early intervention/special education referral and transition processes, family and community partnerships, inclusive environments, and legislative mandates. Upon completion, students should be able to identify characteristics of behavior for which additional supports are needed, describe the referral processes, identify community resources, collaborate with families/professionals, understand the importance of advocacy for learners, and recognize appropriate intervention strategies in inclusive environments.

**EDU 234 Infants, Toddlers, and Twos 3.0 UNITS**

This course covers the development of high-quality, individualized, responsive/engaging relationships and experiences for infants, toddlers, and twos. Emphasis is placed on typical and atypical child development, working with diverse families to provide positive, supportive, and engaging early learning activities and interactions through field experiences and the application of the NC Foundations for Early Learning and Development. Upon completion, students should be able to demonstrate responsive curriculum planning, respectful relationships and exposure to a variety of developmentally appropriate experiences/materials that support a foundation for healthy development and growth of culturally, linguistically and ability diverse children birth to 36 months.

**EDU 235 School-Age Development and Programs 3.0 UNITS**

This course includes developmentally appropriate practices in group settings for school-age children. Emphasis is placed on principles of development, environmental planning, and positive guidance techniques and program development. Upon completion, students should be able to discuss developmental principles for culturally, linguistically, and ability diverse children ages five to twelve and plan and implement developmentally appropriate programs and activities.

**EDU 250 Teacher Licensure Preparation 3.0 UNITS**

This course provides information and strategies necessary for transfer to a teacher licensure program at a senior institution. Topics include entry level teacher licensure exam preparation, performance based assessment systems, requirements for entry into teacher education programs, the process to become a licensed teacher in North Carolina, and professionalism including expectations within the field of education. Upon completion, students should be able to utilize educational terminology and demonstrate knowledge of teacher licensure processes including exam preparation, technology based portfolio assessment, and secondary admissions processes to the school of education at a senior institution.

**EDU 251 Exploration Activities 3.0 UNITS**

This course covers fundamental concepts in the content areas of science, technology, engineering, math and social studies through investigative experiences. Emphasis is placed on exploring fundamental concepts, developmentally appropriate scope and sequence, and teaching strategies to engage each child in the discovery approach. Upon completion, students should be able to understand major concepts in each content area and implement appropriate experiences for young children.

**EDU 259 Curriculum Planning 3.0 UNITS**

This course is designed to focus on using content knowledge to build effective developmentally appropriate approaches that are culturally responsive, equitable, and ability diverse for young children. Topics include components of curriculum, a variety of curriculum models, authentic observation and assessment, and planning developmentally appropriate experiences and indoor/outdoor environments aligned with the NC Foundations for Early Learning and Development. Upon completion, students should be able to understand, evaluate, and use developmentally appropriate curriculum to plan for the individual/group needs of young children.

**EDU 261 Early Childhood Administration I 3.0 UNITS**

This course introduces principles and practices essential to preparing and supporting child care administrators. Topics include program philosophy, policies and procedures, NC Child Care Law and Rules, business planning, personnel and fiscal management, and NAEYC Code of Ethical Conduct Supplement for Early Childhood Program Administration. Upon completion, students should be able to articulate a developmentally appropriate program philosophy, locate current state licensing regulations, analyze a business plan and examine comprehensive program policies and procedures.

**EDU 262 Early Childhood Administration II 3.0 UNITS**

This course focuses on advocacy/leadership, public relations/community outreach and program quality/evaluation for diverse early childhood programs. Topics include program evaluation/accreditation, involvement in early childhood professional organizations, leadership/mentoring, family, volunteer and community involvement and early childhood advocacy. Upon completion, students should be able to define and evaluate all components of early childhood programs, develop strategies for advocacy and integrate community into programs.

**EDU 270 Effective Instructional Environment 2.0 UNITS**

This course is designed to provide learners with the knowledge and skills to create, manage, and assess effective instructional environments, learning attitudes, and behaviors for today's diverse learning population. Topics include organizing the learning environment, fostering positive learning attitudes, supporting healthy stakeholder partnerships, engaging students using effective differentiated instruction, guiding, and managing student behaviors, and assessing student progress. Upon completion of this course, learners will demonstrate effective dispositions of the professional educator that include managing schedules, spaces, and resources, promoting supportive learning mindsets, engaging students with diverse instructional strategies, guiding student behaviors to maximize both the instructional and social climate, and analyzing and effectively responding to student progress.

**EDU 272 Technology, Data, and Assessment 3.0 UNITS**

This course is designed to provide students with the knowledge and skills to utilize digital instructional technologies and technology-based assessments to plan and implement appropriate educational experiences and interventions in the classroom. Topics include educational technology to enhance instruction, instructional technologies for teaching, technology-based assessment, formative and summative assessments, data to inform practice, and ethical practices for technology and assessment. Upon completion, students will be able to demonstrate effective integration of educational technology into classroom practice, appropriate use of technology-based assessments, and practical application of data to inform educational planning and interventions.

**EDU 277 Integrated Curriculum and Instruction 3.0 UNITS**

This course is designed to provide learners with the content knowledge, instructional methods/materials, and assessment techniques needed to provide research-based math and science K - 12 instruction. Topics include essential math and science concepts and skills, developmentally appropriate pedagogy, culturally responsive instruction, standards-based outcomes, technology enhanced lesson planning, formative/summative assessments, research-based interventions, authentic learning experiences, and reflective practice. Upon completion, learners will be able to plan, implement, assess, and reflect on developmentally appropriate math and science instruction

aligned to the NC Standard Course of Study, other professional and national standards.

### **EDU 278 Integrated Curriculum and Instruction 3.0 UNITS**

This course is designed to provide learners with the content knowledge, instructional methods/materials, and assessment techniques needed to provide research-based social studies and ELA K -12 instruction. Topics include essential social studies and ELA concepts and skills, developmentally appropriate pedagogy, culturally responsive instruction, standards-based outcomes, technology enhanced lesson planning, formative/summative assessments, research-based interventions, authentic learning experiences, and reflective practice. Upon completion, learners will be able to plan, implement, assess, and reflect on developmentally appropriate social studies and ELA instruction aligned to the NC Standard Course of Study, other professional and national standards.

### **EDU 279 Literacy Development and Instruction 4.0 UNITS**

This course is designed to provide students with concepts and skills of literacy development, instructional methods/materials and assessment techniques needed to provide scientifically-based, systematic reading and writing instruction into educational practice. null Topics include literacy concepts, reading and writing development, developmentally appropriate pedagogy, culturally-responsive instruction, standards-based outcomes, lesson planning, formative/summative assessment, recognizing reading difficulties, research-based interventions, authentic learning experiences, classroom implementation, and reflective practice. null Upon completion, students should be able to plan, implement, assess, evaluate, and demonstrate developmentally appropriate literacy instruction aligned to the NC Standard Course of Study and other state and national standards.

### **EDU 280 Language and Literacy Experiences 3.0 UNITS**

This course provides evidence-based strategies for enhancing language and literacy experiences that align with NC Foundations for Early Learning and Development. Topics include developmental sequences for children's emergent receptive and expressive language, print concepts, appropriate observations/assessments, literacy enriched environments, quality selection of diverse literature, interactive media, and inclusive practices. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate language and literacy experiences for children who are culturally, linguistically and ability diverse.

### **EDU 283 Educator Preparation Practicum 3.0 UNITS**

This course is designed to allow learners to demonstrate acquired skills and competencies in a developmentally appropriate learning environment. Topics include dispositions of effective teachers, portfolio assessment development, reflective practice, teaching methods, assessment strategies, and professional practices based on state and national Teaching Standards. Upon completion, learners should be able to provide a portfolio assessment with evidence of ethical/professional standards, respect for a diverse population in learning environments, content knowledge, appropriate guidance intervention, and grade-level technology enhanced lesson planning/assessments through practices in the classroom environment.

### **EDU 284 Early Childhood Capstone Practicum 4.0 UNITS**

This course is designed to allow students to demonstrate acquired skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/engaging families; and modeling reflective and professional practices based on national and state guidelines. Upon completion, students should be able to apply NC Foundations for Early Learning and Development to demonstrate developmentally appropriate plans/assessments, appropriate guidance techniques and ethical/professional behaviors, including the use of appropriate technology, as indicated by assignments and onsite faculty assessments.

## **ELECTRICAL (ELC)**

### **ELC 131A Circuit Analysis I Lab 1.0 UNIT**

This course provides laboratory assignments as applied to fundamental principles of DC/AC electricity. Emphasis is placed on measurements and evaluation of electrical components, devices and circuits. Upon completion, the students will gain hands-on experience by measuring voltage, current, and opposition to current flow utilizing various meters and test equipment.

### **ELC 112 DC/AC Electricity 5.0 UNITS**

This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/AC circuits.

### **ELC 113 Residential Wiring 4.0 UNITS**

This course introduces the care/usage of tools and materials used in residential electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical print reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with residential electrical installations.

### **ELC 114 Commercial Wiring 4.0 UNITS**

This course provides instruction in the application of electrical tools, materials, and test equipment associated with commercial electrical installations. Topics include the NEC; safety; electrical blueprints; planning, layout, and installation of equipment and conduits; and wiring devices such as panels and overcurrent devices. Upon completion, students should be able to properly install equipment and conduit associated with commercial electrical installations.

### **ELC 115 Industrial Wiring 4.0 UNITS**

This course covers layout, planning, and installation of wiring systems in industrial facilities. Emphasis is placed on industrial wiring methods and materials. Upon completion, students should be able to install industrial systems and equipment.

### **ELC 117 Motors and Controls 4.0 UNITS**

This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.

### **ELC 118 National Electrical Code 2.0 UNITS**

This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC.

### **ELC 119 NEC Calculations 2.0 UNITS**

This course covers branch circuit, feeder, and service calculations. Emphasis is placed on sections of the National Electrical Code related to calculations. Upon completion, students should be able to use appropriate code sections to size wire, conduit, and overcurrent devices for branch circuits, feeders, and service.

### **ELC 121 Electrical Estimating 2.0 UNITS**

This course covers the principles involved in estimating electrical projects. Topics include take-offs of materials and equipment, labor, overhead, and profit. Upon completion, students should be able to estimate simple electrical projects.

### **ELC 131 Circuit Analysis I 4.0 UNITS**

This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

### **ELC 213 Instrumentation 4.0 UNITS**

This course covers the fundamentals of instrumentation used in industry. Emphasis is placed on electric, electronic, and other instruments. Upon completion, students should be able to install, maintain, and calibrate instrumentation.

