

Course content for technical, vocational, and certificate level courses is outlined in the course descriptions to follow. All courses are alphabetized by course code. **All courses are to be pursued in a normal sequence with prerequisite courses taken as indicated.** Provided for each course is the following information: course number and title, and number of class, laboratory, clinical/shop/work experience (if any), and credit hours.

■ ACC - Accounting

ACC 120 Principles of Financial Accounting 3 2 4

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement premajor and/or elective course requirement.*

ACC 121 Principles of Managerial Accounting 3 2 4

This course is a continuation of accounting principles. 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement premajor and/or elective course requirement.* **Prerequisite: ACC 120.**

ACC 131 Federal Income Taxes 2 2 3

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 of technology for the preparation of individual and business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete federal tax returns for individuals, partnerships, and corporations.

ACC 140 Payroll Accounting 1 2 2

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.

Prerequisite: ACC 115 or ACC 120.

ACC 220 Intermediate Accounting I 3 2 4

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 analyses of financial statements. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards. **Prerequisite: ACC 121.**

ACC 221 Intermediate Accounting II 3 2 4

This course is a continuation of ACC 220. Emphasis is placed on special problems which may include leases, bonds, investments, ratio analyses, present value applications, accounting changes, and corrections. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

Prerequisite: ACC 220.

ACC 225 Cost Accounting 3 0 3

This course introduces the nature and purposes of cost accounting as an information system for planning and control. Topics include direct materials, direct labor, factory overhead, process, job order, and standard cost systems. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. **Prerequisite: ACC 121.**

ACC 240 Governmental & Not-for-Profit Accounting 3 0 3
 This course introduces principles and procedures applicable to governmental and not-for-profit organizations. Emphasis is placed on various budgetary accounting procedures and fund accounting. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. **Prerequisite:** ACC 121.

■ **AHR - Air Conditioning & Refrigeration**

AHR 120 HVACR Maintenance 1 3 2
 This course introduces the basic principles of industrial air conditioning and heating systems. Emphasis is placed on preventive maintenance procedures for heating and cooling equipment and related components. Upon completion, students should be able to perform routine preventive maintenance tasks, maintain records, and assist in routine equipment repairs.

■ **ANT - Anthropology**

ANT 210 General Anthropology 3 0 3
 This course introduces the physical, archaeological, linguistic, and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ANT 220 Cultural Anthropology 3 0 3
 This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ANT 221 Comparative Cultures 3 0 3
 This course provides an ethnographic survey of societies around the world covering their distinctive cultural characteristics and how these relate to cultural change. Emphasis is placed on the similarities and differences in social institutions such as family, economics, politics, education, and religion. Upon completion, students should be able to demonstrate knowledge of a variety of cultural adaptive strategies. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ANT 240 Archaeology 3 0 3
 This course introduces the scientific study of the unwritten record of the human past. Emphasis is placed on the process of human cultural evolution as revealed through archaeological methods of excavation and interpretation. Upon completion, students should be able to demonstrate an understanding of how archaeologists reconstruct the past and describe the variety of past human cultures. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

■ **ARC - Architecture**

ARC 250 Survey of Architecture 3 0 3
 This course introduces the historical trends in architectural form. Topics include historical and current trends in architecture. Upon completion, students should be able to demonstrate an understanding of significant historical and current architectural styles.

■ **ART - Art**

ART 111 Art Appreciation 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ART 114 Art History Survey I 3 0 3
 This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate a historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ART 115 Art History Survey II 3 0 3
 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 a historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

■ **ASL - American Sign Language**

ASL 111 Elementary American Sign Language I 3 0 3
 This course introduces the fundamental elements of American Sign Language within a cultural context. Emphasis is placed on the development of basic expressive and receptive skills. Upon completion, students will be able to comprehend and respond with grammatical accuracy to expressive American Sign Language and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ASL 112 Elementary American Sign Language II 3 0 3
 This course is a continuation of ASL 111 focusing on the fundamental elements of American Sign Language in a cultural context. Emphasis is placed on the progressive development of expressive and receptive skills. Upon completion, the students should be able to comprehend and respond with increasing accuracy to expressive American Sign Language and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ASL 111.

ASL 211 Intermediate American Sign Language I 3 0 3
 This course provides a review and expansion of the essential skills of American Sign Language. Emphasis is placed on the progressive development of expressive and receptive skills, study of authentic and representative literacy and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively using American Sign Language about the past, present, and future. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ASL 112.

ASL 212 Intermediate American Sign Language II 3 0 3
 This course provides a continuation of ASL 211. Emphasis is placed on the continuing development of expressive and receptive skills study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ASL 211.

■ **AUB - Automotive Body Repair**

AUB 111 Painting & Refinishing I 2 6 4
 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 2 6 4
 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. **Prerequisite:** AUB 111.

- AUB 114 Special Finishes** 1 2 2
 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.
Prerequisite: AUB 111.
- AUB 121 Nonstructural Damage I** 1 4 3
 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 Nonstructural Damage II** 2 6 4
 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** 2 4 4
 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 132 Structural Damage II** 2 6 4
 This course provides an in-depth study of structural damage analysis and repairs to vehicles that have received moderate to heavy structural damage. Topics include shop safety, structural analysis and measurement, equipment, structural glass, advanced repair techniques, structural component replacement and alignment, and other related topics. Upon completion, students should be able to analyze and perform repairs according to industry standards. **Prerequisite:** AUB 131.
- AUB 134 Autobody MIG Welding** 1 4 3
 This course covers the terms and procedures for welding the various metals found in today's autobody repair industry with an emphasis on personal/environmental safety. Topics include safety and precautionary measures, setup/operation of MIG equipment, metal identification methods, types of welds/joints, techniques, inspection methods, and other related topics. Upon completion, students should be able to demonstrate a basic knowledge of welding operations and safety procedures according to industry standards.
- AUB 136 Plastics & Adhesives** 1 4 3
 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 144 Mechanical & Electrical Specialties** 2 2 3
 This course concentrates on special automotive mechanical and electrical system operations and diagnostics. Topics include personal and environmental safety, suspension and steering, electrical, restraint, and air-conditioning systems. Upon completion, students should be able to identify system components and perform basic system diagnostic checks and/or repairs according to industry standards.

■ **AUT - Automotive**

- AUT 111 Basic Automotive Technology** 1 2 2
 This course introduces basic concepts, terms, workplace safety, regulations, and service information relating to automotive technology. Emphasis is placed on developing familiarity with automotive components along with basic identification and proper use of various hand and power tools and shop equipment. Upon completion, students should be able to define and use terms associated with automobiles and identify and use basic tools and shop equipment.

AUT 113 Automotive Servicing	2 6 4
This course covers diagnostic procedures necessary to determine the nature and cause of auto service problems and the procedures used to repair/replace components. Emphasis is placed on troubleshooting, testing, adjusting, repairing, and replacing components using appropriate test equipment and service information. Upon completion, students should be able to perform a variety of automotive repairs using proper service procedures and operate appropriate equipment.	
AUT 115 Engine Fundamentals	2 3 3
This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis/repair of automotive engines using appropriate tools, equipment, procedures, and service information.	
AUT 116 Engine Repair	1 3 2
This course covers service/repair/rebuilding of block, head, and internal engine components. Topics include engine repair/reconditioning using service specifications. Upon completion, students should be able to rebuild/recondition an automobile engine to service specifications.	
AUT 141 Suspension & Steering Systems	2 4 4
This course covers principles of operation, types, and diagnosis/repair of suspension and steering systems to include steering geometry. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair various steering and suspension components, check and adjust various alignment angles, and balance wheels.	
AUT 151 Brake Systems	2 2 3
This course covers principles of operation and types, diagnosis, service, and repair of brake systems. Topics include drum and disc brakes involving hydraulic, vacuum boost, hydra-boost, electrically powered boost, and anti-lock and parking brake systems. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.	
AUT 152 Brake Systems Lab	0 2 1
This course provides a laboratory setting to enhance brake system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 151. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 151. Corequisite: AUT 151.	
AUT 161 Electrical Systems	2 6 4
This course covers basic electrical theory and wiring diagrams, test equipment, and diagnosis/repair/replacement of batteries, starters, alternators, and basic electrical accessories. Topics include diagnosis and repair of battery, starting, charging, lighting, and basic accessory systems problems. Upon completion, students should be able to diagnose, test, and repair the basic electrical components of an automobile.	
AUT 162 Chassis Electrical & Electronics	2 2 3
This course covers electrical/electronic diagnosis/repair, including wiring diagrams, instrumentation, and electronic/computer-controlled devices and accessories. Topics include interpreting wiring diagrams and diagnosis and repair of chassis electrical and electronic systems. Upon completion, students should be able to read and interpret wiring diagrams and determine/perform needed repairs on chassis electrical and electronic systems.	
AUT 163 Chassis Electrical & Electronics Lab	0 2 1
This course provides a laboratory setting to enhance chassis electrical and electronic system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 162. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 162. Corequisite: AUT 162.	
AUT 171 Heating & Air Conditioning	2 3 3
This course covers the theory of refrigeration and heating, electrical/electronic/pneumatic controls, and diagnosis/repair of climate control systems. Topics include diagnosis and repair of climate control components and systems, recovery/recycling of refrigerants, and safety and environmental regulations. Upon completion, students should be able to describe the operation, diagnose, and safely service climate control systems using appropriate tools, equipment, and service information.	

AUT 181 Engine Performance-Electrical	2	3	3
This course covers the principles, systems, and procedures required for diagnosing and restoring engine performance using electrical/electronics test equipment. Topics include procedures for diagnosis and repair of ignition, emission control, and related electronic systems. Upon completion, students should be able to describe operation of and diagnose/repair ignition/emission control systems using appropriate test equipment and service information.			
AUT 182 Engine Performance-Electrical Lab	0	3	1
This course provides a laboratory setting to enhance the skills for diagnosing and restoring engine performance using electrical/electronics test equipment. Emphasis is placed on practical experiences that enhance the topics presented in AUT 181. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 181. Corequisite: AUT 181.			
AUT 183 Engine Performance-Fuels	2	3	3
This course covers the principles of fuel delivery/management, exhaust/emission systems, and procedures for diagnosing and restoring engine performance using appropriate test equipment. Topics include procedures for diagnosis/repair of fuel delivery/management and exhaust/emission systems using appropriate service information. Upon completion, students should be able to describe, diagnose, and repair engine fuel delivery/management and emission control systems using appropriate service information and diagnostic equipment.			
AUT 184 Engine Performance-Fuels Lab	0	3	1
This course provides a laboratory setting to enhance the skills for diagnosing and repairing fuel delivery/management and emission systems. Emphasis is placed on practical experiences that enhance the topics presented in AUT 183. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 183. Corequisite: AUT 183.			
AUT 186 Automotive Computer Applications	1	2	2
This course introduces computer operating systems, word processing, and electronic automotive service information systems. Emphasis is placed on operation systems, word processing, and electronic automotive service information systems. Upon completion, students should be able to use an operating system to access information pertaining to automotive technology and perform word processing.			
AUT 221 Automatic Transmissions	2	6	4
This course covers operation, diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair automatic drive trains.			
AUT 231 Manual Drive Trains/Axles	2	3	3
This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, drive shafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair manual drive trains.			
AUT 232 Manual Drive Trains/Axles Lab	0	3	1
This course provides a laboratory setting to enhance the skills for diagnosing and repairing manual transmissions/transaxles, clutches, drive shafts, axles, and final drives. Emphasis is placed on practical experiences that enhance the topics presented in AUT 231. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 231. Corequisite: AUT 231.			
AUT 281 Advanced Engine Performance	2	2	3
This course utilizes service information and specialized test equipment to diagnose/repair power train control systems. Topics include computerized ignition, fuel and emission systems; related diagnostic tools and equipment; data communication networks; and service information. Upon completion, students should be able to perform advanced engine performance diagnosis and repair.			

■ BIO - Biology

BIO 111 General Biology I

3 3 4

This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, cell structure and function, metabolism and energy transformation, genetics, evolution, classification, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

Prerequisite: RED 090 or acceptable placement score.

BIO 112 General Biology II

3 3 4

This course is a continuation of BIO 111. Emphasis is placed on organisms, 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** BIO 111.

BIO 120 Introductory Botany

3 3 4

This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** BIO 110 or BIO 111.

BIO 140 Environmental Biology

3 0 3

This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economics perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

BIO 140A Environmental Biology Lab

0 3 1

This course provides a laboratory component to complement BIO 140. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Corequisite:** BIO 140.

BIO 163 Basic Anatomy & Physiology

4 2 5

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* **Prerequisite:** RED 090 or acceptable placement score.

BIO 168 Anatomy & Physiology I

3 3 4

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, nervous, and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. Selected topics from microbiology are included in this course. *This course has been approved to satisfy the Comprehensive Articulation Agreement premajor elective requirement.* **Prerequisite:** RED 090 or acceptable placement score.

BIO 169 Anatomy & Physiology II

3 3 4

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. Selected topics from microbiology are included in this course. *This course has been approved to satisfy the Comprehensive Articulation Agreement premajor elective requirement.* **Prerequisite:** BIO 168.