## ELECTRONICS (ELN)

### ELN 131 Analog Electronics I 4.0 UNITS

This course introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog circuits using appropriate techniques and test equipment.

### ELN 132 Analog Electronics II 4.0 UNITS

This course covers additional applications of analog electronic circuits with an emphasis on analog and mixed signal integrated circuits (IC). Topics include amplification, filtering, oscillation, voltage regulation, and other analog circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog electronic circuits using appropriate techniques and test equipment.

### ELN 133 Digital Electronics 4.0 UNITS

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, medium scale integration (MSI) and large scale integration (LSI) circuits, analog to digital (AD) and digital to analog (DA) conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

### ELN 232 Introduction to Microprocessors 4.0 UNITS

This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include low-level language programming, bus architecture, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.

### ELN 234 Communication Systems 4.0 UNITS

This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment.

### ELN 236 Fiber Optics and Lasers 4.0 UNITS

This course introduces the fundamentals of fiber optics and lasers. Topics include the transmission of light; characteristics of fiber optic and lasers and their systems; fiber optic production; types of lasers; and laser safety. Upon completion, students should be able to understand fiber optic communications and basic laser fundamentals.

### ELN 260 Programmable Logic Controllers 4.0 UNITS

This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems. Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.

## EMERGENCY MEDICAL SCIENCE (EMS)

### EMS 110 EMT 9.0 UNITS

This course introduces basic emergency medical care. Topics include preparatory, airway, patient assessment, medical emergencies, trauma, infants and children, and operations. Upon completion, students should be able to demonstrate the knowledge and skills necessary to achieve North Carolina State or National Registry EMT certification.

### EMS 122 EMS Clinical Practicum I 1.0 UNIT

This course provides the introductory hospital clinical experience for the paramedic student. Emphasis is placed on mastering fundamental paramedic skills. Upon completion, students should be able to demonstrate competency with fundamental paramedic level skills.

### EMS 130 Pharmacology 4.0 UNITS

This course introduces the fundamental principles of pharmacology and medication administration and is required for paramedic certification. Topics

include medical terminology, pharmacological concepts, weights, measures, drug calculations, vascular access for fluids and medication administration and legislation. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology.

### EMS 131 Advanced Airway Management 2.0 UNITS

This course is designed to provide advanced airway management techniques and is required for paramedic certification. Topics must meet current guidelines for advanced airway management in the pre-hospital setting. Upon completion, students should be able to properly utilize all airway adjuncts and pharmacology associated with airway control and maintenance.

### EMS 160 Cardiology I 3.0 UNITS

This course introduces the study of cardiovascular emergencies and is required for paramedic certification. Topics include anatomy and physiology, pathophysiology, electrophysiology, and rhythm interpretation. Upon completion, students should be able to recognize and interpret rhythms.

### EMS 210 Advanced Patient Assessment 2.0 UNITS

This course covers advanced patient assessment techniques and is required for paramedic certification. Topics include initial assessment, medical-trauma history, field impression, complete physical exam process, on-going assessment, and documentation skills. Upon completion, students should be able to utilize basic communication skills and record and report collected patient data.

### EMS 220 Cardiology II 3.0 UNITS

This course provides an in-depth study of cardiovascular emergencies and is required for paramedic certification. Topics include assessment and treatment of cardiac emergencies, cardiac pharmacology, and patient care. Upon completion, students should be able to manage the cardiac patient.

### EMS 221 EMS Clinical Practicum II 2.0 UNITS

This course provides clinical experiences in the hospital and/or field. Emphasis is placed on increasing the proficiency of students' skills and abilities in patient assessments and the delivery of care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care.

### EMS 231 EMS Clinical Practicum III 3.0 UNITS

This course provides clinical experiences in the hospital and/or field. Emphasis is placed on enhancing the students' skills and abilities in providing advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care.

### EMS 235 EMS Management 2.0 UNITS

This course stresses the principles of managing a modern emergency medical service system. Topics include structure and function of municipal governments, EMS grantsmanship, finance, regulatory agencies, system management, legal issues, and other topics relevant to the EMS manager. Upon completion, students should be able to understand the principles of managing emergency medical service delivery systems.

### EMS 240 Patients With Special Challenges 2.0 UNITS

This course includes concepts of crisis intervention and techniques of interacting with patients with special challenges and is required for paramedic certification. Topics include appropriate intervention and interaction for neglected, abused, terminally ill, chronically ill, technology assisted, bariatric, physically challenged, mentally challenged, or assaulted patients as well as behavioral emergencies. Upon completion, students should be able to recognize and manage the care of patients with special challenges.

### EMS 241 EMS Clinical Practicum IV 4.0 UNITS

This course provides clinical experiences in the hospital and/or field. Emphasis is placed on mastering the skills/competencies required of the paramedic providing advanced-level care. Upon completion, students should be able to provide advanced-level patient care as an entry-level paramedic.

### EMS 250 Medical Emergencies 4.0 UNITS

This course provides an in-depth study of medical conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include appropriate interventions/treatments for disorders/diseases/injuries affecting the following systems: respiratory, neurological, abdominal/gastrointestinal, endocrine,



genitourinary, musculoskeletal, and immunological as well as toxicology, infectious diseases and diseases of the eyes, ears, nose and throat. Upon completion, students should be able to recognize, assess and manage the care of frequently encountered medical conditions based upon initial patient assessment.

### **EMS 260      Trauma Emergencies      2.0 UNITS**

This course provides in-depth study of trauma including pharmacological interventions for conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include an overview of thoracic, abdominal, genitourinary, orthopedic, neurological, and multi-system trauma, soft tissue trauma of the head, neck, and face as well as environmental emergencies. Upon completion, students should be able to recognize and manage trauma situations based upon patient assessment and should adhere to standards of care.

### **EMS 270      Life Span Emergencies      4.0 UNITS**

This course covers medical/ethical/legal issues and the spectrum of age-specific emergencies from conception through death required for paramedic certification. Topics include gynecological, obstetrical, neonatal, pediatric, and geriatric emergencies and pharmacological therapeutics. Upon completion, students should be able to recognize and treat age-specific emergencies.

### **EMS 280      EMS Bridging Course      3.0 UNITS**

This course is designed to provide currently credentialed state or national Paramedic students with the most current education trends in Paramedic Practice. Emphasis is placed on transitions in healthcare. Upon completion, students should be able to integrate emerging trends in pre-hospital care.

### **EMS 285      EMS Capstone      2.0 UNITS**

This course provides an opportunity to demonstrate problem-solving skills as a team leader in simulated patient scenarios and is required for paramedic certification. Emphasis is placed on critical thinking, integration of didactic and psychomotor skills, and effective performance in simulated emergency situations. Upon completion, students should be able to recognize and appropriately respond to a variety of EMS-related events.

## **ENGLISH (ENG)**

### **ENG 002      Transition English      3.0 UNITS**

This course provides an opportunity to customize foundational English content in specific areas and will include developing a growth mindset. Topics include developing the academic habits, learning strategies, social skills, and growth mindset necessary to be successful in college-level English. Upon completion, students should be able to build a stronger foundation for success in their gateway level English courses by obtaining skills through a variety of instructional strategies with emphasis placed on the most essential prerequisite knowledge.

### **ENG 011      Writing and Inquiry Support      2.0 UNITS**

This course is designed to support students in the development of skills necessary for success in ENG 111 by complementing, supporting, and reinforcing ENG 111 Student Learning Outcomes. Emphasis is placed on developing a growth mindset, expanding skills for use in active reading and writing processes, recognizing organizational relationships within texts from a variety of genres and formats, and employing appropriate technology when reading and composing texts. Upon completion, students should be able to apply active reading strategies to college-level texts and produce unified, well-developed writing using standard written English.

### **ENG 101      Applied Communications I      3.0 UNITS**

This course is designed to enhance reading and writing skills for the workplace. Emphasis is placed on technical reading, job-related vocabulary, sentence writing, punctuation, and spelling. Upon completion, students should be able to identify main ideas with supporting details and produce mechanically correct short writings appropriate to the workplace.

### **ENG 111      Writing and Inquiry      3.0 UNITS**

This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English.

### **ENG 112      Writing and Research in the Disciplines      3.0 UNITS**

This course, the second in a series of two, introduces research techniques, documentation styles, and writing strategies. Emphasis is placed on analyzing information and ideas and incorporating research findings into documented writing and research projects. Upon completion, students should be able to evaluate and synthesize information from primary and secondary sources using documentation appropriate to various disciplines.

### **ENG 114      Professional Research & Reporting      3.0 UNITS**

This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations.

### **ENG 125      Creative Writing I      3.0 UNITS**

This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing, fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others.

### **ENG 231      American Literature I      3.0 UNITS**

This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to analyze and interpret literary works in their historical and cultural contexts.

### **ENG 232      American Literature II      3.0 UNITS**

This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to analyze and interpret literary works in their historical and cultural contexts.

### **ENG 241      British Literature I      3.0 UNITS**

This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts.

### **ENG 242      British Literature II      3.0 UNITS**

This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts.

## **ENTREPRENEURSHIP (ETR)**

### **ETR 210      Introduction to Entrepreneurship      3.0 UNITS**

This course provides a survey of the starting and operating of an entrepreneurial venture. Topics include new venture creation, the business plan, economics of the business, determining resource needs and acquiring resources, marketing, technology, leadership skills, and business ethics. Upon completion, students should be able to demonstrate an understanding of entrepreneurship concepts and how to use the entrepreneurial mindset to succeed in their careers.

## **FRENCH (FRE)**

### **FRE 111      Elementary French I      3.0 UNITS**

This course introduces the fundamental elements of the French language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness.

### **FRE 112      Elementary French II      3.0 UNITS**

This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond

with increasing proficiency to spoken and written French and demonstrate further cultural awareness.

**FRE 181                      French Lab 1                      1.0 UNIT**  
This course provides an opportunity to enhance acquisition of the fundamental elements of the French language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness.

**FRE 182                      French Lab 2                      1.0 UNIT**  
This course provides an opportunity to enhance acquisition of the fundamental elements of the French language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate cultural awareness.