■ BPR - Blueprint Reading

BPR 111 Blueprint Reading 1 2 2

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

BPR 121 Blueprint Reading: Mechanical 1 2 2

This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing. **Prerequisite:** BPR 111 or MAC 131.

■ BUS - Business

BUS 110 Introduction to Business 3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement premajor elective requirement.*

BUS 115 Business Law I 3 0 3

This course introduces the ethics and legal framework of business. Emphasis is placed on contracts, negotiable instruments, Uniform Commercial Code, and the working of the court systems. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations. *This course has been approved to satisfy the Comprehensive Articulation Agreement premajor elective requirement.*

BUS 116 Business Law II 3 0 3

This course continues the study of ethics and business law. Emphasis is placed on bailments, sales, risk-bearing, forms of business ownership, and copyrights. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations. **Prerequisite:** BUS 115.

BUS 137 Principles of Management 3 0 3

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 3

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, nondestructive, positive communication patterns.

BUS 225 Business Finance 2 2 3

This course provides an overview of business financial management. Emphasis is placed on financial statement analysis, time value of money, management of cash flow, risk and return, and sources of financing. Upon completion, students should be able to interpret and apply the principles of financial management. **Prerequisite:** ACC 120.

BUS 230 Small Business Management 3 0 3

This course introduces the challenges of entrepreneurship including the start-up and operation of a small business. Topics include market research techniques, feasibility studies, site analysis, financing alternatives, and managerial decision making. Upon completion, students should be able to develop a small business plan.

BUS 239 Business Applications Seminar 1 2 2

This course is designed as a capstone course for Business Administration majors. Emphasis is placed on decision making in the areas of management, marketing, production, purchasing, and finance. Upon completion, students should be able to apply the techniques, processes, and vital professional skills needed in the work place. **Prerequisites:** ACC 120, BUS 115, BUS 137, MKT 120, and either ECO 151, 251 or 252.

BUS 255 Organizational Behavior in Business 3 0 3

This course covers the impact of different management practices and leadership styles on worker satisfaction and morale, organizational effectiveness, productivity, and profitability. Topics include a discussion of formal and informal organizations, group dynamics, motivation, and managing conflict and change. Upon completion, students should be able to analyze different types of interpersonal situations and determine an appropriate course of action.

■ CHM - Chemistry

CHM 131 Introduction to Chemistry 3 0 3

This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite: MAT 060 or acceptable placement score.**

CHM 131A Introduction to Chemistry Lab 0 3 1

This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Corequisite: CHM 131.**

CHM 132 Organic & Biochemistry 3 3 4

This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties and reactions of the major organic and biological molecules, and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite: CHM 131/131A or CHM 151.**

■ CIS - Information Systems

CIS 110 Introduction to Computers 2 2 3

This course provides an introduction to computers and computing. Topics include the impact of computers on society, ethical issues, and hardware/software applications, including spreadsheets, databases, word processors, graphics, the Internet, and operating systems. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics (Quantitative Option).* *Credit by proficiency exam is available.*

CIS 113 Computer Basics 0 2 1

This course introduces basic computer usage for non-computer majors. Emphasis is placed on developing basic personal computer skills. Upon completion, students should be able to demonstrate competence in basic computer applications sufficient to use computer-assisted instructional software. *Credit by proficiency exam is available.*

CIS 115 Introduction to Programming & Logic 2 2 3

This course introduces computer programming and problem solving in a programming environment, including an introduction to operating systems, text editor, and a language translator. Topics include language syntax, data types, program organization, problem-solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics (Quantitative Option).* **Prerequisites: MAT 070 or acceptable placement score, and CIS 110.**

CIS 120 Spreadsheet I 2 2 3

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. *Credit by proficiency exam is available.* **Prerequisite: CIS 110 or CIS 111 or OST 137.**

- CIS 126 Graphic Software Introduction** 2 2 3
 This course provides an introduction to graphic design and execution of pictorial graphics using a variety of software packages. Emphasis is placed on creation and manipulation of images using graphic design software. Upon completion, students should be able to create graphic designs and incorporate these designs into printed publications. *Credit by proficiency exam is available.*
- CIS 130 Survey of Operating Systems** 2 3 3
 The course covers operating system concepts which are necessary for maintaining and using computer systems. Topics include disk, file, and directory structures; installation and setup; resource allocation, optimization, and configuration; system security; and other related topics. Upon completion, students should be able to install and configure operating systems and optimize performance.
- CIS 152 Database Concepts & Applications** 2 2 3
 This course introduces database design and creation using a DBMS product. Topics include database terminology, usage in industry, design theory, types of DBMS models, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to create simple database tables, queries, reports, and forms which follow acceptable design practices. *Credit by proficiency exam is available. Prerequisite: CIS 110, CIS 111 or CIS 115.*
- CIS 157 Database Programming I** 2 2 3
 This course is designed to develop programming proficiency in a selected DBMS. Emphasis is placed on the Data Definition Language (DDL) and Data Manipulation Language (DML) of the DBMS as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports representative of industry requirements. **Prerequisites: CIS 115 and CIS 152.**
- CIS 174 Network System Manager I** 2 2 3
 This course covers effective network management. Topics include network file system design and security, log-in scripts and user menus, printing services, E-mail, and backup. Upon completion, students should be able to administer an office network system. **Prerequisite: CIS 215.**
- CIS 175 Network Management I** 2 2 3
 This course covers fundamental network administration and system management. Topics include accessing and configuring basic network services, managing directory services, and using network management software. Upon completion, students should be able to apply system administrator skills in developing a network management strategy. **Prerequisite: CIS 174.**
- CIS 215 Hardware Installation/Maintenance** 2 3 3
 This course covers the basic hardware of a personal computer, including operations and interactions with software. Topics include component identification, the memory system, peripheral installation and configuration, preventive maintenance, and diagnostics and repair. Upon completion, students should be able to select appropriate computer equipment, upgrade and maintain existing equipment, and troubleshoot and repair non-functioning personal computers. *Credit by proficiency exam is available. Prerequisites: CIS 110, CIS 111 or CIS 115, and CIS 130.*
- CIS 217 Computer Training & Support** 2 2 3
 This course introduces computer training and support techniques. Topics include methods of adult learning, training design, delivery and evaluation, creating documentation, and user support methods. Upon completion, students should be able to design and implement training and provide continued support for computer users. **Prerequisite: CIS 110.**
- CIS 274 Network System Manager II** 2 2 3
 This course is a continuation of CIS 174 focusing on advanced network management, configuration, and installation. Emphasis is placed on server configuration files, start-up procedure, server protocol support, memory and performance concepts, and management maintenance. Upon completion, students should be able to install and upgrade networks and servers for optimal performance. *This course is a unique concentration requirement in the Network Administration & Support concentration in the Information Systems program. Prerequisite: CIS 174.*
- CIS 275 Network Management II** 2 2 3
 This course is a continuation of CIS 175 focusing on advanced enterprise networks. Topics include directory service tree planning, management distribution and protection, improving network security, auditing the network, printing, networking, and system administration of an Internet node. Upon completion, students should be able to manage client services and network features and optimize network performance. **Prerequisite: CIS 175.**

- CIS 286 Systems Analysis & Design** 3 0 3
 This course examines established and evolving methodologies for the analysis, design, and development of a business information system. Emphasis is placed on business systems characteristics, managing information systems projects, prototyping, CASE tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques. **Prerequisites:** CIS 115, CIS 120, CIS 152.
- CIS 287 Network Support** 2 2 3
 This course provides experience using CD ROM and on-line research tools and hands-on experience for advanced hardware support and troubleshooting. Emphasis is placed on troubleshooting network adapter cards and cabling, network storage devices, the DOS workstation, and network printing. Upon completion, students should be able to analyze, diagnose, research, and fix network hardware problems. *This course is a unique concentration requirement in the Network Administration & Support concentration in the Information Systems program.* **Prerequisite:** CIS 274 or CIS 275.
- CIS 288 Systems Project** 1 4 3
 This course provides an opportunity to complete a significant systems project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete a project from the definition phase through implementation. **Prerequisite:** CIS 227 or CIS 286.
- **CJC - Criminal Justice**
- CJC 100 Basic Law Enforcement Training** 8 30 18
 This course covers the skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Emphasis is placed on topics and areas as defined by the North Carolina Administrative Code. Upon completion, students should be able to demonstrate competence in the topics and areas required for the state comprehensive examination. This is a certificate-level course.
- CJC 100A Basic Law Enforcement Training** 3 21 10
CJC 100B Basic Law Enforcement Training 5 9 8
 These courses cover the skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Emphasis is placed on topics and areas as defined by the North Carolina Administrative Code. Upon completion, students should be able to demonstrate competence in the topics and areas required for the state comprehensive examination. These are certificate-level courses. **Prerequisite:** CJC 100A is prerequisite for CJC 100B.
- CJC 111 Introduction to Criminal Justice** 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- CJC 112 Criminology** 3 0 3
 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 3
 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 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. Credit by proficiency exam is available.*

CJC 131 Criminal Law	3	0	3
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 Procedures & Evidence	3	0	3
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	3
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i>			
CJC 212 Ethics & Community Relations	3	0	3
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 215 Organization & Administration	3	0	3
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	3	2	4
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	3
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	3
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	3
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 293 Selected Topics in Criminal Justice

3 0 3

This course provides an opportunity to explore areas of current issues facing the criminal justice system. Emphasis is placed on subject matter appropriate to the contemporary study of criminal justice. Upon completion, students should be able to demonstrate an understanding of the material discussed. Topics include police corruption, school violence, technology crimes, terrorism, the death penalty, international crime, violence in society, white-collar crime, and organized crime.

Prerequisites: CJC 111 and CJC 121.

■ **COE - Cooperative Education**

COE 111 Cooperative Work Experience I

0 0 10 1

This course provides work 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. **Prerequisite:** Consent of instructor.

COE 112 Cooperative Work Experience I

0 0 20 2

This course provides work 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. **Prerequisite:** Consent of instructor.

COE 115 Work Experience Seminar I

1 0 0 1

This course offers a forum to analyze practical co-op work experiences with a faculty member and other students who are engaged in similar co-op work experiences. Emphasis is placed on processing, discussing, and evaluating experiences gained in Cooperative Work Experience I. Upon completion, students should be able to analyze the productivity and effectiveness of their work experiences and articulate what was learned about this career field. They should also be able to outline a strategy to improve their own work-related competencies and career development based on those experiences.

Corequisite: COE 111, COE 112, COE 113 or COE 114.

COE 121 Cooperative Work Experience II

0 0 10 1

This course provides work 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. **Prerequisite:** Consent of instructor.

COE 122 Cooperative Work Experience II

0 0 20 2

This course provides work 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. **Prerequisite:** Consent of instructor.

COE 132 Cooperative Work Experience III

0 0 20 2

This course provides work 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. **Prerequisite:** Consent of instructor.

■ **COM - Communication**

COM 110 Introduction to Communication

3 0 3

This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in speech/communication.*

COM 231 Public Speaking 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute).*

■ **DAN - Dance Appreciation**

DAN 110 Dance Appreciation 3 0 3
 This course for nondance majors surveys diverse dance forms and the religious and cultural values that shape them. Topics include dances from Europe, Africa, Asia, and America. Upon completion, students should be able to demonstrate an understanding of the diverse forms and values that dance embraces. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education requirement in humanities/fine arts.*

■ **DES - Design**

DES 110 Architectural Graphics 0 6 2
 This course introduces basic drafting skills and techniques. Emphasis is placed on the use of drafting equipment, lettering, dimensioning, elevations, sections, construction details, and actual fixture sizes as related to interior design situations. Upon completion, students should be able to complete working drawings skillfully utilizing principles of drafting.

DES 120 CAD for Interior Design 0 6 2
 This course introduces basic computer-aided design and drafting skills and techniques within interior design applications. Emphasis is placed on the most common computer commands used in architectural drafting and design to draw, edit, manipulate layers, and create reusable drawings. Upon completion, students should be able to use specific computer applications to complete drawings and plot/print. **Prerequisite:** DES 110.

DES 125 Graphic Presentation I 0 6 2
 This course introduces graphic presentation techniques for communicating ideas. Topics include drawing, perspective drawing, and wet and dry media. Upon completion, students should be able to produce a pictorial presentation.

DES 135 Principles & Elements of Design I 2 4 4
 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 hands-on application.

DES 136 Principles & Elements of Design II 2 4 4
 This course provides continued study of design principles introduced in DES 135. Emphasis is placed on color theory, pattern, and texture as used in interiors as well as an investigation of the psychology of color. Upon completion, students should be able to originate a color program for interiors. **Prerequisite:** DES 135.

DES 210 Business Practices/Interior Design 2 0 2
 This course introduces contemporary business practices for interior design. Topics include employment skills, business formations, professional associations, preparation of professional contracts and correspondence, and means of compensation. Upon completion, students should be able to describe the basic business formations and professional associations and compose effective letters and contracts.