---

## **GRAPHIC ARTS (GRA)**

---

**GRA 121                      Graphic Arts I                      4.0 UNITS**  
This course introduces terminology, tools and materials, procedures, and equipment used in graphic arts production. Topics include copy preparation and pre-press production relative to printing. Upon completion, students should be able to demonstrate an understanding of graphic arts production.

---

## **GRAPHIC DESIGN (GRD)**

---

**GRD 110                      Typography I                      3.0 UNITS**  
This course introduces the history and mechanics of type and its application to layout and design. Topics include typographic fundamentals, anatomy, measurements, composition, identification, and terminology. Upon completion, students should be able to demonstrate proficiency in design application, analysis, specification, and creation of typographic elements.

**GRD 121                      Drawing Fundamentals I                      2.0 UNITS**  
This course increases observation skills using basic drawing techniques and media in graphic design. Emphasis is placed on developing the use of graphic design principles, media applications, spatial considerations, drawing styles, and approaches. Upon completion, students should be able to show competence and proficiency in finished works.

**GRD 131                      Illustration I                      3.0 UNITS**  
This course introduces the application of rendering techniques to create illustrations in traditional and/or digital media. Emphasis is placed on appropriate media selection and using various techniques and methods to solve design problems. Upon completion, students should be able to produce illustrations from conception through finished artwork.

**GRD 141                      Graphic Design I                      4.0 UNITS**  
This course introduces the conceptualization process used in visual problem solving. Emphasis is placed on learning the principles of design and on the manipulation and organization of elements. Upon completion, students should be able to apply design principles and visual elements to projects.

**GRD 142                      Graphic Design II                      4.0 UNITS**  
This course covers the application of visual elements and design principles in advertising and graphic design. Topics include creation of various designs, such as logos, advertisements, posters, outdoor advertising, and publication design. Upon completion, students should be able to effectively apply design principles and visual elements to projects.

**GRD 151                      Computer Design Basics                      3.0 UNITS**  
This course introduces software applications for graphic design. Emphasis is placed on utilizing digital tools to generate design solutions. Upon completion, students should be able to use industry-standard software as a creative tool.

**GRD 152                      Computer Design Technology                      3.0 UNITS**  
This course covers complex design problems utilizing various design and drawing software applications. Topics include the use of typography, image,

and organization to communicate a message. Upon completion, students should be able to use appropriate industry-standard software.

**GRD 241                      Graphic Design III                      4.0 UNITS**  
This course is an advanced exploration of various techniques and media for advertising and graphic design. Emphasis is placed on advanced concepts and solutions to complex and challenging graphic design problems. Upon completion, students should be able to demonstrate competence and professionalism in visual problem solving.

**GRD 280                      Portfolio Design                      4.0 UNITS**  
This course covers the organization and presentation of a design portfolio and appropriate related materials. Emphasis is placed on development and evaluation of the portfolio, resume and self-promotional materials, and interview techniques. Upon completion, students should be able to prepare and professionally present a portfolio and related self-promotional materials.

---

## **GERONTOLOGY (GRO)**

---

**GRO 120                      Intro to Gerontology                      3.0 UNITS**  
This course introduces the psychological, social, and biological aspects of aging. Emphasis is placed on common mental, social, and physical changes that occur during the aging process. Upon completion, students should be able to recognize the aging process and its psychological, social, and biological aspects.

---

## **HEALTH (HEA)**

---

**HEA 110                      Personal Health/Wellness                      3.0 UNITS**  
This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness.

---

## **HEAVY EQUIPMENT OPERATIONS (HEO)**

---

**HEO 111                      Heavy Equipment Operations I                      12.0 UNITS**  
This course covers the beginning processes of heavy equipment operations. Topics include heavy equipment operator employment options, heavy equipment safety, identification of heavy equipment, equipment systems and maintenance, and basic operational techniques. Upon completion, students should be able to demonstrate a basic understanding of heavy equipment operations utilized in the construction field.

**HEO 112                      Heavy Equipment Operations II                      12.0 UNITS**  
This course provides instruction regarding advanced operations of various construction equipment. Topics include purpose, function, design features, controls, manipulation, limitations, and safe operation of popular mobile heavy equipment. Upon completion, students should be able to demonstrate advanced operations of various heavy equipment found in the construction field.

**HEO 113                      Grades and Drawings                      3.0 UNITS**  
This course is designed to develop the knowledge and skills required to interpret construction drawings, civil blueprints, and grades. Topics include basic terms for construction drawings, dimensions, setting grades, interpreting grade stakes, reading site plans, safety, and legal issues. Upon completion, students should be able to demonstrate a general knowledge of civil blueprints, construction drawings and the theory behind finish grade selection.

---

## **HISTORY (HIS)**

---

**HIS 111                      World Civilizations I                      3.0 UNITS**  
This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco-Roman civilizations and Christian, Islamic and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations.

**HIS 112                      World Civilizations II                      3.0 UNITS**  
This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan,

and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations.

### **HIS 131 American History I 3.0 UNITS**

This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history.

### **HIS 132 American History II 3.0 UNITS**

This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major American wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War.

### **HIS 236 North Carolina History 3.0 UNITS**

This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina.

## **HEALTH SCIENCES (HSC)**

### **HSC 110 Orientation to Health Careers 1.0 UNIT**

This course is a survey of health care professions. Topics include professional duties and responsibilities, working environments, and career choices. Upon completion, students should be able to demonstrate an understanding of the health care professions and be prepared to make informed career choices.

## **HUMAN SERVICES (HSE)**

### **HSE 110 Introduction to Human Services 3.0 UNITS**

This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/professional characteristics, diverse populations, community resources, disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker.

### **HSE 112 Group Process I 2.0 UNITS**

This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by their interactions in group settings.

### **HSE 123 Interviewing Techniques for Hu 3.0 UNITS**

This course covers the purpose, structure, focus, and techniques utilized in effective interviewing. Emphasis is placed on observing, attending, listening, responding, summarizing, and documenting with instructor supervision. Upon completion, students should be able to perform the basic interviewing skills needed to facilitate the helping relationship.

### **HSE 125 Counseling 3.0 UNITS**

This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of self-exploration, problem solving, decision making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques.

### **HSE 210 Diversity, Ethics, and Trends 3.0 UNITS**

This course is designed to provide students with an in-depth understanding of the role of diversity and ethical considerations within the human services profession. Emphasis is placed on the knowledge and skills in the evolving landscape of human services. Upon completion, students should be able to apply ethical decision-making, demonstrate an understanding of diverse perspectives, and identify current trends in the human services field.

### **HSE 212 Group Dynamics 3.0 UNITS**

This course introduces the concepts of group processes and group dynamics. Emphasis is placed on essential tools for understanding, participating in, and contributing to group processes. Upon completion, students should be able to identify and explain how people are influenced by their interactions in group settings and facilitate various groups.

### **HSE 220 Case Management 3.0 UNITS**

This course covers a variety of tasks associated with professional case management. Topics include needs assessment, service planning, referral procedures, documentation, follow-up, and integration of services. Upon completion, students should be able to effectively manage the care of the whole person from initial contact through termination of services.

### **HSE 223 Counseling Theories & Skills 3.0 UNITS**

This course provides an in-depth exploration of foundational theories and practical techniques essential for those working in diverse human services settings. Emphasis is placed on self-awareness, problem-solving, decision-making, and personal growth. Upon completion, students should be able to apply these theories to real-life scenarios, and develop professional skills crucial for fostering supportive relationships in various settings.

### **HSE 225 Crisis and Intervention Princi 3.0 UNITS**

This course introduces the types of crises and the principles of intervention. Emphasis is placed on identifying culturally competent techniques for intervening in various crisis situations. Upon completion, students should be able to assess crisis situations and respond effectively.

### **HSE 227 Children & Adolescents in Crisis 3.0 UNITS**

This course covers the crises affecting children and adolescents in contemporary society. Emphasis is placed on abuse and neglect, suicide and murder, dysfunctional family living, poverty, and violence. Upon completion, students should be able to identify and discuss intervention strategies and available services for the major contemporary crises affecting children and adolescents.

## **HUMANITIES (HUM)**

### **HUM 110 Technology and Society 3.0 UNITS**

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology.

### **HUM 115 Critical Thinking 3.0 UNITS**

This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts.

### **HUM 122 Southern Culture 3.0 UNITS**

This course explores the major qualities that make the South a distinct region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture.

### **HUM 150 American Women's Studies 3.0 UNITS**

This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms.

### **HUM 180 International Cultural Exploration 3.0 UNITS**

This course provides a framework for students to visit, examine, and analyze a country/region outside the United States to learn about the place and people. Emphasis is placed on the distinctive cultural characteristics of a country or region. Upon completion, students should be able to identify similarities/differences, analyze causes/effects, and clearly articulate the impact of one or more cultural elements.

## HYDRAULICS (HYD)

### HYD 110      **Hydraulics/Pneumatics I**      **3.0 UNITS**

This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting.

## INTERNATIONAL BUSINESS (INT)

### INT 110      **International Business**      **3.0 UNITS**

This course provides an overview of the environment, concepts, and basic differences involved in international business. Topics include forms of foreign involvement, international trade theory, governmental influences on trade and strategies, international organizations, multinational corporations, personnel management, and international marketing. Upon completion, students should be able to describe the foundation of international business.

## INDUSTRIAL SCIENCE (ISC)

### ISC 112      **Industrial Safety**      **2.0 UNITS**

This course introduces the principles of industrial safety. Emphasis is placed on industrial safety and OSHA regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment and OSHA compliance.

### ISC 115      **Construction Safety**      **2.0 UNITS**

This course introduces the basic concepts of construction site safety. Topics include ladders, lifting, lock-out/tag-out, personal protective devices, scaffolds, and above/below ground work based on OSHA regulations. Upon completion, students should be able to demonstrate knowledge of applicable safety regulations and safely participate in construction projects.

### ISC 121      **Environmental Health & Safety**      **3.0 UNITS**

This course covers workplace environmental, health, and safety concepts. Emphasis is placed on managing the implementation and enforcement of environmental health and safety regulations and on preventing accidents, injuries, and illnesses. Upon completion, students should be able to demonstrate an understanding of basic concepts of environmental health and safety.

## MACHINING (MAC)

### MAC 121      **Introduction to CNC**      **2.0 UNITS**

This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.

### MAC 122      **CNC Turning**      **2.0 UNITS**

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.