DES 220 Introduction to Interior Design 1 6 3
 This course covers the basic principles of design as they relate specifically to interior design, furniture arrangement, wall composition, color, furnishings, collages, and illustration. Emphasis is placed on spatial relationships, craftsmanship, and visual presentation techniques. Upon completion, students should be able to arrange furnishings in rooms for various purposes, select furnishings and colors, and illustrate ideas graphically. **Prerequisites:** DES 135 and ARC 111 or DES 110 or DFT 115.

- DES 225 Textiles/Fabrics** 2 2 3
 This course includes the study of woven and nonwoven fabrics for interiors. Topics include characteristics of fibers, yarns, weaving, felting, and knitting; processing of leather; and adorning and finishing of interior fabrics. Upon completion, students should be able to recognize and use correct terminology for upholstery, window treatments, and rugs/carpets with regard to flammability, performance, and durability.
- DES 230 Residential Design I** 1 6 3
 This course includes principles of interior design for various residential design solutions. Emphasis is placed on visual presentation and selection of appropriate styles to meet specifications. Upon completion, students should be able to complete scaled floor plans, elevations, specifications, color schemes and fabrics, and finishes and furniture selection. **Prerequisite:** DES 220.
- DES 235 Products** 2 2 3
 This course provides an overview of interior finishing materials and the selection of quality upholstery and case goods. Topics include hard and resilient floor coverings; wall coverings and finishes; ceilings, moldings, and furniture construction techniques; and other interior components. Upon completion, students should be able to recognize and use correct terminology, select appropriate materials for interior surfaces, and choose furniture based on sound construction.
- DES 240 Nonresidential Design I** 1 6 3
 This course introduces commercial/contract design including retail, office, institutional, restaurant, and hospitality design. Emphasis is placed on ADA requirements, building codes and standards, space planning, and selection of appropriate materials for nonresidential interiors. Upon completion, students should be able to analyze and design introductory nonresidential projects using graphic presentation concepts. **Prerequisite:** DES 220.
- DES 241 Nonresidential Design II** 1 6 3
 This course provides an in-depth study of nonresidential design exploring more comprehensive design solutions such as health care facilities, furniture gallery design, and large office complexes. Emphasis is placed on design of commercial interiors and suitability of materials to meet ADA requirements, codes, and standards. Upon completion, students should be able to design nonresidential spaces meeting ADA requirements and select furniture, materials, fabrics, and accessories meeting codes and flammability standards. **Prerequisite:** DES 240.
- DES 255 History/Interiors & Furnishings I** 3 0 3
 This course covers interiors, exteriors, and furnishings from ancient Egypt through French Neo-Classicism. Emphasis is placed on vocabulary, chronology, and style recognition. Upon completion, students should be able to classify and date interior and exterior architecture and furnishings and be conversant with pertinent vocabulary.
- DES 256 History/Interiors & Furnishings II** 3 0 3
 This course covers English, American, and various styles of nineteenth- and twentieth-century furniture, interiors, and exteriors. Emphasis is placed on style recognition, vocabulary, and chronology. Upon completion, students should be able to recognize and describe major styles of furniture, interiors, and exteriors. **Prerequisite:** DES 255.
- DES 260 Materials Calculations/Interior Design** 3 0 3
 This course includes the study of calculations for square footage, square yardage, and cut-length yardage. Emphasis is placed on the development of workable formulas, work sheets, and order forms that can be used in an interior design business. Upon completion, students should be able to produce electronic work sheets and order forms for calculating window treatments, wall coverings, and floor coverings for a given space.
- DES 265 Lighting/Interior Design** 2 0 2
 This course introduces theory and contemporary concepts in lighting. Topics include light levels, light quality, lamps and fixtures, and their use in interior design. Upon completion, students should be able to determine light levels and requirements based on national standards and select luminaires for specific light qualities.
- DES 276 Showroom & Gallery Design** 1 6 3
 This course focuses on skills and techniques directly related to showroom and gallery design for home furnishings and accessories. Topics include furniture arrangement, accessory use and display, vignette design, lighting, and hue scheme coordination. Upon completion, students should be able to design and coordinate the installation of furniture/accessory showrooms and galleries. **Prerequisites:** DES 230 and DES 240.

DES 285 Capstone/Interior Design 2 6 4
 This course provides additional studio time to investigate areas of special interest, upgrade weaknesses, and/or capitalize on strengths. Topics include a broad range of options, both residential and nonresidential, combining individual research and instructional guidance. Upon completion, students should be able to complete the graphics, client folder, and all schedules for a professional project.
Prerequisites: DES 210, DES 230, and DES 240.

■ **DFT - Drafting**

DFT 115 Architectural Drafting 1 2 2
 This course introduces basic drafting practices used in residential and light commercial design. Topics include floor plans, foundations, details, electrical components, elevations, and dimensioning practice. Upon completion, students should be able to complete a set of working drawings for a simple structure.

DFT 151 CAD I 2 3 3
 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.

DFT 152 CAD II 2 3 3
 This course is a continuation of DFT 151. Topics include advanced two-dimensional, three-dimensional, and solid modeling and extended CAD applications. Upon completion, students should be able to generate and manage CAD drawings and models to produce engineering documents.
Prerequisite: DFT 151.

DFT 153 CAD III 2 3 3
 This course covers basic principles of three-dimensional CAD wire frame and surface models. Topics include user coordinate systems, three-dimensional viewpoints, three-dimensional wire frames, and surface components and viewpoints. Upon completion, students should be able to create and manipulate three-dimensional wire frame and surface models. **Prerequisite:** DFT 151.

■ **DRA - Drama**

DRA 111 Theatre Appreciation 3 0 3
 This course provides a study of the art, craft, and business of the theatre. Emphasis is placed on the audience's appreciation of the work of the playwright, director, actor, designer, producer, and critic. Upon completion, students should be able to demonstrate a vocabulary of theatre terms and to recognize the contributions of various theatre artists. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirements in humanities/fine arts.*

DRA 112 Literature of the Theatre 3 0 3
 This course provides a survey of dramatic works from the classical Greek through the present. Emphasis is placed on the language of drama, critical theory, and background as well as on play reading and analysis. Upon completion, students should be able to articulate, orally and in writing, their appreciation and understanding of dramatic works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirements in humanities/fine arts.*

■ **ECO - Economics**

ECO 151 Survey of Economics 3 0 3
 This course introduces basic concepts of micro- and macroeconomics. Topics include supply and demand, optimizing economic behavior, prices and wages, money, interest rates, banking system, unemployment, inflation, taxes, government spending, and international trade. Upon completion, students should be able to explain alternative solutions for economic problems faced by private and government sectors. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ECO 251 Principles of Microeconomics 3 0 3
 This course introduces economic analysis of individuals, businesses, and industries 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ECO 252 Principles of Macroeconomics

3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

■ EDU - Education**EDU 111 Early Childhood Credential I**

2 0 0 2

This course introduces early childhood education and the role of the teacher in environments that encourage exploration and learning. Topics include professionalism, child growth and development, individuality, family, and culture. Upon completion, students should be able to identify and demonstrate knowledge of professional roles, major areas of child growth and development, and diverse families.

EDU 112 Early Childhood Credential II

2 0 0 2

This course introduces developmentally appropriate practices, positive guidance, and standards of health, safety, and nutrition. Topics include the learning environment, planning developmentally appropriate activities, positive guidance techniques, and health, safety, and nutrition standards. Upon completion, students should be able to demonstrate developmentally appropriate activities and positive guidance techniques and describe health/sanitation/nutrition practices that promote healthy environments for children. **Prerequisite:** EDU 111.

EDU 113 Family/Early Childhood Credential

2 0 0 2

This course covers business/professional practices for family early childhood providers, developmentally appropriate practices, positive guidance, and methods of providing a safe and healthy environment. Topics include developmentally appropriate practices; health, safety, and nutrition; and business and professionalism. Upon completion, students should be able to develop a handbook of policies, procedures, and practices for a family child care home.

EDU 118 Teacher Associate Principles & Practices

3 0 0 3

This course covers the teacher associate's role in the educational system. Topics include history of education, professional responsibilities and ethics, cultural diversity, communication skills, and identification of the optimal learning environment. Upon completion, students should be able to describe the supporting professional role of the teacher associate, demonstrate positive communication, and discuss educational philosophy. *This course is a unique concentration requirement in the Teacher Associate concentration in the Early Childhood Associate program.*

EDU 119 Early Childhood Education

4 0 0 4

This course covers the foundations of the education profession, types of programs, professionalism, and planning quality programs for children. Topics include historical foundations, career options, types of programs, professionalism, observational skills, and planning developmentally appropriate schedules, environments, and activities for children. Upon completion, students should be able to demonstrate observational skills, identify appropriate schedules and environments, develop activity plans, and describe influences on the profession.

EDU 131 Child, Family & Community

3 0 0 3

This course covers the relationships between the families, programs for children/schools, and the community. Emphasis is placed on establishing and maintaining positive collaborative relationships with families and community resources. Upon completion, students should be able to demonstrate strategies for effectively working with diverse families and identifying and utilizing community resources.

EDU 144 Child Development I

3 0 0 3

This course covers the theories of child development and the developmental sequences of children from conception through the preschool years for early childhood educators. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development and appropriate experiences for the young child. Upon completion, students should be able to identify developmental milestones, plan experiences to enhance development, and describe appropriate interaction techniques and environments for typical/atypical development. *Credit by proficiency exam is available.*

EDU 145 Child Development II	3	0	0	3
This course covers theories of child development and developmental sequences of children from preschool through middle childhood for early childhood educators. Emphasis is placed on characteristics of physical/motor, social, emotional, and cognitive/language development and appropriate experiences for children. Upon completion, students should be able to identify developmental characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments. <i>Credit by proficiency exam is available.</i>				
EDU 146 Child Guidance	3	0	0	3
This course introduces practical principles and techniques for developmentally appropriate guidance. Emphasis is placed on encouraging self-esteem and cultural awareness, effective communication skills, and direct and indirect guidance techniques and strategies. Upon completion, students should be able to demonstrate strategies which encourage positive social interactions, promote conflict resolution, and develop self-control, self-motivation, and self-esteem in children.				
EDU 151 Creative Activities	3	0	0	3
This course covers creative learning environments, planning and implementing developmentally appropriate experiences, and developing appropriate teaching materials for the classroom. Emphasis is placed on creative activities for children in art, music, movement and physical skills, and dramatics. Upon completion, students should be able to select and evaluate developmentally appropriate learning materials and activities.				
EDU 153 Health, Safety & Nutrition	3	0	0	3
This course focuses on promoting and maintaining the health and well-being of children. Topics include health and nutritional needs, safe and healthy environments, and recognition and reporting of child abuse and neglect. Upon completion, students should be able to set up and monitor safe indoor and outdoor environments and implement a nutrition education program. <i>Credit by proficiency exam is available. Corequisite: EDU 153A.</i>				
EDU 153A Health, Safety & Nutrition Lab	0	2	0	1
This course provides a laboratory component to complement EDU 153. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of safe indoor/outdoor environments and nutrition education programs. <i>Credit by proficiency exam is available. Corequisite: EDU 153.</i>				
EDU 186 Reading & Writing Methods	3	0	0	3
This course covers concepts, resources, and methods for teaching reading and writing to school-age children. Topics include the importance of literacy, learning styles, skills assessment, various reading and writing approaches, and instructional strategies. Upon completion, students should be able to assess, plan, implement, and evaluate developmentally appropriate reading and writing experiences. <i>This course is a unique concentration requirement in the Teacher Associate concentration in the Early Childhood Associate program.</i>				
EDU 221 Children with Special Needs	3	0	0	3
This course introduces working with children with special needs. Emphasis is placed on the characteristics and assessment of children and strategies for adapting the home and classroom environment. Upon completion, students should be able to recognize atypical development, make appropriate referrals, and work collaboratively to plan, implement, and evaluate inclusion strategies. Prerequisites: EDU 144 and EDU 145; or PSY 244 and PSY 245.				
EDU 234 Infants, Toddlers & Twos	3	0	0	3
This course covers the skills needed to effectively implement group care for infants, toddlers, and two-year-olds. Emphasis is placed on child development and developmentally appropriate practices. Upon completion, students should be able to identify, plan, select materials and equipment, and implement and evaluate a developmentally appropriate curriculum.				
EDU 235 School-Age Development & Program	2	0	0	2
This course presents developmentally appropriate practices in group care for school-age children. Topics include principles of development, environmental planning, and positive guidance techniques. Upon completion, students should be able to discuss developmental principles for children five to 12 years of age and plan and implement age-appropriate activities.				

EDU 251 Exploration Activities	3	0	0	3
This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children.				
EDU 259 Curriculum Planning	3	0	0	3
This course covers early childhood curriculum planning. Topics include philosophy, curriculum, indoor and outdoor environmental design, scheduling, observation and assessment, and instructional planning and evaluation. Upon completion, students should be able to assess children and curriculum; plan for daily, weekly, and long-range instructions; and design environments with appropriate equipment and supplies. Prerequisite: EDU 112 or EDU 113 or EDU 119.				
EDU 261 Early Childhood Administration Credential I	2	0	0	2
This course covers the policies, procedures, and responsibilities for the management of early childhood education programs. Topics include implementation of goals, principles of supervision, budgeting and financial management, and meeting the standards for a N.C. Child Day Care license. Upon completion, students should be able to develop program goals, explain licensing standards, determine budgeting needs, and describe effective methods of personnel supervision.				
EDU 262 Early Childhood Administration Credential II	3	0	0	3
This course provides a foundation for budgetary, financial, and personnel management of the child care center. Topics include budgeting, financial management, marketing, hiring, supervision, and professional development of a child care center. Upon completion, students should be able to formulate marketing, financial management, and fund development plans and develop personnel policies, including supervision and staff development plans. Prerequisite: EDU 261.				
EDU 275 Effective Teacher Training	2	0	0	2
This course provides specialized training using an experienced-based approach to learning. Topics include instructional preparation and presentation, student interaction, time management, learning expectations, evaluation, and curriculum principles and planning. Upon completion, students should be able to prepare and present a six-step lesson plan and demonstrate ways to improve students' time-on-task.				
EDU 282 Early Childhood Literature	3	0	0	3
This course covers the history, selection, and integration of literature and language in the early childhood curriculum. Topics include the history and selection of developmentally appropriate children's literature and the use of books and other media to enhance language and literacy in the classroom. Upon completion, students should be able to select appropriate books for storytelling, reading aloud, puppetry, flannel board use, and other techniques.				
EDU 285 Internship Experience-School Age	1	0	0	1
This course provides an opportunity to discuss internship experiences with peers and faculty. Emphasis is placed on evaluating and integrating practicum experiences. Upon completion, students should be able to demonstrate competence in early childhood education. <i>This course is a unique concentration requirement in the Teacher Associate concentration in the Early Childhood Associate program.</i> Prerequisite: ENG 111. Corequisite: COE 121 or COE 122.				
■ ELC - Electricity				
ELC 111 Introduction to Electricity	2	2	3	
This course introduces the fundamental concepts of electricity and test equipment to nonelectrical/electronics majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance), components (resistors, inductors, and capacitors), power, and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.				
ELC 112 DC/AC Electricity	3	6	5	
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. Prerequisite: ELC 126.				

ELC 113 Basic Wiring I	2	6	4
This course introduces the care/usage of tools and materials used in electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical blueprint 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 basic electrical installations.			
ELC 115 Industrial Wiring	2	6	4
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. Prerequisite: ELC 113,			
ELC 117 Motors & Controls	2	6	4
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. Prerequisite: ELC 111, ELC 112, or ELC 131.			
ELC 118 National Electrical Code	1	2	2
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 125 Diagrams & Schematics	1	2	2
This course covers the interpretation of electrical diagrams, schematics, and drawings common to electrical applications. Emphasis is placed on reading and interpreting electrical diagrams and schematics. Upon completion, students should be able to read and interpret electrical diagrams and schematics. <i>Credit by proficiency exam is available.</i>			
ELC 126 Electrical Computations	2	2	3
This course introduces the fundamental applications of mathematics which are used by an electrical/electronics technician. Topics include whole numbers, fractions, decimals, powers, roots, simple electrical formulas, and usage of a scientific calculator. Upon completion, students should be able to solve simple electrical mathematical problems. DC circuit theorems, DC circuit laws and the use of the ohmmeter, ammeter, and voltmeter will be covered. <i>Credit by proficiency exam is available.</i>			
ELC 128 Introduction to PLC	2	3	3
This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to install PLCs and create simple programs.			
■ ELN - Electronics			
ELN 131 Electronic Devices	3	3	4
This course includes semiconductor-based devices such as diodes, bipolar transistors, FETs, thyristors, and related components. Emphasis is placed on analysis, selection, biasing, and applications in power supplies, small signal amplifiers, and switching and control circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment. Corequisite: ELC 112, ELC 131, or ELC 140.			
ELN 132 Linear IC Applications	3	3	4
This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, differential amplifiers, instrumentation amplifiers, waveform generators, active filters, PLLs, and IC voltage regulators. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment. Prerequisite: ELN 131 or BMT 113.			
ELN 133 Digital Electronics	3	3	4
This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AC/DC converters, 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 229 Industrial Electronics 2 4 4

This course covers semiconductor devices used in industrial applications. Topics include the basic theory, application, and operating characteristics of semiconductor devices (filters, rectifiers, FET, SCR, Diac, Triac, Op-amps, etc). Upon completion, students should be able to install and/or troubleshoot these devices for proper operation in an industrial electronic circuit. **Prerequisite:** ELC 112, ELC 131, or ELC 140.

ELN 260 Programmable Logic Controllers 3 3 4

This course provides a detailed study of PLC applications, with a focus on design of industrial control circuits using the PLC. Topics include PLC components, memory organization, math instructions, programming documentation, input/output devices, and applying PLCs in the design of industrial control systems. Upon completion, students should be able to design and program a PLC system to perform a wide variety of industrial control functions. **Prerequisite:** ELC 128.

■ **ENG - English**

ENG 075 Reading & Language Essentials 5 0 5

This course uses whole language to develop proficiency in basic reading and writing. Emphasis is placed on increasing vocabulary, developing comprehension skills, and improving grammar. Upon completion, students should be able to understand and create grammatically and syntactically correct sentences. This course integrates ENG 070 and RED 070. This course does not satisfy the developmental reading and writing prerequisites for ENG 111 or ENG 111A.

ENG 085 Reading & Writing Foundations 5 0 5

This course uses whole language to develop proficiency in reading and writing for college. Emphasis is placed on applying analytical and critical reading skills to a variety of texts and on introducing the writing process. Upon completion, students should be able to recognize and use various patterns of text organization and compose effective paragraphs. This course integrates ENG 080 and RED 080. This course does not satisfy the developmental reading and writing prerequisites for ENG 111 or ENG 111A. **Prerequisites:** ENG 070 and RED 070, or ENG 075 or acceptable placement score.

ENG 090 Composition Strategies 3 0 3

This course provides practice in the writing process and stresses effective paragraphs. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay. This course satisfies the developmental writing requirements for ENG 111 and ENG 111A. **Prerequisite:** ENG 080 or ENG 085 or acceptable placement score.

ENG 102 Applied Communications II 3 0 3

This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing interpersonal communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications. *This is a diploma-level course.*

ENG 111 Expository Writing 3 0 3

This course is the required first course in a series of two designed to develop the ability to produce clear expository prose. Emphasis is placed on the writing process including audience analysis, topic selection, thesis support and development, editing, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. Students will be introduced to research skills using MLA/APA style of documentation and to effective oral presentation strategies. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.* **Prerequisites:** ENG 090 and RED 090, or ENG 095, or acceptable placement score.

ENG 112 Argument-Based Research 3 0 3

This course, the second in a series of two, introduces research techniques, documentation, styles, and argumentative strategies. Emphasis is placed on analyzing information and ideas and incorporating research findings into documented argumentative essays and research projects. Upon completion, students should be able to summarize, paraphrase, interpret, and synthesize information from primary and secondary sources using standard research format and styles. Students will be introduced to effective presentation strategies for oral and written argumentation. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.* **Prerequisite:** ENG 111.

- ENG 113 Literature-Based Research** 3 0 3
 This course, the second in a series of two, expands the concepts developed in ENG 111 by focusing on writing that involves literature-based research and documentation. Emphasis is placed on critical reading and thinking and the analysis and interpretation of prose, poetry, and drama (plot, characterization, theme, cultural context, etc.). Upon completion, students should be able to construct mechanically sound, documented essays and research papers that analyze and respond to literary works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.* **Prerequisite:** ENG 111.
- ENG 114 Professional Research & Reporting** 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.* **Prerequisite:** ENG 111.
- ENG 131 Introduction to Literature** 3 0 3
 This course introduces the principal genres of literature. Emphasis is placed on literary terminology, devices, structure, and interpretation. Upon completion, students should be able to analyze and respond to literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 111. **Corequisite:** ENG 112, ENG 113, or ENG 114.
- ENG 231 American Literature I** 3 0 3
 This course covers selected works in early 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 interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 112, ENG 113, or ENG 114.
- ENG 232 American Literature II** 3 0 3
 This course covers selected works in early 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 interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 112, ENG 113, or ENG 114.
- ENG 233 Major American Writers** 3 0 3
 This course provides an intensive study of the works of several major American authors. Emphasis is placed on American history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 112, ENG 113, or ENG 114.
- ENG 241 British Literature I** 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 112, ENG 113, or ENG 114.
- ENG 242 British Literature II** 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 112, ENG 113, or ENG 114.

- ENG 243 Major British Writers** 3 0 3
 This course provides an intensive study of the works of several major British authors. Emphasis is placed on British history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*
Prerequisite: ENG 112, ENG 113, or ENG 114.
- ENG 251 Western World Literature I** 3 0 3
 This course provides a survey of selected European works from the Classical period through the Renaissance. 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 selected works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 112, ENG 113, or ENG 114.
- ENG 252 Western World Literature II** 3 0 3
 This course provides a survey of selected European works from the Neoclassical 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 selected works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 112, ENG 113, or ENG 114.
- **FRE - French**
- FRE 111 Elementary French I** 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*
- FRE 112 Elementary French II** 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** FRE 111.
- FRE 211 Intermediate French I** 3 0 3
 This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** FRE 112.
- FRE 212 Intermediate French II** 3 0 3
 This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** FRE 211.
- **GEL - Geology**
- GEL 111 Introductory Geology** 3 2 4
 This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon completion, students should be able to describe basic geological processes that shape the earth. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

GEL 120 Physical Geology 3 2 4
 This course provides a study of the structure and composition of the earth's crust. Emphasis is placed on weathering, erosional and depositional processes, mountain building forces, rocks and minerals, and structural changes. Upon completion, students should be able to explain the structure, composition, and formation of the earth's crust. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

GEL 230 Environmental Geology 3 2 4
 This course provides insights into geologic forces that cause environmental changes influencing man's activities. Emphasis is placed on natural hazards and disasters caused by geologic forces. Upon completion, students should be able to relate major hazards and disasters to the geologic forces responsible for their occurrence. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** GEL 111, GEL 120, or PHS 130.

■ **GRA - Graphic Arts**

GRA 121 Graphic Arts I 2 4 4
 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.

GRA 151 Computer Graphics I 1 3 2
 This course introduces the use of hardware and software for production and design in graphic arts. Topics include graphical user interface and current industry uses such as design, layout, typography, illustration, and imaging for production. Upon completion, students should be able to understand and use the computer as a fundamental design and production tool.

GRA 152 Computer Graphics II 1 3 2
 This course covers advanced design and layout concepts utilizing illustration, page layout, and imaging software in graphic arts. Emphasis is placed on enhancing and developing the skills that were introduced in GRA 151. Upon completion, students should be able to select and utilize appropriate software for design and layout solutions. **Prerequisite:** GRA 151.

GRA 153 Computer Graphics III 1 3 2
 This course is a continuation of GRA 152. Emphasis is placed on advanced computer graphics hardware and software applications. Upon completion, students should be able to demonstrate competence in selection and utilization of appropriate software for specialized applications. **Prerequisite:** GRA 152.

GRA 154 Computer Graphics IV 1 3 2
 This course is a continuation of GRA 153. Emphasis is placed on advanced techniques using a variety of hardware and software applications to produce complex projects. Upon completion, students should be able to use electronic document production tools. **Prerequisite:** GRA 153.

GRA 221 Graphic Arts II 2 4 4
 This course is a continuation of GRA 121. Topics include multicolor image preparation, pre-press production, control of close/hairline register in image assembly and press operation, and post-press procedures. Upon completion, students should be able to demonstrate competence in all phases of graphic arts production. **Prerequisites:** GRA 121 and GRA 151.

GRA 221A Graphic Arts Applications II 0 3 1
 This course provides hands-on training in graphic arts. Emphasis is placed on executing more complex and multicolor print production utilizing concepts and technologies. Upon completion, students should be able to apply operational principles to all phases of graphic arts production. **Corequisite:** GRA 221.