### MAC 124      **CNC Milling**      **2.0 UNITS**

This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.

### MAC 131      **Blueprint Reading-Machining I**      **2.0 UNITS**

This course covers the basic principles of blueprint reading and sketching. Topics include multi-view drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches.

### MAC 141      **Machining Applications I**      **4.0 UNITS**

This course provides an introduction to a variety of material-working processes that are common to the machining industry. Topics include safety,

process-specific machining equipment, measurement devices, set-up and layout instruments, and common shop practices. Upon completion, students should be able to safely demonstrate basic machining operations, accurately measure components, and effectively use layout instruments.

### MAC 142      **Machining Applications II**      **4.0 UNITS**

This course provides instruction in the wide variety of processes associated with machining. Topics include safety, equipment set-up, holding fixtures, tooling, cutting speeds and depths, metal properties, and proper finishes. Upon completion, students should be able to safely demonstrate advanced machining operations, accurately measure components, and produce accurate components with a proper finish.

### MAC 143      **Machining Applications III**      **4.0 UNITS**

This course provides instruction in the field of advanced machining. Emphasis is placed on creating complex components, close-tolerance machining, precise measurement, and proper equipment usage. Upon completion, students should be able to demonstrate the ability to produce an accurately machined component with a quality finish using the proper machining process.

### MAC 152      **Advanced Machining Calculations**      **2.0 UNITS**

This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.

### MAC 161      **Metrology, Insp. & Testing I**      **3.0 UNITS**

This course covers techniques of metrology and inspection methods. Emphasis is placed on the use of inspection systems and measurement equipment for data collection and analysis to meet the quality assurance needs in manufacturing and production environments. Upon completion, students should be able to demonstrate competence in the care and use of various measurement tools and the implementation of a calibration program.

### MAC 162      **Metrology, Insp. & Testing II**      **2.0 UNITS**

This course provides in-depth mastery of measurement and inspection skills using advanced technologies. Topics include utilizing a coordinate measuring machine (CMM) and geometric dimensioning and tolerancing (GD&T) techniques. Upon completion, students should be able to utilize advanced metrology techniques and equipment to meet the quality assurance demands of industry.

### MAC 222      **Advanced CNC Turning**      **2.0 UNITS**

This course covers advanced methods in setup and operation of CNC turning centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC turning centers.

### MAC 224      **Advanced CNC Milling**      **2.0 UNITS**

This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.

### MAC 228      **Advanced CNC Processes**      **3.0 UNITS**

This course covers advanced programming, setup, and operation of CNC turning centers and CNC milling centers. Topics include advanced programming formats, control functions, program editing, and part production and inspection. Upon completion, students should be able to manufacture complex parts using CNC turning and milling centers.

### MAC 231      **CAM: Computer Numerical Control Turning**      **3.0 UNITS**

This course introduces Computer Numerical Control graphics programming and concepts for turning center applications. Emphasis is placed on the interaction of menus to develop a shape file in a graphics CAM system and to develop tool path geometry and part geometry. Upon completion, students should be able to develop a job plan using CAM software, including machine selection, tool selection, operational sequence, speed, feed, and cutting depth.



**MAC 232 CAM: Computer Numerical Control 3.0 UNITS**

This course introduces Computer Numerical Control graphics programming and concepts for machining center applications. Emphasis is placed on developing a shape file in a graphics CAM system and transferring coded information from CAM graphics to the CNC milling center. Upon completion, students should be able to develop a complete job plan using CAM software to create a multi-axis CNC program.

**MAC 241 Jigs & Fixtures I 4.0 UNITS**

This course introduces the application and use of jigs and fixtures. Emphasis is placed on design and manufacture of simple jigs and fixtures. Upon completion, students should be able to design and build simple jigs and fixtures.

**MATHEMATICS (MAT)****MAT 003 Transition Math 3.0 UNITS**

This course provides an opportunity to customize foundational math content in specific math areas and will include developing a growth mindset. Topics include developing the academic habits, learning strategies, social skills, and growth mindset necessary to be successful in mathematics. Upon completion, students should be able to build a stronger foundation for success in their gateway level math courses by obtaining skills through a variety of instructional strategies with emphasis placed on the most essential prerequisite knowledge.

**MAT 010 Math Measurement & Literacy Supplemental 1.0 UNIT**

This course provides an opportunity to customize foundational math content specific to Math Measurement & Literacy. Topics include developing the academic habits, learning strategies, social skills, and growth mindset necessary to be successful in mathematics. Upon completion, students should be able to build a stronger foundation for success in Math Measurement & Literacy by obtaining skills through a variety of instructional strategies with emphasis placed on the most essential prerequisite knowledge.

**MAT 043 Quantitative Literacy Support Class 2.0 UNITS**

This course provides an opportunity to customize foundational math content specific to Quantitative Literacy. Topics include developing the academic habits, learning strategies, social skills, and growth mindset necessary to be successful in mathematics. Upon completion, students should be able to build a stronger foundation for success in Quantitative Literacy by obtaining skills through a variety of instructional strategies with emphasis placed on the most essential prerequisite knowledge.

**MAT 052 Statistical Methods I Support 2.0 UNITS**

This course provides an opportunity to customize foundational math content specific to Statistical Methods I. Topics include developing the academic habits, learning strategies, social skills, and growth mindset necessary to be successful in mathematics. Upon completion, students should be able to build a stronger foundation for success in Statistical Methods I by obtaining skills through a variety of instructional strategies with emphasis placed on the most essential prerequisite knowledge.

**MAT 071 071 Precalculus Algebra Support 2.0 UNITS**

This course provides an opportunity to customize foundational math content specific to Precalculus Algebra. Topics include developing the academic habits, learning strategies, social skills, and growth mindset necessary to be successful in mathematics. Upon completion, students should be able to build a stronger foundation for success in Precalculus Algebra by obtaining skills through a variety of instructional strategies with emphasis placed on the most essential prerequisite knowledge.

**MAT 110 Mathematical Measurement and Literacy 3.0 UNITS**

This course provides an activity-based approach that develops measurement skills and mathematical literacy using technology to solve problems for non-math intensive programs. Topics include unit conversions and estimation within a variety of measurement systems; ratio and proportion; basic geometric concepts; financial literacy; and statistics including measures of central tendency, dispersion, and charting of data. Upon completion, students should be able to demonstrate the use of mathematics and technology to solve practical problems, and to analyze and communicate results.

**MAT 121 Algebra/Trigonometry I 3.0 UNITS**

This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include the properties of plane and solid geometry, area and volume, and basic proportion applications; simplification, evaluation, and solving of algebraic equations and inequalities and radical functions; complex numbers; right triangle trigonometry; and systems of equations. Upon completion, students will be able to demonstrate the ability to use mathematics and technology for problem-solving, analyzing and communicating results.

**MAT 143 Quantitative Literacy 3.0 UNITS**

This course is designed to engage students in complex and realistic situations involving the mathematical phenomena of quantity, change and relationship, and uncertainty through project- and activity-based assessment. Emphasis is placed on authentic contexts which will introduce the concepts of numeracy, proportional reasoning, dimensional analysis, rates of growth, personal finance, consumer statistics, practical probabilities, and mathematics for citizenship. Upon completion, students should be able to utilize quantitative information as consumers and to make personal, professional, and civic decisions by decoding, interpreting, using, and communicating quantitative information found in modern media and encountered in everyday life.

**MAT 152 Statistical Methods I 4.0 UNITS**

This course provides a project-based approach to introductory statistics with an emphasis on using real-world data and statistical literacy. Topics include descriptive statistics, correlation and regression, basic probability, discrete and continuous probability distributions, confidence intervals and hypothesis testing. Upon completion, students should be able to use appropriate technology to describe important characteristics of a data set, draw inferences about a population from sample data, and interpret and communicate results.

**MAT 171 Precalculus Algebra 4.0 UNITS**

This course is designed to develop topics which are fundamental to the study of Calculus. Emphasis is placed on solving equations and inequalities, solving systems of equations and inequalities, and analysis of functions (absolute value, radical, polynomial, rational, exponential, and logarithmic) in multiple representations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to algebra-related problems with and without technology.

**MAT 172 Precalculus Trigonometry 4.0 UNITS**

This course is designed to develop an understanding of topics which are fundamental to the study of Calculus. Emphasis is placed on the analysis of trigonometric functions in multiple representations, right and oblique triangles, vectors, polar coordinates, conic sections, and parametric equations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to trigonometry-related problems with and without technology.

**MAT 263 Brief Calculus 4.0 UNITS**

This course is designed to introduce concepts of differentiation and integration and their applications to solving problems. Topics include graphing, differentiation, and integration with emphasis on applications drawn from business, economics, and biological and behavioral sciences. Upon completion, students should be able to demonstrate an understanding of the use of basic calculus and technology to solve problems and to analyze and communicate results.

**MAT 271 Calculus I 4.0 UNITS**

This course is designed to develop the topics of differential and integral calculus. Emphasis is placed on limits, continuity, derivatives and integrals of algebraic and transcendental functions of one variable. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to derivative-related problems with and without technology.

**MECHANICAL (MEC)****MEC 130 Mechanisms 3.0 UNITS**

This course introduces the purpose and action of various mechanical devices. Topics include cams, cables, gear trains, differentials, screws, belts, pulleys, shafts, levers, lubricants, and other devices. Upon completion, students should be able to analyze, maintain, and troubleshoot the components of mechanical systems.

## MEDICAL ASSISTING (MED)

### MED 110 Orientation to Medical Assisting 1.0 UNIT

This course covers the history of medicine and the role of the medical assistant in the health care setting. Emphasis is placed on professionalism, communication, attitude, behaviors, and duties in the medical environment. Upon completion, students should be able to project a positive attitude and promote the profession of medical assisting.

### MED 112 Orientation to Clinic Setting I 1.0 UNIT

This course provides an early opportunity to observe and/or perform in the medical setting. Emphasis is placed on medical assisting procedures including appointment scheduling, filing, greeting patients, telephone techniques, billing, collections, medical records, and related medical procedures. Upon completion, students should be able to identify administrative and clinical procedures in the medical environment.

### MED 118 Medical Law and Ethics 2.0 UNITS

This course covers legal relationships of physicians and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent, and bioethical issues. Emphasis is placed on legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services. Upon completion, students should be able to meet the legal and ethical responsibilities of a multi-skilled health professional.