■ **GRD - Graphic Design**

GRD 110 Typography I 2 2 3
 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 117 Design Career Exploration** 2 0 2
 This course covers opportunities in the graphic design field and employment requirements. Topics include evaluation of career choices, operations, structure of advertising and graphic design businesses, and related business issues. Upon completion, students should be able to demonstrate an understanding of the graphic design field and consider an appropriate personal direction of career specialization.
- GRD 121 Drawing Fundamentals I** 1 3 2
 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** 1 3 2
 This course introduces the application of rendering techniques to create illustrations. Emphasis is placed on controlling various media, methods, surfaces, design problems, and the appropriate media selection process. Upon completion, students should be able to produce quality illustrations from conception through finished artwork. **Prerequisite:** ART 131, DES 125, or GRD 121.
- GRD 142 Graphic Design II** 2 4 4
 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. **Prerequisite:** ART 121, DES 135, or GRD 141.
- GRD 230 Technical Illustration** 1 3 2
 This course introduces technical and industrial illustration techniques. Topics include orthographic, isometric, linear perspective, and exploded views. Upon completion, students should be able to demonstrate competence in various technical rendering techniques. **Prerequisite:** ART 131, DES 125, or GRD 121.
- GRD 241 Graphic Design III** 2 4 4
 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. **Prerequisite:** DES 136 or GRD 142.
- GRD 271 Multimedia Design I** 1 3 2
 This course introduces the fundamentals of multimedia design and production for computer-related presentations. Topics include interface design, typography, storyboarding, scripting, simple animation, graphics, digital audio/video, and copyright issues. Upon completion, students should be able to design and produce multimedia presentations. **Prerequisite:** GRD 151 or GRA 151.
- GRD 272 Multimedia Design II** 1 3 2
 This course is a continuation of GRD 271. Emphasis is placed on advanced animation, specialized software, quality control, and cross-platform delivery, as well as problems associated with delivery media and interactivity. Upon completion, students should be able to produce multimedia presentations and determine and adapt to technical specifications for delivery. **Prerequisite:** GRD 271.
- GRD 280 Portfolio Design** 2 4 4
 This course covers the organization and presentation of a design/advertising or graphic art portfolio and appropriate related materials. Emphasis is placed on development and evaluation of the portfolio, design and production of a résumé and self-promotional materials, and interview techniques. Upon completion, students should be able to prepare and professionally present an effective portfolio and related self-promotional materials. **Prerequisites:** GRD 142 and GRD 152 or GRA 152.
- GRD 281 Design of Advertising** 2 0 2
 This course explores the origins, roles, scope, forms, and development of advertising. Emphasis is placed on advertising development from idea through production and the interrelationship of marketing to types of advertising, media, and organizational structure. Upon completion, students should be able to demonstrate an understanding of the complexities and relationships involved in advertising design.

■ HEA - Health

HEA 110 Personal Health/Wellness 3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

■ HIS - History

HIS 121 Western Civilization I 3 0 3

This course introduces western civilization from prehistory to the early modern era. Topics include ancient Greece, Rome, and Christian institutions of the Middle Ages and the emergence of national monarchies in western Europe. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 122 Western Civilization II 3 0 3

This course introduces western civilization from the early modern era to the present. Topics include the religious wars, the Industrial Revolution, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 131 American History I 3 0 3

This course is a survey of American history from prehistory 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 132 American History II 3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 251 English History I 3 0 3

This course traces the political, social, and economic development of England to the Elizabethan period. Topics include the early development of England, the Norman conquest, medieval society, and Elizabethan England. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early English history. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 252 English History II 3 0 3

This course traces the political, social, and economic development of England from the Elizabethan period to the present. Topics include imperialism, industrial development, civil wars, and world wars. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in English history from Elizabethan England to the present. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

■ HUM - Humanities

HUM 110 Technology & Society 3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 120 Cultural Studies 3 0 3

This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 121 The Nature of America 3 0 3

This course provides an interdisciplinary survey of the American cultural, social, and political experience. Emphasis is placed on the multicultural character of American society, distinctive qualities of various regions, and the American political system. Upon completion, students should be able to analyze significant cultural, social and political aspects of American life. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 122 Southern Culture 3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 130 Myth in Human Culture 3 0 3

This course provides an in-depth study of myths and legends. Topics include the varied sources of myths and their influence on the individual and society within diverse cultural contexts. Upon completion, students should be able to demonstrate a general familiarity with myths and a broad-based understanding of the influence of myths and legends on modern culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 150 American Women's Studies 3 0 3

This course provides an interdisciplinary 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 160 Introduction to Film 2 2 3

This course introduces the fundamental elements of film artistry and production. Topics include film styles, history and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 220 Human Values & Meaning 3 0 3

This course presents some major dimensions of human experience as reflected in art, music, literature, philosophy, and history. Topics include the search for identity, the quest for knowledge, the need for love, the individual and society, and the meaning of life. Upon completion, students should be able to recognize interdisciplinary connections and distinguish between open and closed questions and between narrative and scientific models of understanding. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

Prerequisite: ENG 111.

■ **HYD - Hydraulics**

HYD 110 Hydraulics/Pneumatics I 2 3 3

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.

■ **INT - International Business**

INT 110 International Business 3 0 3

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.

■ **ISC - Industrial Science**

ISC 112 Industrial Safety 2 0 2

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

■ **JOU - Journalism**

JOU 120 Journalism/Theory & Production 2 2 3

This course provides a study of basic journalistic writing and production techniques. Emphasis is placed on interviewing, drafting, editing, layout, design, and printing. Upon completion, students should be able to demonstrate competence in the various phases of writing and producing a publication.

■ **MAC - Machining**

MAC 111 Machining Technology I 2 12 6

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 111A Machining Technology I 1 6 3

MAC 111B Machining Technology I 1 6 3

These courses introduce machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. **Prerequisite: MAC 111A is prerequisite for MAC 111B.**

MAC 112 Machining Technology II 2 12 6

This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling. **Prerequisite: MAC 111.**

MAC 112A Machining Technology II 1 6 3

MAC 112B Machining Technology II 1 6 3

These courses provide additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling. **Prerequisites: MAC 111 or MAC 111A, MAC 111B; and MAC 112A is prerequisite for MAC 112B.**

MAC 113 Machining Technology III 2 12 6

This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications. **Prerequisite: MAC 112.**

MAC 122 CNC Turning 1 3 2

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** 1 3 2
 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 151 Machining Calculations** 1 2 2
 This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations. *Credit by proficiency exam is available.*
- MAC 152 Advanced Machining Calculations** 1 2 2
 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. *Credit by proficiency exam is available.* **Prerequisite: MAC 151.**
- MAC 214 Machining Technology IV** 2 12 6
 This course provides advanced applications and practical experience in the manufacturing of complex parts. Emphasis is placed on inspection, gaging, and the utilization of machine tools. Upon completion, students should be able to manufacture complex assemblies to specifications. **Prerequisite: MAC 112.**
- MAC 222 Advanced CNC Turning** 1 3 2
 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. **Prerequisite: MAC 122.**
- MAC 224 Advanced CNC Milling** 1 3 2
 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. **Prerequisite: MAC 124.**
- MAC 241 Jigs & Fixtures I** 2 6 4
 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. *Credit by proficiency exam is available.* **Prerequisite: MAC 112.**
- MAC 243 Die Making I** 2 6 4
 This course introduces the principles and applications of die making. Topics include types, construction, and application of dies. Upon completion, students should be able to design and build simple dies. **Prerequisite: MAC 112.**
- MAC 245 Mold Construction I** 2 6 4
 This course introduces the principles of mold making. Topics include types, construction, and application of molds. Upon completion, students should be able to design and build simple molds. *Credit by proficiency exam is available.* **Prerequisite: MAC 112.**
- **MAT - Mathematics**
- MAT 050 Basic Math Skills** 3 2 4
 This course is designed to strengthen basic math skills. Topics include properties, rounding, estimating, comparing, converting and computing whole numbers, fractions, and decimals. Upon completion, students should be able to perform basic computations and solve relevant mathematical problems.
- MAT 060 Essential Mathematics** 3 2 4
 This course is a comprehensive study of mathematical skills which should provide a strong mathematical foundation to pursue further study. Topics include principles and applications of decimals, fractions, percents, ratio and proportion, order of operations, geometry, measurement, and elements of algebra and statistics. Upon completion, students should be able to perform basic computations and solve relevant, multistep mathematical problems using technology where appropriate. **Prerequisite: MAT 050 or acceptable placement score.**

- MAT 070 Introductory Algebra** 3 2 4
 This course establishes a foundation in algebraic concepts and problem solving. Topics include signed numbers, exponents, order of operations, simplifying expressions, solving linear equations and inequalities, graphing, formulas, polynomials, factoring, and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. **Prerequisite:** MAT 060 or acceptable placement score. **Corequisite:** RED 080 or ENG 085 or acceptable placement score.
- MAT 080 Intermediate Algebra** 3 2 4
 This course continues the study of algebraic concepts with emphasis on applications. Topics include factoring; rational expressions; rational exponents; rational, radical, and quadratic equations; systems of equations; inequalities; graphing; functions; variations; complex numbers; and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. **Prerequisite:** MAT 070 or acceptable placement score. **Corequisite:** RED 080 or ENG 085 or acceptable placement score.
- MAT 101 Applied Mathematics I** 2 2 3
 This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve practical problems in their specific areas of study. This course is intended for certificate and diploma programs. *Credit by proficiency exam is available.* **Prerequisite:** MAT 060 or acceptable placement score.
- MAT 115 Mathematical Models** 2 2 3
 This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematics-intensive programs. Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions and their groups, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently. *Credit by proficiency exam is available.* **Prerequisite:** MAT 070 or acceptable placement score.
- MAT 120 Geometry & Trigonometry** 2 2 3
 This course introduces the concepts of plane trigonometry and geometry with emphasis on applications to problem solving. Topics include the basic definitions and properties of plane and solid geometry, area and volume, right triangle trigonometry, and oblique triangles. Upon completion, students should be able to solve applied problems both independently and collaboratively using technology. **Prerequisite:** MAT 070 or acceptable placement score.
- MAT 121 Algebra/Trigonometry I** 2 2 3
 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 simplification, evaluation, and solving of algebraic and radical functions; complex numbers; right triangle trigonometry; systems of equations; and the use of technology. Upon completion, students should be able to demonstrate an understanding of the use of mathematics and technology to solve problems and analyze and communicate results. **Prerequisite:** MAT 070 or acceptable placement score.
- MAT 140 Survey of Mathematics** 3 0 3
 This course provides an introduction in a nontechnical setting to selected topics in mathematics. Topics include, but are not limited to, sets, logic, probability, statistics, matrices, mathematical systems, geometry, topology, mathematics of finance, and modeling. Upon completion, students should be able to understand a variety of mathematical applications, think logically, and be able to work collaboratively and independently. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** MAT 070 or acceptable placement score.

MAT 151 Statistics I

3 0 3

This course provides a project-based approach to the study of basic probability, descriptive and inferential statistics, and decision making. Emphasis is placed on measures of central tendency and dispersion, correlation, regression, discrete and continuous probability distributions, quality control, population parameter estimation, and hypothesis testing. Upon completion, students should be able to describe important characteristics of a set of data and draw inferences about a population from sample data. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** MAT 080 or MAT 090 or acceptable placement score.

MAT 161 College Algebra

3 0 3

This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on applications involving equations and inequalities, polynomials, rational, exponential, and logarithmic functions; and graphing and data analysis/modeling. Upon completion, students should be able to choose an appropriate model to fit a data set and use the model for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** MAT 080 or MAT 090 or acceptable placement score.

MAT 171 Precalculus Algebra

3 0 3

This is the first of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on equations and inequalities, functions (linear, polynomial, rational), systems of equations and inequalities, and parametric equations. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and predictions. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. Credit by proficiency exam is available.* **Prerequisite:** MAT 080 or MAT 090 or acceptable placement score.

MAT 172 Precalculus Trigonometry

3 0 3

This is the second of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on properties and applications of transcendental functions and their graphs, right and oblique triangle trigonometry, conic sections, vectors, and polar coordinates. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** MAT 171.

MAT 263 Brief Calculus

3 0 3

This course introduces concepts of differentiation and integration and their applications to solving problems; the course is designed for students needing one semester of calculus. Topics include functions, 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** MAT 161.

MAT 271 Calculus I

3 2 4

This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications. Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* **Prerequisite:** MAT 172 or MAT 175.

■ MEC - Mechanical**MEC 110 Introduction to CAD/CAM**

1 2 2

This course introduces CAD/CAM. Emphasis is placed on transferring part geometry from CAD to CAM for the development of a CNC-ready program. Upon completion, students should be able to use CAD/CAM software to produce a CNC program.

MEC 111 Machine Processes I	1	4	3
This course introduces safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include safety, measuring tools, and the basic setup and operation of lathes, milling machines, drill presses, and saws. Upon completion, students should be able to manufacture a simple part to a specified tolerance.			
MEC 231 Computer-Aided Manufacturing I	1	4	3
This course introduces computer-aided manufacturing (CAM) applications and concepts. Emphasis is placed on developing/defining part geometry and the processing of information needed to manufacture parts. Upon completion, students should be able to demonstrate skills in defining part geometry, program development, and code generation using CAM software.			
■ MKT - Marketing & Retailing			
MKT 120 Principles of Marketing	3	0	3
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.			
MKT 123 Fundamentals of Selling	3	0	3
This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.			
MKT 223 Customer Service	3	0	3
This course stresses the importance of customer relations in the business world. Emphasis is placed on learning how to respond to complex customer requirements and to efficiently handle stressful situations. Upon completion, students should be able to demonstrate the ability to handle customer relations.			
■ MNT - Maintenance			
MNT 110 Introduction to Maintenance Procedures	1	3	2
This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.			
MNT 111 Maintenance Practices	2	2	3
This course provides in-depth theory and practical applications relating to predictive and preventive maintenance programs. Emphasis is placed on equipment failure, maintenance management software, and techniques such as vibration and infrared analysis. Upon completion, students should be able to demonstrate an understanding of modern analytical and documentation methods.			
■ MUS - Music			
MUS 110 Music Appreciation	3	0	3
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>			
MUS 112 Introduction to Jazz	3	0	3
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>			
MUS 114 Non-Western Music	3	0	3
This course provides a basic survey of the music of the non-Western world. Emphasis is placed on nontraditional instruments, sources, and performing practices. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of non-Western music. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>			

■ **NAS - Nursing Assistant**

NAS 101 Nursing Assistant I 3 2 3 5

This course introduces basic nursing skills required to provide personal care for patients, residents, or clients in a health care setting. Topics include communications, safety, patients' rights, personal care, vital signs, elimination, nutrition, emergencies, rehabilitation, and mental health. Upon completion, students should be able to demonstrate skills necessary to qualify as a Nursing Assistant I with the North Carolina Nurse Aide I Registry. *This is a certificate-level course.*

■ **NET - Networking Technology**

NET 110 Data Communication/Networking 2 2 3

This course introduces data communication and networking. Topics include telecommunication standards, protocols, equipment, network topologies, communication software, LANs, WANs, the Internet, and network operating systems. Upon completion, students should be able to demonstrate understanding of the fundamentals of telecommunication and networking. **Prerequisite:** CIS 215.