### MED 120 Survey of Medical Terminology 2.0 UNITS

This course introduces the vocabulary, abbreviations, and symbols used in the language of medicine. Emphasis is placed on building medical terms using prefixes, suffixes, and word roots. Upon completion, students should be able to pronounce, spell, and define accepted medical terms.

### MED 121 Medical Terminology I 3.0 UNITS

This course introduces prefixes, suffixes, and word roots used in the language of medicine. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

### MED 122 Medical Terminology II 3.0 UNITS

This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

### MED 130 Administrative Office Procedures I 2.0 UNITS

This course introduces medical office administrative procedures. Topics include appointment processing, written and oral communications, medical records, patient orientation, and safety. Upon completion, students should be able to perform basic administrative skills within the medical environment.

### MED 131 Administrative Office Procedures II 2.0 UNITS

This course provides medical office procedures in both economic and management skills. Topics include physical plant maintenance, equipment and supplies, liability coverage, medical economics, and introductory insurance procedures. Upon completion, students should be able to manage the economics of the medical office and supervise personnel.

### MED 140 Examining Room Procedures I 5.0 UNITS

This course provides instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with exams and treatment, patient education, preparation and administration of medications, EKG, vital signs, and medical emergencies. Upon completion, students should be able to demonstrate competence in exam room procedures.

### MED 150 Laboratory Procedures I 5.0 UNITS

This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting and processing specimens, performing selective tests, phlebotomy, screening and follow-up of test results, and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/skills based on course topics.

### MED 232 Medical Insurance Coding 2.0 UNITS

This course is designed to develop coding skills. Emphasis is placed on advanced diagnostic and procedural coding in the outpatient facility. Upon completion, students should be able to demonstrate proficiency in coding for reimbursement.

### MED 240 Examining Room Procedures II 5.0 UNITS

This course is designed to expand and build upon skills presented in MED 140. Emphasis is placed on advanced exam room procedures. Upon completion, students should be able to demonstrate enhanced competence in selected exam room procedures.

### MED 260 MED Clinical Practicum 5.0 UNITS

This course provides the opportunity to apply clinical, laboratory, and administrative skills in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as an entry-level health care professional.

### MED 264 Medical Assisting Overview 2.0 UNITS

This course provides an overview of the complete medical assisting curriculum. Emphasis is placed on all facets of medical assisting pertinent to administrative, laboratory, and clinical procedures performed in the medical environment. Upon completion, students should be able to demonstrate competence in the areas covered on the national certification examination for medical assistants.

### MED 270 Symptomatology 3.0 UNITS

This course covers the study of disease symptoms and the appropriate actions taken by medical assistants in a medical facility in relation to these symptoms. Emphasis is placed on interviewing skills and appropriate triage, preparing patients for procedures, and screening test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions.

### MED 272 Drug Therapy 3.0 UNITS

This course focuses on major drug groups, including their side effects, interactions, methods of administration, and proper documentation. Emphasis is placed on the theory of drug administration. Upon completion, students should be able to identify, spell, recognize side effects of, and document the most commonly used medications in a physician's office.

## MARKETING AND RETAILING (MKT)

### MKT 120 Principles of Marketing 3.0 UNITS

This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making.

## MUSIC (MUS)

### MUS 110 Music Appreciation 3.0 UNITS

This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music.

### MUS 112 Introduction to Jazz 3.0 UNITS

This course introduces the origins and musical components of jazz and the contributions of its major artists. Emphasis is placed on the development of discriminating listening habits, as well as the investigation of the styles and structural forms of the jazz idiom. Upon completion, students should be able to demonstrate skills in listening and understanding this form of American music.

### MUS 210 History of Rock Music 3.0 UNITS

This course is a survey of Rock music from the early 1950's to the present. Emphasis is placed on musical groups, soloists, and styles related to the evolution of this idiom and on related historical and social events. Upon completion, students should be able to identify specific styles and to explain the influence of selected performers within their respective eras.

## NURSING ASSISTANT (NAS)

### NAS 101 Nurse Aide I 6.0 UNITS

This course includes basic nursing skills required to provide safe, competent personal care for individuals. Emphasis is placed on person-centered care, the aging process, communication, safety/emergencies, infection prevention, legal and ethical issues, vital signs, height and weight measurements, elimination, nutrition, basic restorative care/rehabilitation, dementia, mental health and end-of-life care. Upon completion, students should be able to demonstrate knowledge and skills and be eligible to test for listing on the North Carolina Nurse Aide I Registry.

### NAS 102 Nurse Aide II 6.0 UNITS

This course provides training in Nurse Aide II tasks. Emphasis is placed on the role of the Nurse Aide II, sterile technique and specific tasks such as urinary catheterization, wound care, respiratory procedures, ostomy care, peripheral IV assistive activities, and alternative feeding methods. Upon completion, students should be able to demonstrate knowledge and skills and safe performance of skills necessary to be eligible for listing on the North Carolina Nurse Aide II Registry.

### NAS 106 Geriatric Aide 6.0 UNITS

This course is designed to enhance the knowledge of the Nurse Aide I providing care to the aging population. Emphasis is placed on the person-centered care, stress management, health promotion, dementia/challenging behaviors, mental health issues, and end-of-life/palliative care. Upon completion, students should be able to demonstrate knowledge and provide safe care for the aging population and are eligible to be listed on the North Carolina Geriatric Nurse Aide registry.

## NETWORKING TECHNOLOGY (NET)

### NET 125 Introduction to Networks 3.0 UNITS

This course introduces the architecture, structure, functions, components, and models of the Internet and computer networks. Topics include introduction to the principles of IP addressing and fundamentals of Ethernet concepts, media, and operations. Upon completion, students should be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

### NET 126 Switching and Routing 3.0 UNITS

This course covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Emphasis is placed on configuring and troubleshooting routers and switches for advanced functionality using security best practices and resolving common network issues utilizing both IPv4 and IPv6 protocols. Upon completion, students should be able to configure VLANs and Inter-VLAN routing applying security best practices, troubleshoot inter-VLAN routing on Layer 3 devices, configure redundancy on a switched network using STP and EtherChannel, configure WLANs using a WLC and L2 security best practices and configure IPv4 and IPv6 static routing on routers.

### NET 225 Enterprise Networking 3.0 UNITS

This course is designed to cover the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. Emphasis is placed on configuring, troubleshooting, and securing enterprise network devices and understanding how application programming interfaces (API) and configuration management tools enable network automation. Upon completion, students should be able to configure link state routing protocols, implement ACLs to filter traffic and secure administrative access, configure NAT services on the router to provide address scalability, explain techniques to provide address scalability and secure remote access for WAN, and explain how automation affects evolving networks.

## NETWORK OPERATING SYSTEMS (NOS)

### NOS 110 Operating Systems Concepts 3.0 UNITS

This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is placed on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems.

### NOS 120 Linux/UNIX Single User 3.0 UNITS

This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles.

### NOS 130 Windows Single User 3.0 UNITS

This course introduces operating system concepts for single-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating systems functions at the support level in a single-user environment.

### NOS 230 Windows Administration I 3.0 UNITS

This course covers the installation and configuration of a Windows Server operating system. Emphasis is placed on the basic configuration of core network services, Active Directory and group policies. Upon completion, students should be able to install and configure a Windows Server operating system.

### NOS 231 Windows Administration II 3.0 UNITS

This course covers the management of a Windows Server operating system. Emphasis is placed on the deployment of print services, network services, Active Directory, group policies and access controls. Upon completion, students should be able to deploy and manage services on a Windows Server operating system.

### NOS 232 Windows Administration III 3.0 UNITS

This course covers management and configuration of a highly available Windows Server operating system. Emphasis is placed on the implementation of business continuity and disaster recovery procedures for network services and access controls. Upon completion, students should be able to manage and configure a highly available Windows Server operating system.

## NURSING (NUR)

### NUR 101 Practical Nursing I 11.0 UNITS

This course introduces the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts within each domain including assessment, clinical decision making, professional behaviors, caring interventions, biophysical and psychosocial concepts, communication, collaboration, teaching/learning, safety, ethical principles, legal issues, informatics, and evidence-based practice. Upon completion, students should be able to provide safe nursing care across the lifespan incorporating the concepts identified in this course.

### NUR 102 Practical Nursing II 10.0 UNITS

This course is designed to further develop the concepts within the three domains of the individual, nursing, and healthcare. Emphasis is placed on the concepts within each domain including clinical decision making, caring interventions, biophysical and psychosocial concepts, communication, collaboration, teaching and learning, accountability, safety, informatics, and evidence-based practice. Upon completion, students should be able to provide safe nursing care across the lifespan incorporating the concepts identified in this course.

### NUR 103 Practical Nursing III 9.0 UNITS

This course is designed to assimilate the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on biophysical and psychosocial concepts, professional behaviors, healthcare systems, health policy, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide safe, quality, and individualized entry level nursing care.

### NUR 111 Introduction to Health Concepts 8.0 UNITS

This course introduces the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts within each domain including medication administration, assessment, nutrition, ethics, interdisciplinary teams, informatics, evidence-based practice, individual-centered care, and quality improvement. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.



**NUR 112 Health-Illness Concepts 5.0 UNITS**

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of acid-base, metabolism, cellular regulation, oxygenation, infection, stress/coping, health-wellness-illness, communication, caring interventions, managing care, safety, quality improvement, and informatics. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

**NUR 113 Family Health Concepts 5.0 UNITS**

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of oxygenation, sexuality, reproduction, grief/loss, mood/affect, behaviors, development, family, health-wellness-illness, communication, caring interventions, managing care, safety, and advocacy. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

**NUR 114 Holistic Health Concepts 5.0 UNITS**

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, inflammation, sensory perception, stress/coping, mood/affect, cognition, self, violence, health-wellness-illness, professional behaviors, caring interventions, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

**NUR 117 Pharmacology 2.0 UNITS**

This course introduces information concerning sources, effects, legalities, and the safe use of medications as therapeutic agents. Emphasis is placed on nursing responsibility, accountability, pharmacokinetics, routes of medication administration, contraindications and side effects. Upon completion, students should be able to compute dosages and administer medication safely.