NET 125 Routing & Switching I 1 4 3

This course introduces the OSI model, network topologies, IP addressing and subnet masks, simple routing techniques, and basic switching terminology. Topics include the basic functions of the seven layers of the OSI model, different classes of IP addressing and subnetting, and router login scripts. Upon completion, students should be able to list the key internetworking functions of the OSI Networking Layer and how they are performed in a variety of router types.

NET 126 Routing & Switching II 1 4 3

This course introduces router configurations, router protocols, switching methods, and hub terminology. Topics include the basic flow control methods, router start-up commands, manipulation of router configuration files, and IP and data link addressing. Upon completion, students should be able to prepare the initial router configuration files, as well as enable, verify, and configure IP addresses. **Prerequisite:** NET 125.

NET 225 Advanced Routing & Switching I 1 4 3

This course introduces advanced router configurations, advanced LAN switching theory and design, VLANs, Novell IPX, and threaded case studies. Topics include router elements and operations, adding routing protocols to a configuration, monitoring IPX operations on the router, LAN segmentation, and advanced switching methods. Upon completion, students should be able to describe LAN and network segmentation with bridges, routers, and switches, and describe a virtual LAN. **Prerequisite:** NET 126.

NET 226 Advanced Routing & Switching II 1 4 3

This course introduces WAN theory and design, WAN technology, PPP, Frame Relay, ISDN, and additional case studies. Topics include network congestion problems, TCP/IP transport and network layer protocols, advanced routing and switching configuration, ISDN protocols, and PPP encapsulation operations on a router. Upon completion, students should be able to provide solutions for network routing problems; identify ISDN protocols, channels, and function groups; and describe the Spanning Tree protocol. **Prerequisite:** NET 225.

■ **NUR - Nursing**

NUR 110 Nursing I 5 3 6 8

This course introduces concepts basic to beginning nursing practice. Emphasis is placed on introducing the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to demonstrate beginning competence in caring for individuals with common alterations in health. Clinical experiences will include care of individuals across the life span in hospital inpatient units and skilled nursing/rehabilitation facilities. **Prerequisite:** Admission to the Associate Degree Nursing program. **Corequisites:** BIO 168 and PSY 110.

NUR 120 Nursing II 5 3 6 8

This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on developing the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to participate in the delivery of nursing care for individuals with common alterations in health. Clinical experiences will include critical care and acute care across the life span. Clinical experiences will include acute care of individuals across the life span in hospital inpatient units. **Prerequisite:** NUR 110. **Corequisites:** BIO 169 and ENG 111.

NUR 130 Nursing III 4 3 6 7
 This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on expanding the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to deliver nursing care to individuals with common alterations in health. Clinical experiences will include care of individuals across the life span in hospital and extended care facilities. Clinical experiences will include care of individuals across the life span in hospital inpatient units and skilled nursing/rehabilitation facilities.

Prerequisite: NUR 120. **Corequisites:** PSY 150 and SOC 210.

NUR 187 Transition Practicum 0 0 6 2
 This course provides a clinical practice component designed to assist the licensed practical nurse to transition to the role of the associate degree nurse. Emphasis is placed on developing the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to demonstrate competency in the delivery of nursing care for individuals with common alterations in health.

NUR 189 Nursing Transition 1 3 0 2
 This course is designed to assist the licensed practical nurse in transition to the role of the associate degree nurse. Topics include the role of the registered nurse, nursing process, homeostasis, and validation of selected nursing skills and physical assessment. Upon completion, students should be able to articulate into the ADN program at the level of the generic student.

NUR 210 Nursing IV 5 3 12 10
 This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on using collaboration as a provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to modify nursing care for individuals with common alterations in health. Clinical experiences will include the care of the childbearing family and hospitalized clients across the life span. Clinical experiences will include the care of the school-aged child, the childbearing family, and the hospitalized client. **Prerequisite:** NUR 130. **Corequisites:** ENG 114 and Humanities.

NUR 220 Nursing V 4 3 15 10
 This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on the nurse's role as an independent provider and manager of care for a group of individuals and member of a multidisciplinary team. Upon completion, students should be able to provide comprehensive nursing care to a group of individuals with common complex health alterations. Clinical experiences will include psychiatric/mental health, home health and a focus on the application of management skills. Clinical experiences will include care of the psychiatric/mental health, home health, and hospitalized client in an acute care setting with a focus on management skills. **Prerequisite:** NUR 210. **Corequisite:** ECO 151.

■ **OMT - Operations Management Technology**

OMT 222 Project Management 3 0 3
 This course covers fundamental concepts associated with multitask management and coordination. Topics include flow diagrams, process and operations charts, network scheduling, Gantt charts, and PERT and Critical Path Methods as tools in project management. Upon completion, students should be able to understand and apply project management tools and methods.

■ **OST - Office Systems Technology**

OST 122 Office Computations 1 2 2
 This course introduces the keypad and the touch method using the electronic calculator. Topics include mathematical functions in business applications. Upon completion, students should be able to use the electronic calculator to solve a wide variety of problems commonly encountered in business.

OST 131 Keyboarding 1 2 2
 This course covers basic keyboarding skills. Emphasis is placed on the touch system, correct techniques, and development of speed and accuracy. Upon completion, students should be able to key at an acceptable speed and accuracy level using the touch system. Additionally, students should be able to format basic letters, memos, tables, reports, and other types of personal and business communications. *Credit by proficiency exam is available.*

- OST 134 Text Entry & Formatting** 2 2 3
 This course is designed to provide the skills needed to increase speed, improve accuracy, and format documents. Topics include letters, memos, tables, and business reports. Upon completion, students should be able to produce mailable documents and key timed writings at speeds commensurate with employability. **Prerequisite:** OST 131.
- OST 136 Word Processing** 1 2 2
 This course introduces 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. *Credit by proficiency exam is available.* **Prerequisite:** OST 131.
- OST 164 Text Editing Applications** 3 0 3
 This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.
- OST 181 Introduction to Office Systems** 2 2 3
 This course introduces the skills and abilities needed in today's office. Topics include effectively interacting with coworkers and the public, processing simple financial and informational documents, and performing functions typical of today's offices. Upon completion, students should be able to display skills and decision-making abilities essential for functioning in the total office context.
- OST 184 Records Management** 1 2 2
 This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system.
- OST 233 Office Publications Design** 2 2 3
 This course provides entry-level skills in using software with desktop publishing capabilities. Topics include principles of page layout, desktop publishing terminology and applications, and legal and ethical considerations of software use. Upon completion, students should be able to design and produce professional business documents and publications. **Prerequisite:** OST 136.
- OST 236 Advanced Word/Information Processing** 2 2 3
 This course develops proficiency in the utilization of advanced word/information processing functions. Topics include tables, graphics, macros, sorting, document assembly, merging, and newspaper and brochure columns. Upon completion, students should be able to produce a variety of complex business documents. **Prerequisite:** OST 135 or OST 136.
- OST 289 Office Systems Management** 2 2 3
 This course provides a capstone course for the office professional. Topics include administrative office procedures, imaging, communication techniques, ergonomics, and equipment utilization. Upon completion, students should be able to function proficiently in a changing office environment. **Prerequisites:** OST 164 and either OST 134 or OST 136, OST 181, CIS 120, CIS 152.

■ **PEP - Physical Education**

- PEP 113 Aerobics I** 0 3 1
 This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- PEP 114 Aerobics II** 0 3 1
 This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* **Prerequisite:** PEP 113.

PED 115 Step Aerobics I	0	3	1
<p>This course introduces the fundamentals of step aerobics. Emphasis is placed on basic stepping up and down on an adjustable platform; cardiovascular fitness; and upper body, floor, and abdominal exercises. Upon completion, students should be able to participate in basic step aerobics. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			
PED 116 Step Aerobics II	0	3	1
<p>This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises. Upon completion, students should be able to participate in and design a step aerobics routine. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i> Prerequisite: PED 115.</p>			
PED 120 Walking for Fitness	0	3	1
<p>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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			
PED 121 Walk, Jog, Run	0	3	1
<p>This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			
PED 122 Yoga I	0	2	1
<p>This course introduces the basic discipline of yoga. Topics include proper breathing, relaxation techniques, and correct body positions. Upon completion, students should be able to demonstrate the procedures of yoga. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			
PED 123 Yoga II	0	2	1
<p>This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. Upon completion, students should be able to demonstrate advanced procedures of yoga. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i> Prerequisite: PED 122.</p>			
PED 125 Self-Defense-Beginning	0	2	1
<p>This course is designed to aid students in developing rudimentary skills in self-defense. Emphasis is placed on stances, blocks, punches, and kicks as well as nonphysical means of self-defense. Upon completion, students should be able to demonstrate basic self-defense techniques of a physical and nonphysical nature. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			
PED 137 Badminton	0	2	1
<p>This course covers the fundamentals of badminton. Emphasis is placed on the basics of serving, clears, drops, drives, smashes, and the rules and strategies of singles and doubles. Upon completion, students should be able to apply these skills in playing situations. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			
PED 142 Lifetime Sports	0	2	1
<p>This course is designed to give an overview of a variety of sports activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime sports. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime sports activities. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			
PED 143 Volleyball-Beginning	0	2	1
<p>This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i></p>			

- PED 171 Nature Hiking** 0 2 1
 This course provides instruction on how to equip and care for oneself on the trail. Topics include clothing, hygiene, trail ethics, and necessary equipment. Upon completion, students should be able to successfully participate in nature trail hikes. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- PED 183 Folk Dancing** 0 2 1
 This course teaches the fundamental folk dance movements along with cultural traditions from various countries. Emphasis is placed on the history and traditions of the folk dance as well as the movements and the dances themselves. Upon completion, students should be able to demonstrate folk dances as well as knowledge of their origins and cultural traditions. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- PED 184 Square Dancing I** 0 2 1
 This course introduces the terminology and skills necessary to perform square dancing. Topics include working from squared sets-squared circles, to squared throughs, right and left throughs, and Dixie Chains. Upon completion, students should be able to perform square dance routines and recognize the calls made for all formations. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- PED 185 Square Dancing II** 0 2 1
 This course includes additional variations and forms of square dancing. Topics include such routines as turns, grand swing, triple trades, wheel and deal, T-cup chain, and arky change. Upon completion, students should be able to demonstrate and perform country and western square dance routines. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* **Prerequisite: PED 184.**
- PED 186 Dancing for Fitness** 0 2 1
 This course is designed to develop movement and recreational dance skills, safety, fitness, coordination, and techniques used to teach various groups. Emphasis is placed on participation and practice with adapting dances for ages and ability levels. Upon completion, students should be able to demonstrate knowledge of fitness through social, folk, and square dance participation and instruction. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- PED 187 Social Dance-Beginning** 0 2 1
 This course introduces the fundamentals of popular social dances. Emphasis is placed on basic social dance techniques, dances, and a brief history of social dance. Upon completion, students should be able to demonstrate specific dance skills and perform some dances. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- PED 189 Clogging** 0 2 1
 This course introduces the fundamentals of clogging. Emphasis is placed on basic dance steps, turns, formations, and figures in American and English country dancing. Upon completion, students should be able to participate in the lifelong recreational activity of clogging. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*
- **PFN - Photofinishing**
- PFN 110 Process Monitoring I** 1 3 2
 This course introduces the principles of chemical process monitoring for continuous processing of film and paper, densitometry and sensitometry, and EPA and OSHA standards. Emphasis is placed on process monitoring, why and how a process is performed, what equipment and materials are needed, and EPA and OSHA standards. Upon completion, students should be able to analyze process monitoring data using densitometry, sensitometry, and related equipment and demonstrate knowledge of EPA and OSHA standards. **Prerequisite: Successful completion of all required first-year PHO courses.**

■ **PHI - Philosophy**

PHI 210 History of Philosophy 3 0 3
 This course introduces fundamental philosophical issues through an historical perspective. Emphasis is on such figures as Plato, Aristotle, Lao-Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

Prerequisite: ENG 111.