**NUR 211 Health Care Concepts 5.0 UNITS**

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, infection, immunity, mobility, comfort, behaviors, health-wellness-illness, clinical decision-making, caring interventions, managing care, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

**NUR 212 Health System Concepts 5.0 UNITS**

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of grief/loss, violence, health-wellness-illness, collaboration, managing care, safety, advocacy, legal issues, policy, healthcare systems, ethics, accountability, and evidence-based practice. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

**NUR 213 Complex Health Concepts 10.0 UNITS**

This course is designed to assimilate the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, perfusion, mobility, stress/coping, violence, health-wellness-illness, professional behaviors, caring interventions, managing care, healthcare systems, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality, individualized, entry level nursing care.

**NUR 214 Nursing Transition Concepts 4.0 UNITS**

This course is designed to introduce concepts within the three domains of the individual, healthcare, and nursing as the LPN transitions to the ADN role. Emphasis is placed on the concepts within each domain including evidenced-based practice, quality improvement, communication, safety, interdisciplinary team, clinical decision-making, informatics, assessment, caring, and health-wellness-illness. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

**NUR 221 LPN to ADN Concepts I 9.0 UNITS**

This course is designed for the LPN to ADN student to explore the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of safety, perfusion, inflammation, oxygenation, mood/affect, behavior, development, family, health-wellness-illness, sensory perception, stress/coping, cognition, self, violence, and

professional behaviors. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

**NUR 223 LPN to ADN Concepts II 9.0 UNITS**

This course is designed for the LPN to ADN student to assimilate the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, thermoregulation, oxygenation, tissue integrity, infection, perfusion, mobility, reproduction, sexuality, health-wellness-illness, professional behaviors, accountability, advocacy, and collaboration. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality, individualized, entry-level nursing care.

## OFFICE SYSTEMS TECHNOLOGY (OST)

**OST 136 Word Processing 3.0 UNITS**

This course is designed to introduce word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment.

## PHYSICAL EDUCATION (PED)

**PED 110 Fit and Well for Life 2.0 UNITS**

This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests.

**PED 111 Physical Fitness I 1.0 UNIT**

This course provides an individualized approach to physical fitness utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program.

**PED 120 Walking for Fitness 1.0 UNIT**

This course introduces fitness through walking. Emphasis is placed on stretching, conditioning exercises, proper clothing, fluid needs, and injury prevention. Upon completion, students should be able to participate in a recreational walking program.

## PHILOSOPHY (PHI)

**PHI 215 Philosophical Issues 3.0 UNITS**

This course introduces fundamental issues in philosophy considering the views of classical and contemporary philosophers. Emphasis is placed on knowledge and belief, appearance and reality, determinism and free will, faith and reason, and justice and inequality. Upon completion, students should be able to identify, analyze, and critically evaluate the philosophical components of an issue.

**PHI 240 Introduction to Ethics 3.0 UNITS**

This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on moral theories such as consequentialism, deontology, and virtue ethics. Upon completion, students should be able to apply various ethical theories to moral issues such as abortion, capital punishment, poverty, war, terrorism, the treatment of animals, and issues arising from new technologies.

## PHYSICS (PHY)

**PHY 110A Conceptual Physics Lab 1.0 UNIT**

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110.

**PHY 110 Conceptual Physics 3.0 UNITS**

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts



of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied.

**PHY 151 College Physics I 4.0 UNITS**

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.

**PHY 152 College Physics II 4.0 UNITS**

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.

## PLUMBING (PLU)

**PLU 110 Modern Plumbing 9.0 UNITS**

This course introduces the tools, equipment, and materials associated with the plumbing industry. Topics include safety, use and care of tools, recognition and assembly of fittings and pipes, and other related topics. Upon completion, students should be able to safely assemble various pipes and fittings in accordance with state code requirements.

**PLU 111 Introduction to Basic Plumbing 2.0 UNITS**

This course introduces basic plumbing tools, materials, and fixtures. Topics include standard tools, materials, and fixtures used in basic plumbing systems and other related topics. Upon completion, students should be able to demonstrate an understanding of a basic plumbing system.

**PLU 115 Basic Plumbing 4.0 UNITS**

This course covers the basic installation and maintenance of plumbing systems and components. Topics include safe use of tools, implementation of standard practices, and installation/maintenance of piping, fittings, valves, appliances and fixtures used in plumbed systems. Upon completion, students should be able to install/maintain basic plumbing systems, components, appliances, and fixtures through appropriate use of plumbing tools and standard practices.

**PLU 124 Plumbing Business Operations 2.0 UNITS**

This course introduces plumbing contractor and plumbing business regulations and success strategies. Topics include plumbing business organization, structure, operations, bonds and insurance, municipal and state licensure requirements, state examinations, ethical and legal issues, and best practices for ensuring successful plumbing business operations. Upon completion, students should be able to demonstrate how to develop and sustain a successful plumbing business.

**PLU 130 Plumbing Systems 6.0 UNITS**

This course covers the maintenance and repair of plumbing lines and fixtures. Emphasis is placed on identifying and diagnosing problems related to water, drain and vent lines, water heaters, and plumbing fixtures. Upon completion, students should be able to identify and diagnose needed repairs to the plumbing system.

**PLU 140 Introduction to Plumbing Codes 2.0 UNITS**

This course covers plumbing industry codes and regulations. Emphasis is placed on North Carolina regulations and the minimum requirements for plumbing materials and design. Upon completion, students should be able to research and interpret North Carolina plumbing codes.

**PLU 160 Plumbing Estimates 2.0 UNITS**

This course covers techniques for estimating quantities of materials and cost of installation for various types of plumbing systems. Topics include design of systems, codes, material take-offs, pricing, and public relations. Upon completion, students should be able to order materials needed for installation from a designed system.

**PLU 211 Commercial/Ind Plumbing 3.0 UNITS**

This course covers the installation of various commercial and industrial piping. Topics include piping in steam, gas, air, fire sprinklers, and other related topics. Upon completion, students should be able to select and install various piping systems for a variety of applications.

## PROJECT MANAGEMENT TECHNOLOGY (PMT)

**PMT 110 Introduction to Project Management 3.0 UNITS**

This course introduces project management fundamentals and principles for organizing, planning, implementing, and controlling nonroutine activities to achieve schedule, budget and performance objectives. Topics include project life cycles; work breakdown structures; responsibility matrixes; as well as planning and control methods such as PERT/CPM and Gantt charts. Upon completion, students should be able to demonstrate knowledge, strategies, and techniques needed to create and execute plans for project development and management.

## POLITICAL SCIENCE (POL)

**POL 120 American Government 3.0 UNITS**

This course is a study of the origins, development, structure, and functions of American government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy process. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system.

**POL 220 International Relations 3.0 UNITS**

This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, non-governmental organizations, and international institutions such as the World Court and UN. Upon completion, students should be able to identify and discuss major international relationships, institutions, and problems.

## PSYCHOLOGY (PSY)

**PSY 118 Interpersonal Psychology 3.0 UNITS**

This course introduces the basic principles of psychology as they relate to personal and professional development. Emphasis is placed on personality traits, communication/leadership styles, effective problem solving, and cultural diversity as they apply to personal and work environments. Upon completion, students should be able to demonstrate an understanding of these principles of psychology as they apply to personal and professional development.

**PSY 150 General Psychology 3.0 UNITS**

This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology.

**PSY 231 Forensic Psychology 3.0 UNITS**

This course introduces students to concepts which unite psychology and the legal system. Topics include defining competency, insanity, involuntary commitment, as well as introducing forensic assessment techniques, such as interviewing process, specialized assessments, and collecting collateral information. Upon completion, students should be able to demonstrate knowledge in areas of forensic psychology: risk assessment, criminal competencies, insanity, psychopathology, and mentally disordered offenders.

**PSY 237 Social Psychology 3.0 UNITS**

This course introduces the study of individual behavior within social contexts. Topics include affiliation, attitude formation and change, conformity, altruism, aggression, attribution, interpersonal attraction, and group behavior. Upon completion, students should be able to demonstrate an understanding of the basic principles of social influences on behavior.

**PSY 241 Developmental Psychology 3.0 UNITS**

This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to

death. Upon completion, students should be able to demonstrate knowledge of development across the life span.

**PSY 263 Educational Psychology 3.0 UNITS**  
This course examines the application of psychological theories and principles to the educational process and setting. Topics include learning and cognitive theories, achievement motivation, teaching and learning styles, teacher and learner roles, assessment, and developmental issues. Upon completion, students should be able to demonstrate an understanding of the application of psychological theory to educational practice.

**PSY 281 Abnormal Psychology 3.0 UNITS**  
This course provides an examination of the various psychological disorders, as well as theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on terminology, classification, etiology, assessment, and treatment of the major disorders. Upon completion, students should be able to distinguish between normal and abnormal behavior patterns as well as demonstrate knowledge of etiology, symptoms, and therapeutic techniques.

## RADIOGRAPHY (RAD)

**RAD 110 Radiography Introduction & Patient Care 3.0 UNITS**  
This course provides an overview of the radiography profession and student responsibilities. Emphasis is placed on basic principles of patient care, radiation protection, technical factors, and medical terminology. Upon completion, students should be able to demonstrate basic skills in these areas.

**RAD 111 RAD Procedures I 4.0 UNITS**  
This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the chest, abdomen, extremities, bony thorax and pelvis. Upon completion, students should be able to demonstrate competence in these areas.

**RAD 112 RAD Procedures II 4.0 UNITS**  
This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the skull, spine, and gastrointestinal, biliary, and urinary systems. Upon completion, students should be able to demonstrate competence in these areas.

**RAD 121 Image Production I 3.0 UNITS**  
This course provides the basic principles of radiographic image production. Emphasis is placed on image production, x-ray equipment, receptor exposure, and basic imaging quality factors. Upon completion, students should be able to demonstrate an understanding of basic principles of radiographic image production.

**RAD 122 Image Production II 2.0 UNITS**  
This course is designed to continue to develop the concepts and principles in the field of radiologic technology. Emphasis is placed on advanced digital principles and production. Upon completion, students should be able to demonstrate an understanding of advanced principles of digital imaging production.

**RAD 141 Radiation Safety 2.0 UNITS**  
This course covers the principles of radiation protection and radiobiology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Upon completion, students should be able to demonstrate an understanding of the effects and uses of radiation in diagnostic radiology.