PHI 215 Philosophical Issues 3 0 3
 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 critique the philosophical components of an issue. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 111.

PHI 240 Introduction to Ethics 3 0 3
 This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on utilitarianism, rule-based ethics, existentialism, relativism versus objectivism, and egoism. Upon completion, students should be able to apply various ethical theories to individual moral issues such as euthanasia, abortion, crime and punishment, and justice. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** ENG 111.

■ **PHO - Photography**

PHO 110 Fundamentals of Photography 3 6 5
 This course covers the basic technical aspects of black and white photography, including camera controls, light and optics, flash, film exposure, and processing. Emphasis is placed on mechanical principles of camera design and the relationship between subject and photographic image, with hands-on experience in the darkroom. Upon completion, students should be able to consistently produce technically excellent images. **Corequisite:** PHO 111.

PHO 111 Photographic Correction & Finishing I 0 3 1
 This course introduces traditional mounting and corrections techniques used in black and white photography. Topics include various mounting and presentation techniques and chemical and physical methods for correction on both negatives and prints. Upon completion, students should be able to mount and mat photographs and retouch and spot photographic images in black and white. **Corequisite:** PHO 110.

PHO 112 Design Laboratory I 0 3 1
 This course covers basic perceptual and design skills required for effective professional photographic communication. Emphasis is placed on fundamental design principles and historic photographic images, execution and critique of photographic assignments, and laboratory projects emphasizing right-brain processing. Upon completion, students should be able to utilize basic design principles and knowledge of photographic history to produce images demonstrating control of the picture space. **Corequisites:** PHO 110 and PHO 111.

PHO 121 Photographic Correction & Finishing II 0 3 1
 This course introduces corrective techniques in retouching color photography and various mounting and presentation techniques for photographic images. Emphasis is placed on retouching color images using a variety of techniques and color image presentation. Upon completion, students should be able to retouch and spot photographic images in color and use various mounting and presentation techniques for photographic images. **Prerequisites:** PHO 110, PHO 111.

PHO 122 Design Laboratory II 0 3 1
 This course continues development of perceptual and design skills required for effective professional communication in both black/white and color photography. Topics include illustration, layout design, color impact, color relationships, and continued study of photographic images. Upon completion, students should be able to utilize design elements and principles to produce black/white and color images demonstrating clear visual communication. **Prerequisites:** PHO 110, PHO 111, and PHO 112.

- PHO 123 Large-Format Photography I** 1 3 2
 This course provides a comprehensive hands-on study of the large-format camera, including capabilities, movements, and applications and sheet film handling and processing. Topics include large-format camera types, nomenclature, components, and movements with assignments emphasizing control of plane of sharp focus, depth-of-field, and image shape modification. Upon completion, students should be able to utilize the basic capabilities of large-format cameras and demonstrate knowledge of sheet film handling and processing. **Prerequisite:** PHO 110. **Corequisite:** PHO 125.
- PHO 125 Basic Object Lighting** 0 3 1
 This course introduces the techniques used in controlling studio lighting for object illustration using tungsten light and electronic flash on basic geometric shapes. Topics include equipment operation, safety, and maintenance; light quality; exposure methods; and the illusion of form in a photograph. Upon completion, students should be able to safely and correctly work with studio lighting equipment to produce quality images of a variety of geometric forms. **Prerequisite:** PHO 110.
- PHO 126 Basic Portrait Lighting** 0 3 1
 This course covers basic techniques used in studio lighting for portraiture, including controlled lighting of facial contours using electronic flash. Topics include F/stop series; equipment operation, safety, and maintenance; and basic lighting patterns. Upon completion, students should be able to safely set up and operate strobe lighting in a studio applying appropriate light patterns to the subject. **Prerequisite:** PHO 110.
- PHO 127 Photographic Materials/Processes** 4 0 4
 This course covers the materials and processes of current black/white and color photography and the reproduction of tone and color. Topics include light, color temperature, subjects, emulsion sensitivity, development, printing systems, and their interrelationships in the reproduction process. Upon completion, students should be able to state the effects that each part of the photographic process has upon the resulting black/white or color image. **Prerequisite:** PHO 110.
- PHO 127A Photographic Materials/Processes Lab** 0 3 1
 This course provides an opportunity for practical application of the materials covered in PHO 127. Topics include control of film exposure and development, color temperature, and printing. Upon completion, students should be able to determine the effects that the photographic process has upon the resulting black/white or color image. **Prerequisite:** PHO 110. **Corequisite:** PHO 127.
- PHO 132 Small-Format Photography** 2 6 4
 This course introduces small-format cameras and their application in location portraiture, industrial photography, photojournalism, and multimedia photography and portable lighting equipment and techniques. Topics include rapid camera operation, location photography, exposure techniques, portable flash, process modification, filtration, and simple multimedia production. Upon completion, students should be able to produce professional quality images under a variety of adverse shooting conditions using the equipment and techniques studied. **Prerequisites:** PHO 110 and PHO 115; PHO 110, PHO 125, and PHO 126.
- PHO 133 Large-Format Photography II** 1 3 2
 This course provides an advanced, hands-on study of the large-format camera concentrating on professional applications in studio and architectural photography. Topics include optical principles, control of the image through camera position/focal length, and image size/perspective choices applied in specific photographic assignments. Upon completion, students should be able to utilize advanced large-format camera capabilities in a variety of professional applications. **Prerequisites:** PHO 123 and PHO 125.
- PHO 134 Custom Color Printing** 1 2 2
 This course introduces the materials, processes, and techniques used in custom color printing. Topics include color theory, color balancing, cropping, dodging, burning, and print finishing. Upon completion, students should be able to demonstrate knowledge of color theory and printing techniques. **Prerequisites:** PHO 111 and PHO 127.
- PHO 135 Product Lighting** 0 3 1
 This course covers studio lighting techniques used to illustrate a wide variety of product surfaces and shapes. Topics include lighting and subject styling applied in the illustration of glass, plastic, metals, leathers, fabrics, wood, and other product surfaces. Upon completion, students should be able to produce quality images of a variety of subjects using both tungsten and electronic flash. **Prerequisite:** PHO 125.

- PHO 139 Introduction to Digital Imaging** 1 3 2
 This course introduces the conversion of photographs into digital images by exploring the effect hardware and software have on the reproduction process. Topics include basic imaging tools and vocabulary, calibration, density, contrast, and color. Upon completion, students should be able to demonstrate a basic understanding of the digital imaging process and be able to capture and output images. **Prerequisite:** PHO 110.
- PHO 210 Professional Wedding Photography** 1 6 3
 This course covers the techniques used in producing wedding photographs and formal bridal portraits, along with applicable business practices. Emphasis is placed on the protocol of various religious services, discussion of sales packages and album sources, and promotional and advertising techniques. Upon completion, students should be able to photograph a wedding and deliver a professional photographic wedding album along with bridal portraits. *This course is a unique concentration requirement in the Portrait Studio Management concentration in the Photographic Technology program.* **Prerequisite:** PHO 132.
- PHO 211 Professional Portraiture I** 2 12 8
 This course covers lighting, cameras, and accessory equipment used in studio/location professional portraiture and the dynamics and psychology of posing individuals and groupings. Topics include lighting, backgrounds, makeup, clothing, presentation techniques, sound business principles, and direct sales methods. Upon completion, students should be able to produce a variety of professional portraits and demonstrate an understanding of the business considerations of professional portrait photography. *This course is a unique concentration requirement in the Portrait Studio Management concentration in the Photographic Technology program.* **Prerequisites:** PHO 126 and successful completion of all required first-year PHO courses.
- PHO 212 Biomedical Photojournalism** 1 3 2
 This course introduces practical techniques used in biomedical news and public relations photography. Topics include a study of general news, sports, and public relations along with advanced photographic techniques. Upon completion, students should be able to demonstrate an understanding of basic aspects of biomedical news, sports, and public relations photography by completion of assignments. *This course is a unique concentration requirement in the Biomedical concentration in the Photographic Technology program.* **Prerequisite:** PHO 132.
- PHO 213 Macro Photography** 1 6 4
 This course covers the equipment and techniques used by biomedical photographers in the production of magnified images by direct photographic means. Topics include magnification ratios, specialized lighting equipment and techniques, and a variety of medically related subjects. Upon completion, students should be able to produce quality scaled reproductions of properly prepared subjects. *This course is a unique requirement in the Biomedical concentration in the Photographic Technology program.* **Prerequisites:** PHO 132 and successful completion of all required first-year courses.
- PHO 215 Photographic Illustration** 2 8 6
 This course provides a comprehensive study of professional commercial photographic illustration, including tools, techniques, and applications in preparation for internship experiences. Topics include theory and practice of location and studio lighting, camera techniques, and people/product and editorial illustration. Upon completion, students should be able to plan and execute professionally acceptable images in studio and on location illustrating people and products emphasizing commercial applications. *This course is a unique concentration requirement in the Commercial Photography concentration in the Photographic Technology program.* **Prerequisites:** PHO 132, PHO 133, and PHO 135, and successful completion of all required first-year PHO courses.
- PHO 217 Photojournalism I** 1 6 4
 This course covers logistics and techniques used in current professional newspaper photography. Topics include detailed study of spot and general news, sports, and feature photography along with basic newspaper layout, advanced photographic techniques, and legal issues. Upon completion, students should be able to demonstrate an understanding of basic aspects of news, sports, and feature photography. **Prerequisites:** PHO 132 or PHO 223, and successful completion of all required first-year PHO courses.

- PHO 218 Biomedical Portrait Lighting** 0 3 1
 This course provides an advanced study of portrait lighting in studio and on location using electronic flash and small-format camera. Emphasis is placed on understanding principles of portrait lighting and small-format cameras in biomedical settings. Upon completion, students should be able to apply techniques to professionally light a variety of subjects in studio and on location. *This course is a unique concentration requirement in the Biomedical concentration in the Photographic Technology program.*
Prerequisites: PHO 126 and PHO 132.
- PHO 221 Professional Portraiture II** 1 8 5
 This course provides an in-depth study of portraiture of family groups, children, and pets; full-length portraits; character studies; and client relations. Topics include a variety of portrait situations along with professional business ethics, etiquette, and protocol. Upon completion, students should be able to produce professional quality portraits and demonstrate knowledge of business ethics and protocol. *This course is a unique concentration requirement in the Portrait Studio Management concentration in the Photographic Technology program.* **Prerequisite:** PHO 211.
- PHO 224 Multimedia Production** 2 3 3
 This course covers slide/tape and computer-based multimedia production. Topics include graphic and photographic techniques, story boarding, control of image continuity and pacing, title production, script writing, audio production, copyright laws, and ethics. Upon completion, students should be able to use multimedia hardware and software for productions. **Prerequisite:** PHO 132 or PHO 223.
- PHO 225 Biomedical Object Lighting** 0 3 1
 This course provides an advanced study of object lighting in studio and on location using electronic flash and small-format cameras. Emphasis is placed on understanding lighting principles and light control, including filtration, light balancing, multiple light setups, and lighting a variety of object types and surfaces. Upon completion, students should be able to professionally light a variety of subjects in studio and location situations. *This course is a unique concentration requirement in the Biomedical concentration in the Photographic Technology program.* **Prerequisites:** PHO 132 and PHO 135.
- PHO 227 Photojournalism II** 2 12 8
 This course provides additional experience in news photography. Topics include expanded coverage, illustration, layout, picture usage, picture stories, editing, survey of regional newspapers, employment opportunities, portfolio development, and job seeking skills. Upon completion, students should be able to understand the operation of a daily newspaper and professionally photograph news, sports, and feature situations. *This course is a unique concentration requirement in the Photojournalism concentration in the Photographic Technology program.* **Prerequisite:** PHO 217.
- PHO 228 Advanced Correction & Finishing** 1 3 2
 This course covers various corrections for the photographic image, including surface texture and framing presentation. Emphasis is placed on negative and print correction, air brush techniques, and major restoration techniques. Upon completion, students should be able to professionally retouch/restore and frame the photographic image. **Prerequisite:** PHO 121.
- PHO 229 Advertising Photography** 2 8 6
 This course covers advertising photography, including its segments, practices, tools, techniques, and professional applications. Emphasis is placed on layout specification, art direction, and professional business practices. Upon completion, students should be able to demonstrate an understanding of commercial photography and create professional quality images under art direction within layout specifications. *This course is a unique concentration requirement in the Commercial Photography concentration in the Photographic Technology program.* **Prerequisite:** PHO 215.
- PHO 230 Biomedical Portfolio Preparation** 0 6 2
 This course provides an opportunity to plan, execute, and present a professional biomedical photographic portfolio. Emphasis is placed on developing a portfolio of professional quality images which demonstrate talent and technical skills in a marketable presentation. Upon completion, students should be able to use their completed portfolio to show prospective employers and clients their professional photographic and presentation skills. *This course is a unique concentration requirement in the Biomedical concentration in the Photographic Technology program.* **Prerequisite:** PHO 213.