**RAD 151 RAD Clinical Ed I 2.0 UNITS**  
This course introduces patient management and basic radiographic procedures in the clinical setting. Emphasis is placed on mastering positioning of the chest and extremities, manipulating equipment, and applying principles of ALARA. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

**RAD 161 RAD Clinical Ed II 5.0 UNITS**  
This course provides additional experience in patient management and in more complex radiographic procedures. Emphasis is placed on mastering positioning of the spine, pelvis, head and neck, and thorax and adapting

procedures to meet patient variations. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

**RAD 171 RAD Clinical Ed III 3.0 UNITS**  
This course provides experience in patient management specific to advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and transitioning to mastering positioning of advanced studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

**RAD 211 Radiographic Procedures III 3.0 UNITS**  
This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, advanced imaging, radiographic pathology and image analysis. Upon completion, students should be able to demonstrate an understanding of these areas.

**RAD 231 Image Production III 2.0 UNITS**  
This course is designed to continue to develop the concepts and principles in the field of radiologic technology. Emphasis is placed on complex imaging production and principles, quality control and quality assurance in the imaging sciences. Upon completion, students should be able to demonstrate an understanding of advanced radiographic equipment and quality control programs.

**RAD 251 RAD Clinical Ed IV 7.0 UNITS**  
This course provides the opportunity to continue mastering all basic radiographic procedures and to attain experience in advanced areas. Emphasis is placed on equipment operation, pathological recognition, pediatric and geriatric variations, and further awareness of radiation protection requirements. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

**RAD 261 Radiographic Clinical Education V 7.0 UNITS**  
This course is designed to enhance expertise in all radiographic procedures, patient management, radiation protection, and image production and evaluation. Emphasis is placed on developing an autonomous approach to the diversity of clinical situations and successfully adapting to those procedures. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

**RAD 271 Radiography Capstone 3.0 UNITS**  
This course provides an opportunity to exhibit problem-solving skills required for certification. Emphasis is placed on critical thinking and integration of didactic and clinical components. Upon completion, students should be able to demonstrate the knowledge required of an entry-level radiographer.

## RESPIRATORY CARE (RCP)

**RCP 110 Introduction to Respiratory Care 4.0 UNITS**  
This course introduces the role of the respiratory care practitioner within interprofessional teams and interacting with diverse populations. Topics include medical gas administration, basic patient assessment, infection control, and medical terminology using proper written and oral communication methods to prepare students for clinical practice. Upon completion, students should be able to demonstrate competence in respiratory therapy concepts and procedures through written and laboratory evaluations.

**RCP 111 Therapeutics/Diagnostics 5.0 UNITS**  
This course provides emphasis on therapeutic and diagnostic procedures. Topics include applying problem solving strategies in the patient care setting, applying ethical principles in decision making, and practicing professional responsibilities, which will prepare students for clinical practice. Upon completion, students should be able to demonstrate competence in respiratory therapy concepts and procedures through written and laboratory evaluations.

**RCP 112 Patient Management 4.0 UNITS**  
This course provides entry-level skills in respiratory care procedures in acute and non-acute care settings. Emphasis is placed on therapeutic modalities and physiological effects, monitoring mechanical ventilation, and problem-solving strategies based on evidence-based medicine protocols and clinical practice guidelines. Upon completion, students should be able to demonstrate competence in respiratory therapy concepts and procedures through written and laboratory evaluations.

**RCP 113 RCP Pharmacology 2.0 UNITS**

This course covers the drugs used in the treatment of cardiopulmonary diseases. Emphasis is placed on the uses, actions, indications, administration, and hazards of pharmacological agents. Upon completion, students should be able to demonstrate competence through written evaluations.

**RCP 114 C-P Anatomy & Physiology 3.0 UNITS**

This course provides a concentrated study of cardiopulmonary anatomy and physiology essential to the practice of respiratory care. Emphasis is placed on cardiovascular and pulmonary physiology, acid/base balance, and blood gas interpretation. Upon completion, students should be able to demonstrate competence in these concepts through written evaluation.

**RCP 115 C-P Pathophysiology 2.0 UNITS**

This course introduces the etiology, pathophysiology, clinical signs and symptoms, diagnoses, prognoses, complications, and management of cardiopulmonary diseases. Emphasis is placed on developing, evaluating, and modifying respiratory care plans based on evidence-based medicine protocols and clinical practice guidelines. Upon completion, students should be able to demonstrate competence in cardio-pulmonary disease concepts through written evaluations.

**RCP 123 Special Practice Lab 1.0 UNIT**

This course provides additional laboratory learning opportunities in respiratory care. Emphasis is placed on therapeutic procedures and equipment management. Upon completion, students should be able to demonstrate competence in concepts and procedures through laboratory evaluations.

**RCP 132 RCP Clinical Practice I 2.0 UNITS**

This course provides entry-level clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 142 RCP Clinical Practice II 2.0 UNITS**

This course provides entry-level clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 144 RCP Clinical Practice II 4.0 UNITS**

This course provides entry-level clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 145 RCP Clinical Practice II 5.0 UNITS**

This course provides entry-level clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 152 RCP Clinical Practice III 2.0 UNITS**

This course provides entry-level clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 154 RCP Clinical Practice III 4.0 UNITS**

This course provides entry-level clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 210 Critical Care Concepts 4.0 UNITS**

This course provides further refinement of acute patient care and underlying pathophysiology. Topics include a continuation in the application and management of mechanical ventilation, assessment underlying pathophysiology, and introduction of critical care monitoring. Upon completion, students should be able to demonstrate competence in respiratory therapy concepts and procedures through written, laboratory and/or clinical simulation evaluations.

**RCP 211 Advanced Monitoring/Procedures 4.0 UNITS**

This course includes advanced information gathering and decision making for the respiratory care professional using evidence-based respiratory care protocols. Topics include advanced cardiac monitoring, special procedures, respiratory care protocols, and disease management. Upon completion, students should be able to assess, recommend, and independently modify respiratory care protocols through written, laboratory and/or clinical simulation evaluations.

**RCP 213 Neonatal/Ped's Concepts 2.0 UNITS**

This course provides comprehensive coverage of the concepts of neonatal and pediatric respiratory care. Emphasis is placed on pathophysiology, patient assessment and special therapeutic needs of neonates and children based on evidence-based medicine protocols and clinical practice guidelines. Upon completion, students should be able to demonstrate competence in the neonatal and pediatric respiratory care concepts through written evaluations.

**RCP 215 Career Preparation 1.0 UNIT**

This course provides an overview of respiratory therapy concepts in preparation for credentialing exam. Emphasis is placed on registry preparation. Upon completion, students should be able to demonstrate a comprehensive knowledge of respiratory therapy and be prepared for successful completion of the credentialing process.

**RCP 222 Special Practice Lab 1.0 UNIT**

This course provides additional laboratory learning opportunities in respiratory care. Emphasis is placed on therapeutic procedures and equipment management. Upon completion, students should be able to demonstrate competence in concepts and procedures through laboratory evaluations.

**RCP 234 RCP Clinical Practice IV 4.0 UNITS**

This course provides advanced practitioner clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 245 RCP Clinical Practice V 5.0 UNITS**

This course provides advanced practitioner clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RCP 246 RCP Clinical Practice V 6.0 UNITS**

This course provides advanced practitioner clinical experience. Emphasis is placed on therapeutic and diagnostic patient care. Upon completion, students should be able to demonstrate clinical competence in required performance evaluations.

**RELIGION (REL)****REL 110 World Religions 3.0 UNITS**

This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied.

**REL 211 Introduction to Old Testament 3.0 UNITS**

This course is a survey of the literature of the Hebrews with readings from the law, prophets, and other writings. Emphasis is placed on the use of literary, historical, archeological, and cultural analysis. Upon completion, students should be able to use the tools of critical analysis to read and understand Old Testament literature.

**REL 212 Introduction to New Testament 3.0 UNITS**

This course is a survey of the literature of first-century Christianity with readings from the gospels, Acts, and the Pauline and pastoral letters. Topics include the literary structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community. Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature.

**REL 221 Religion in America 3.0 UNITS**

This course is an examination of religious beliefs and practice in the United States. Emphasis is placed on mainstream religious traditions and non-

traditional religious movements from the Colonial period to the present. Upon completion, students should be able to recognize and appreciate the diversity of religious traditions in America.

## SUBSTANCE ABUSE (SAB)

### SAB 110 Intro to Addiction & Recovery 3.0 UNITS

This course provides an overview of the core concepts in addiction and recovery. Topics include the history of substance use, effects on society members, treatment of addiction, and preventive measures. Upon completion, students should be able to demonstrate knowledge of the origins of substance use, addiction, prevention, treatment, and recovery.

### SAB 120 Intake and Assessment 3.0 UNITS

This course develops processes for establishment of client rapport, elicitation of client information on which therapeutic activities are based, and stimulation of client introspection. Topics include diagnostic criteria, functions of counseling, nonverbal behavior, collaterals and significant others, dual diagnosis, client strengths and weakness, uncooperative clients, and crisis interventions. Upon completion, students should be able to establish communication with clients, recognize disorders, obtain information for counseling, and terminate the counseling process.

### SAB 125 Substance Abuse Case Management 3.0 UNITS

This course provides case management activities, including record keeping, recovery issues, community resources, and continuum of care. Emphasis is placed on establishing a systematic approach to monitor the treatment plan and maintain quality of life. Upon completion, students should be able to assist clients in the continuum of care as an ongoing recovery process and develop agency networking.

### SAB 135 Addictive Process 3.0 UNITS

This course covers the physical, emotional, psychological, and cultural aspects of the addictive process. Emphasis is placed on disorders related to addictions to alcohol, drugs, food, sex, work, gambling, internet, and relationships. Upon completion, students should be able to identify the effects, prevention strategies, and treatment methods associated with addictive disorders.

### SAB 137 Co-Dependency 3.0 UNITS

This course introduces the adult child concept and co-dependency as syndromes of the addictive process. Emphasis is placed on treatment and recovery within the context of a paradigm shift which allows the individual to choose a healthy model of life. Upon completion, students should be able to assess levels of co-dependency and associated levels of physical and mental health and develop strategies to enhance health.

### SAB 210 Addiction & Recovery Counseling 3.0 UNITS

This course provides theory and skills acquisition by utilizing intervention strategies designed to obtain therapeutic information, support recovery, and prevent relapse. Topics include counseling individuals and dysfunctional families, screening instruments, counseling techniques and approaches, recovery and relapse, and special populations. Upon completion, students should be able to discuss issues critical to recovery, identify intervention models, and initiate a procedure culminating in cognitive/behavioral change.

### SAB 240 Diversity, Ethics, & Trends in 3.0 UNITS

This course introduces systems of diversity, ethics, and trends in addiction and recovery. Topics include confidentiality, assessment of personal values, professional responsibilities, competencies, and ethics relative to multicultural service provision. Upon completion, students should be able to apply and discuss multiple diversity and ethical scenarios applicable to addiction and recovery services.

## INFORMATION SYSTEMS SECURITY (SEC)

### SEC 110 Security Concepts 3.0 UNITS

This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy.

### SEC 160 Security Administration I 3.0 UNITS

This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion, students should be able to identify normal network traffic using network analysis tools and design basic security defenses.

## SIMULATION & GAME DEVELOPMENT (SGD)

### SGD 111 Introduction to Simulation and Game 3.0 UNITS

This course provides students with an introduction to simulation and game development. Topics include setting, storytelling, narrative, character design, interface design, game play, internal economy, core mechanics, game genres, AI, the psychology of game design and professionalism. Upon completion, students should be able to demonstrate knowledge of the major aspects of simulation and game design and development.

### SGD 112 SGD Design I 3.0 UNITS

This course introduces the fundamentals of simulation and game design. Topics include industry standards and design elements for simulation and games. Upon completion, students should be able to design simple simulations and/or games.

### SGD 114 SGD 3D Modeling I 3.0 UNITS

This course introduces the tools required to create three-dimensional (3D) models. Emphasis is placed on exploring tools used to create 3D models. Upon completion, students should be able to create and animate 3D models using 3D modeling tools.

### SGD 116 SGD Graphic Design Tools 3.0 UNITS

This course introduces students to computer-based graphic design tools and their use within the context of simulation and game design. Topics include texture creation, map creation, and introduction to advanced level graphic design techniques. Upon completion, students should be able to competently use and explain industry-standard graphic design software.

### SGD 161 SGD 2D Animation 3.0 UNITS

This course introduces the fundamental principles of animation used in simulation and game development. Emphasis is placed on historical survey of animation, aspects of the animation process and animation techniques. Upon completion, students should be able to produce character sketches, morph simple objects, create walk and run cycles and develop professional storyboards.

### SGD 162 SGD 3D Animation I 3.0 UNITS

This course introduces the fundamental principles of 3D animation used in simulation and game development. Emphasis is placed on a historical survey of 3D animation, aspects of the 3D animation techniques. Upon completion, students should be able to produce 3D character sketches, morph simple objects, create walk and run cycles and develop professional storyboards.

### SGD 165 SGD Character Development 3.0 UNITS

This course introduces the concepts needed to create fictional personalities for use in digital videos, animations, simulations, and games. Topics include aspects of character, developing backgrounds, mannerisms, and voice. Upon completion, students should be able to develop characters and backgrounds for simulations and games.

### SGD 212 Simulation and Game Development 3.0 UNITS

This course covers the advanced principles of simulation and game design. Topics include advanced design concepts in simulation and game development. Upon completion, students should be able to design an advanced simulation or game.

### SGD 214 SGD 3D Modeling II 3.0 UNITS

This course introduces the tools used to create and animate advanced 3-dimensional models. Emphasis is placed on identifying and utilizing the tools required to create and animate advanced 3D models. Upon completion, students should be able to create and animate advanced 3D models using 3D modeling tools.

### SGD 244 SGD 3D Modeling III 3.0 UNITS

This course is designed to further a student's knowledge in creating visually compelling 3D models through the use of industry-standard software.



Emphasis is placed on learning how to develop accurate textures and normal maps. Upon completion, students should be able to develop industry-caliber 3D models.

### **SGD 289      Simulation and Game Development      3.0 UNITS**

This course provides students with the opportunity to create a functional simulation or game with minimal instructor support. Emphasis is placed upon verbal and written communication, skill documentation, professional presentation and user training. Upon completion, students should be able to create and professionally present a fully functional simulation or game.

## **SOCIOLOGY (SOC)**

### **SOC 210      Introduction to Sociology      3.0 UNITS**

This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies.

### **SOC 213      Sociology of the Family      3.0 UNITS**

This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse lifestyles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change.

### **SOC 220      Social Problems      3.0 UNITS**

This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems.

### **SOC 225      Social Diversity      3.0 UNITS**

This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance.

### **SOC 232      Social Context of Aging      3.0 UNITS**

This course provides an overview of the social implications of the aging process. Emphasis is placed on the roles of older adults within families, work and economics, politics, religion, education, and health care. Upon completion, students should be able to identify and analyze changing perceptions, diverse lifestyles, and social and cultural realities of older adults.

## **SPANISH (SPA)**

### **SPA 111      Elementary Spanish I      3.0 UNITS**

This course introduces the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness.

### **SPA 112      Elementary Spanish II      3.0 UNITS**

This course is a continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate further cultural awareness.

### **SPA 181      Spanish Lab 1      1.0 UNIT**

This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond

with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness.

### **SPA 182      Spanish Lab 2      1.0 UNIT**

This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate cultural awareness.

## **SUSTAINABILITY TECHNOLOGIES (SST)**

### **SST 140      Green Building and Design Conc      3.0 UNITS**

This course is designed to introduce the student to sustainable building design and construction principles and practices. Topics include sustainable building rating systems and certifications, energy efficiency, indoor environmental quality, sustainable building materials and water use. Upon completion, students should be able to identify the principles and practices of sustainable building design and construction.

## **SOCIAL WORK (SWK)**

### **SWK 110      Introduction to Social Work      3.0 UNITS**

This course examines the historical development, values, orientation, and professional standards of social work and focuses on the terminology and broader systems of social welfare. Emphasis is placed on the various fields of practice including those agencies whose primary function is financial assistance, corrections, mental and behavioral health, and protective services. Upon completion, students should be able to demonstrate an understanding of the knowledge, values, and skills of the social work professional.

### **SWK 113      Working With Diversity      3.0 UNITS**

This course examines and promotes understanding, sensitivity, awareness, and knowledge of human diversity. Emphasis is placed on professional responsibilities, duties, and skills critical to multicultural human services practice. Upon completion, students should be able to integrate and expand knowledge, skills, and cultural awareness relevant to diverse populations.

## **TRANSPORTATION TECHNOLOGY (TRN)**

### **TRN 110      Introduction to Transport Technology      2.0 UNITS**

This course covers workplace safety, hazardous materials, environmental regulations, hand tools, service information, basic concepts, vehicle systems, and common transportation industry terminology. Topics include familiarization with major vehicle systems, proper use of various hand and power tools, material safety data sheets, and personal protective equipment. Upon completion, students should be able to demonstrate appropriate safety procedures, identify and use basic shop tools, and describe government regulations regarding transportation repair facilities.

### **TRN 180      Basic Welding for Transportation      3.0 UNITS**

This course covers the terms and procedures for welding various metals used in the transportation industry with an emphasis on personal safety and environmental health. Topics include safety and precautionary measures, setup/operation of MIG equipment, metal identification methods, types of welds/joints, techniques, inspection methods, cutting processes and other related issues. Upon completion, students should be able to demonstrate a basic knowledge of welding operations and safety procedures according to industry standard

## **WORK-BASED LEARNING (WBL)**

### **WBL 110A      World of Work Lab      1.0 UNIT**

This course provides a laboratory experience that covers the knowledge necessary for gaining and maintaining employment. Topics include job search and job interview skills, employment expectations, and employment preparation. Upon completion, students should be able to demonstrate how to successfully make the transition from postsecondary education to work.

### **WBL 110      World of Work      1.0 UNIT**

This course covers basic knowledge necessary for gaining and maintaining employment. Topics include job search skills, work ethic, meeting employer

expectations, workplace safety, and human relations. Upon completion, students should be able to successfully make the transition from school to work.

**WBL 111      Work-Based Learning I      1.0 UNIT**

This course provides a work-based learning experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

**WBL 112      Work-Based Learning I      2.0 UNITS**

This course provides a work-based learning experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

**WBL 115      Work-Based Learning Seminar I      1.0 UNIT**

This course provides a work-based learning experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

---

**WEB TECHNOLOGIES (WEB)**

**WEB 110      Web Development Fundamentals      3.0 UNITS**

This course introduces World Wide Web Consortium (W3C) standard markup language. Topics include creating web pages, responsive design, file transfer, deployment, accessibility, and other related W3C topics. Upon completion, students should be able to deploy a hand-coded website created using the HyperText Markup Language (HTML) and Cascading Style Sheet (CSS) standards.

**WEB 111      Introduction to Web Graphics      3.0 UNITS**

This course introduces the creation of web graphics, and addressing problems peculiar to WWW display using appropriate software. Topics include web graphics file types, optimization, RGB color, web typography, elementary special effects, transparency, animation, slicing, basic photo manipulation, and other related topics. Upon completion, students should be able to create graphics, such as animated banners, buttons, backgrounds, logos, and manipulate photographic images for Web delivery.

---

**WELDING (WLD)**

**WLD 110      Cutting Processes      2.0 UNITS**

This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.

**WLD 115      SMAW (Stick) Plate      5.0 UNITS**

This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.

**WLD 116      SMAW (stick) Plate/Pipe      4.0 UNITS**

This course is designed to enhance skills with the shielded metal arc (stick) welding process. Emphasis is placed on advancing manipulative skills with SMAW electrodes on varying joint geometry. Upon completion, students should be able to perform groove welds on carbon steel with prescribed electrodes in the flat, horizontal, vertical, and overhead positions.

**WLD 121      GMAW (MIG) FCAW/Plate      4.0 UNITS**

This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions.

**WLD 131      GTAW (TIG) Plate      4.0 UNITS**

This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.

**WLD 132      GTAW (TIG) Plate/Pipe      3.0 UNITS**

This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry.

**WLD 141      Symbols and Specifications      3.0 UNITS**

This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding.

**WLD 151      Fabrication I      4.0 UNITS**

This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, cutting, joining techniques, and the use of fabrication tools and equipment. Upon completion, students should be able to perform layout activities and operate various fabrication and material handling equipment.

**WLD 265      Automated Welding/Cutting      4.0 UNITS**

This course introduces automated welding equipment and processes. Topics include setup, programming, and operation of automated welding and cutting equipment. Upon completion, students should be able to set up, program, and operate automated welding and cutting equipment.