PHO 231 Commercial Portfolio Preparation 0 6 2
 This course provides an opportunity to plan, execute, and present a professional commercial photographic portfolio. Emphasis is placed on developing a portfolio of professional quality images which demonstrate talent and technical skills in a marketable presentation. Upon completion, students should be able to use their completed portfolio to show prospective employers and clients their professional photographic and presentation skills. *This course is a unique concentration requirement in the Commercial Photography concentration in the Photographic Technology program.* **Prerequisite:** PHO 229.

PHO 232 Photojournalism Portfolio Preparation 0 6 2
 This course provides an opportunity to plan, execute, and present a professional photojournalism photographic portfolio. Emphasis is placed on developing a portfolio of professional quality images which demonstrate talent and technical skills in a marketable presentation. Upon completion, students should be able to use their completed portfolio to show prospective employers and clients their professional photographic and presentation skills. *This course is a unique concentration requirement in the Photojournalism concentration in the Photographic Technology program.* **Prerequisite:** PHO 227.

PHO 233 Portrait Portfolio Preparation 0 6 2
 This course provides an opportunity to plan, execute, and present a professional portrait portfolio. Emphasis is placed on developing a portfolio of professional quality images which demonstrate talent and technical skills in a marketable presentation. Upon completion, students should be able to use their completed portfolio to show prospective employers and clients their professional photographic and presentation skills. *This course is a unique concentration requirement of the Portrait Studio Management concentration in the Photographic Technology program.* **Prerequisite:** PHO 221.

PHO 241 Digital Image Technology 2 3 3
 This course provides an advanced study of the technologies and processes used in the capture and purposing of digital images. Topics include operation and application of image capture, scanning, and recording devices; and use of image retouching, toning, modifying, and layout software. Upon completion, students should be able to capture, process, and purpose digital images for specific applications used in various segments of the photographic industry. **Prerequisite:** Successful completion of all required first-year PHO courses. **Corequisites:** PHO 211 or PHO 212 or PHO 215 or PHO 217, PHO 218, and PHO 225.

■ **POL - Political Science**

POL 110 Introduction to Political Science 3 0 3
 This course introduces basic political concepts used by governments and addresses a wide range of political issues. Topics include political theory, ideologies, legitimacy, and sovereignty in democratic and nondemocratic systems. Upon completion, students should be able to discuss a variety of issues inherent in all political systems and draw logical conclusions in evaluating these systems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

POL 120 American Government 3 0 3
 This course is a study of the origins, development, structure, and functions of American national 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 formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

POL 130 State & Local Government 3 0 3
 This course includes state and local political institutions and practices in the context of American federalism. Emphasis is placed on procedural and policy differences as well as political issues in state, regional, and local governments of North Carolina. Upon completion, students should be able to identify and discuss various problems associated with intergovernmental politics and their effect on the community and the individual. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

POL 210 Comparative Government

3 0 3

This course provides a cross-national perspective on the government and politics of contemporary nations such as Great Britain, France, Germany, and Russia. Topics include each country's historical uniqueness, key institutions, attitudes and ideologies, patterns of interaction, and current political problems. Upon completion, students should be able to identify and compare various nations' governmental structures, processes, ideologies, and capacity to resolve major problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

POL 220 International Relations

3 0 3

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, nongovernmental 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

■ PSY - Psychology**PSY 110 Life Span Development**

3 0 3

This course provides an introduction to the study of human growth and development. Emphasis is placed on 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 and apply this knowledge to their specific field of study.

PSY 115 Stress Management

2 0 2

This course covers stressors and techniques for stress management. Topics include anger, assertiveness, adaptation to change, conflict, coping skills, identification of stressors, time management, and the physiology of stress and burnout. Upon completion, students should be able to demonstrate an understanding of the effective management of stress.

PSY 150 General Psychology

3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

PSY 237 Social Psychology

3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. Prerequisite: PSY 150 or SOC 210.*

PSY 241 Developmental Psychology

3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. Prerequisite: PSY 150.*

PSY 256 Exceptional Children

3 0 3

This course introduces major exceptionalities in children including mental, emotional, and physical variations; learning disabilities; and giftedness. Emphasis is placed on theoretical perspectives, identification methods, and intervention strategies. Upon completion, students should be able to demonstrate a general knowledge of the exceptionalities of children and recommended intervention techniques. **Prerequisite: PSY 150.**

PSY 263 Educational Psychology 3 0 3
 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 development issues. Upon completion, students should be able to demonstrate an understanding of the application of psychological theory to educational practice. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* **Prerequisite:** PSY 150.

PSY 281 Abnormal Psychology 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* **Prerequisite:** PSY 150.

■ **RAD - Radiography**

RAD 110 Radiography Introduction & Patient Care 2 3 0 3
 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. **Corequisites:** RAD 111 and RAD 151.

RAD 111 RAD Procedures I 3 3 0 4
 This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the chest, abdomen, extremities, spine, and pelvis. Upon completion, students should be able to demonstrate competence in these areas. **Corequisites:** RAD 110 and RAD 151.

RAD 112 RAD Procedures II 3 3 0 4
 This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the skull, bony thorax, and gastrointestinal, biliary, and urinary systems. Upon completion, students should be able to demonstrate competence in these areas. **Prerequisites:** RAD 110, RAD 111, and RAD 151.

RAD 121 Radiographic Imaging I 2 3 0 3
 This course covers factors of image quality and methods of exposure control. Topics include density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts. Upon completion, students should be able to demonstrate an understanding of exposure control and the effects of exposure factors on image quality. **Prerequisites:** RAD 110, RAD 111, and RAD 151.

RAD 122 Radiographic Imaging II 1 3 0 2
 This course covers image receptor systems and processing principles. Topics include film, film storage, processing, intensifying screens, grids, and beam limitation. Upon completion, students should be able to demonstrate the principles of selection and usage of imaging accessories to produce quality images. **Prerequisites:** RAD 112, RAD 121, and RAD 161. **Corequisites:** RAD 131 and RAD 171.

RAD 131 Radiographic Physics I 1 3 0 2
 This course introduces the fundamental principles of physics that underlie diagnostic X-ray production and radiography. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Upon completion, students should be able to demonstrate an understanding of basic principles of physics as they relate to the operation of radiographic equipment. **Prerequisites:** RAD 112, RAD 121, and RAD 161. **Corequisites:** RAD 122 and RAD 171.

RAD 151 RAD Clinical Education I 0 0 6 2
 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. **Corequisites:** RAD 110 and RAD 111.

RAD 161 RAD Clinical Education II	0	0	15	5
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. Prerequisites: RAD 110, RAD 111, and RAD 151. Corequisites: RAD 112 and RAD 121.				
RAD 171 RAD Clinical Education III	0	0	12	4
This course provides experience in patient management specific to fluoroscopic and advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and mastering positioning of gastrointestinal and urological studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives. Prerequisites: RAD 112, RAD 121, and RAD 161. Corequisites: RAD 122 and RAD 131.				
RAD 211 RAD Procedures III	3	3	0	4
This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, pathology, and advanced imaging. Upon completion, students should be able to demonstrate competence in these areas. Prerequisite: RAD 122. Corequisites: RAD 231, RAD 241, and RAD 251.				
RAD 231 Radiographic Physics II	1	3	0	2
This course continues the study of physics that underlie diagnostic X-ray production and radiographic and fluoroscopic equipment. Topics include X-ray production, electromagnetic interactions with matter, X-ray devices, equipment circuitry, targets, filtration, and dosimetry. Upon completion, students should be able to demonstrate an understanding of the application of physical concepts as related to image production. Prerequisite: RAD 171. Corequisites: RAD 211, RAD, 241, and RAD 251.				
RAD 241 Radiation Protection	2	0	0	2
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. Prerequisites: RAD 122, RAD 131, and RAD 171. Corequisites: RAD 211, RAD 231, and RAD 251.				
RAD 245 Radiographic Analysis	2	3	0	3
This course provides an overview of imaging concepts and introduces methods of quality assurance. Topics include a systematic approach for image evaluation and analysis of imaging service and quality assurance. Upon completion, students should be able to establish and administer a quality assurance program and conduct a critical review of images. Prerequisite: RAD 251. Corequisite: RAD 261.				
RAD 251 RAD Clinical Education IV	0	0	21	7
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 a further awareness of radiation protection requirements. Upon completion, students should be able to demonstrate successful completion of clinical objectives. Prerequisites: RAD 122, RAD 131, and RAD 171. Corequisites: RAD 211, RAD 231, and RAD 241.				
RAD 261 RAD Clinical Education V	0	0	21	7
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 situation and successfully adapting to those procedures. Upon completion, students should be able to demonstrate successful completion of clinical objectives. Prerequisite: RAD 251. Corequisite: RAD 245.				

■ RED - Reading

RED 090 Improved College Reading	3	2	4
This course is designed to improve reading and critical thinking skills. Topics include vocabulary enhancement; extracting implied meaning; analyzing author's purpose, tone, and style; and drawing conclusions and responding to written material. Upon completion, students should be able to comprehend and analyze college-level reading material. <i>This course satisfies the developmental reading prerequisite for ENG 111 or ENG 111A.</i> Prerequisite: ENG 085 and RED 080, or acceptable placement score.			

■ **REL - Religion**

REL 110 World Religions 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities fine arts.*

REL 211 Introduction to Old Testament 3 0 3
 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, archaeological, and cultural analysis. Upon completion, students should be able to use the tools of critical analysis to read and understand Old Testament literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** RED 090 or acceptable placement score.

REL 212 Introduction to New Testament 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* **Prerequisite:** RED 090 or acceptable placement score.

REL 221 Religion in America 3 0 3
 This course is an examination of religious beliefs and practices in the United States. Emphasis is placed on mainstream religious traditions and nontraditional 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

■ **SCI - Science**

SCI 095 Developmental Science 3 4 5
 This course covers basic principles of science. Topics include measurement, basic atomic structure, compounds of life, cytology, histology, anatomy, taxonomy, and ecology. Upon completion, students should be able to demonstrate the basic knowledge necessary for college-level science courses.

■ **SOC - Sociology**

SOC 210 Introduction to Sociology 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

SOC 213 Sociology of the Family 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

SOC 220 Social Problems 3 0 3
 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

■ SPA - Spanish

SPA 110 Introduction to Spanish

2 0 2

This course provides an introduction to understanding, speaking, reading, and writing Spanish.

Emphasis is placed on pronunciation, parts of speech, communicative phrases, culture, and skills for language acquisition. Upon completion, students should be able to identify and apply basic grammar concepts, display cultural awareness, and communicate in simple phrases in Spanish.

SPA 111 Elementary Spanish I

3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. Credit by proficiency exam is available.*

SPA 112 Elementary Spanish II

3 0 3

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. Credit by proficiency exam is available.* **Prerequisite:** SPA 111.

SPA 120 Spanish for the Workplace

3 0 3

This course offers applied Spanish for the workplace to facilitate basic communication with people whose native language is Spanish. Emphasis is placed on oral communication and career-specific vocabulary that targets health, business, and/or public service professions. Upon completion, students should be able to communicate at a functional level with native speakers and demonstrate cultural sensitivity.

SPA 141 Culture & Civilization

3 0 3

This course provides an opportunity to explore issues related to the Hispanic world. Topics include historical and current events, geography, and customs. Upon completion, students should be able to identify and discuss selected topics and cultural differences related to the Hispanic world. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

SPA 211 Intermediate Spanish I

3 0 3

This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. Credit by proficiency exam is available.* **Prerequisite:** SPA 112.

SPA 212 Intermediate Spanish II

3 0 3

This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. Credit by proficiency exam is available.* **Prerequisite:** SPA 211.

SPA 215 Spanish Phonetics & the Structure of Language

3 0 3

This course is designed to improve the understanding of Spanish phonetics and the structure of the Spanish language. Topics include the structure of the Spanish language, phonology, morphology, and syntax. Upon completion, students should have an understanding of the phonetics and structure of the Spanish language and be able to contrast the structure of the Spanish and English languages.

■ **SPI - Spanish Interpreter**

SPI 114 Analytical Skills for Spanish Interpreting 3 0 3

This course is designed to improve cognitive processes associated with interpreting, listening, short-term memory, semantic equivalence, visual/auditory processing, thought organization, and logic. Emphasis is placed on developing skills necessary to generate equivalent messages between Spanish and English. Upon completion, students should be able to consecutively interpret nontechnical, interactive messages between Spanish and English.

SPI 213 Review of Grammar 3 0 3

This course is designed to review the common elements of Spanish grammar in oral and written form. Emphasis is placed on the fundamental grammatical concepts of the Spanish language. Upon completion, students should be able to demonstrate comprehension and correct usage of specified grammatical concepts in both oral and written form.

SPI 214 Introduction to Translation 3 0 3

This course is designed to improve the quality of Spanish to English and English to Spanish translation. Emphasis is placed on the practice of Spanish to English to Spanish translation in a variety of prose styles. Upon completion, students should be able to demonstrate the usage and understanding of the processes involved in translating.

■ **WLD - Welding**

WLD 112 Basic Welding Processes 1 3 2

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

WLD 115 SMAW (Stick) Plate 2 9 5

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 121 GMAW (MIG) FCAW/Plate 2 6 4

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 2 6 4

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.