

Course Descriptions

The following list of courses is arranged in alphabetical order by course prefix and in numerical order under the program of study. Following the title are numbers representing lecture, lab, clinical or work experience, and credit. When classes have pre- or co-requisite requirements, those are listed as well. Courses without clinical or work experience hours have three numbers listed, as in Example 1 below. Courses with clinical or work experience hours have four numbers listed, as in Example 2 below.

EXAMPLE 1

	Lecture	Lab	Credit
ACA 90 Study Skills	3	0	3

This course is intended for those who placed into credit-level course work but who are not maintaining satisfactory academic progress toward meeting program goals. Topics include study skills, note taking, learning styles and strategies, test taking, goal setting, and self-assessment skills. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals. S14331

EXAMPLE 2

	Lecture	Lab	Clin/Wrk	Credit
COE 111 Co-op 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. S11680



ACADEMIC RELATED (ACA)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by the college's placement test.

ACA 90 Study Skills

3 0 3

This course is intended for those who placed into credit-level course work but who are not maintaining satisfactory academic progress toward meeting program goals. Topics include study skills, note taking, learning styles and strategies, test taking, goal setting, and self-assessment skills. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals. S14331

ACA 111 College Student Success

1 0 1

This course introduces the college's physical, academic, and social environment and promotes the personal development essential for success. Topics include campus facilities and resources; policies procedures, and programs; study skills; and life management issues such as health, self-esteem, motivation, goal-setting, diversity, and communication. Upon completion, students should be able to function effectively within the college environment to meet their educational objectives. S13509

ACA 118 College Study Skills

1 2 2

This course covers skills and strategies designed to improve study behaviors. Topics include time management, note taking, test taking, memory techniques, active reading strategies, critical thinking, communication skills, learning styles, and other strategies for effective learning. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan. S13503

ACA 122 College Transfer Success

1 0 1

This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20286

ACCOUNTING (ACC)

ACC 120 Principles of Financial Accounting

3 2 4

This course introduces business decision-making, 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 pre-major and/or elective course requirement. S20278

ACC 121 Principles of Managerial Accounting

3 2 4

Prerequisites: ACC 120

This course includes a greater emphasis on managerial and cost accounting skills. Emphasis is placed on managerial accounting concepts for external and internal analysis, reporting and decision-making. Upon completion, students should be able to analyze and interpret transactions relating to managerial concepts including product-costing systems. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement. S20282

ACC 129 Individual Income Taxes

2 2 3

This course introduces the relevant laws governing individual income taxation. Topics include tax law, electronic research and methodologies, and the use of technology for preparation of individual tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various individual tax forms. S20283

ACC 130 Business Income Taxes	2	2	3
Prerequisites: ACC 129			
This course introduces the relevant laws governing business and fiduciary income taxes. Topics include tax law relating to business organizations, electronic research and methodologies, and the use of technology for the preparation of business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various business tax forms. S20277			
ACC 140 Payroll Accounting	1	2	2
Prerequisites: ACC 115 or ACC 120			
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. S20281			
ACC 150 Accounting Software Application	1	2	2
Prerequisites: ACC 115 or ACC 120			
This course introduces microcomputer applications related to accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting package to solve accounting problems. S20275			
ACC 220 Intermediate Accounting I	3	2	4
Prerequisites: ACC 120			
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 an 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. S20836			
ACC 221 Intermediate Accounting II	3	2	4
Prerequisites: ACC 220			
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. S10687			
ACC 225 Cost Accounting	3	0	3
Prerequisites: ACC 121			
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. S10695			

ANIMAL ASSISTED INTERACTIONS (AAI)

(PENDING STATE APPROVAL)

AAI 110 Animal Interactions Introduction	1	0	0	1
This course introduces the field of human-animal interactions, its history, agencies, roles and careers. Topics include personal/professional characteristics, animal behavioral profiles, diversity of populations served, disciplines in the field, ethical standards and major theoretical and intervention approaches. Upon completion, students should be able to clearly articulate the knowledge, skills and roles of the animal interaction specialist.				

AAI 120	Animals in Human Lives	3	0	0	3
This course covers the roles, uses and status of animals across the human life span and the regulation of animals in social spaces. Emphasis is placed on animals in the social world and individual lives, including animal and human development, animal cruelty and human violence, and cultural perspectives. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by animals in social and personal contexts.					
AAI 130	Animals in Human Lives	1	4	0	3
This course covers the capacities of different species for work with diverse goals and populations in animal interactions and introduces components critical to animals' well-being. Emphasis is placed on expanding critical thinking, and competence in animal handling and management skills necessary for development as a well-rounded, responsible animal handler. Upon completion, students should be able to demonstrate their ability to identify interaction risks, animal handling and training practices, and assess animal interaction effectiveness.					
AAI 210	Interaction Methodology	2	2	0	3
This course provides a comprehensive exposure to techniques, approaches, and experiential methodology for implementing animal interactions in all aspects of human services and education. Emphasis is placed on applying the knowledge and animal skills for creating safe and effective, goal oriented interactions within various human service and educational environments. Upon completion, students should be able to demonstrate the knowledge, judgment, safety and methodology skills appropriate for an entry-level position utilizing animal interactions.					
AAI 220	Interaction Methodology	3	0	0	3
This course covers the knowledge and skills necessary for program evaluation and outcome measurement processes used in animal interaction services. Topics include the effect of animal interactions on participant outcomes, assessment of outcome measures, and evaluation of overall program goals and objectives. Upon completion, students should be able to utilize basic concepts of outcome based evaluation processes to objectively evaluate animal interaction service within supervised settings.					

ANTHROPOLOGY (ANT)

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. S13262				
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. S10536				
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. S10965				

ART (ART)

ART 111	Art Appreciation	3	0	3
<p>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. S10139</p>				
ART 113	Art Methods and Materials	2	2	3
<p>This course provides an overview of media and techniques. Emphasis is placed on exploration and manipulation of materials. Upon completion, students should be able to demonstrate familiarity with a variety of methods, materials, and processes. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10113</p>				
ART 114	Art History Survey I	3	0	3
<p>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 an 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. S10200</p>				
ART 115	Art History Survey II	3	0	3
<p>This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S10149</p>				
ART 121	Design I	0	6	3
<p>This course introduces the elements and principles of design as applied to two-dimensional art. Emphasis is placed on the structural elements, the principles of visual organization, and the theories of color mixing and interaction. Upon completion, students should be able to understand and use critical and analytical approaches as they apply to two-dimensional visual art. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12130</p>				
ART 131	Drawing I	0	6	3
<p>This course introduces the language of drawing and the use of various drawing materials. Emphasis is placed on drawing techniques, media, and graphic principles. Upon completion, students should be able to demonstrate competence in the use of graphic form and various drawing processes. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10812</p>				
ART 132	Drawing II	0	6	3
<p>Prerequisites: ART 131</p> <p>This course continues instruction in the language of drawing and the use of various materials. Emphasis is placed on experimentation in the use of drawing techniques, media, and graphic materials. Upon completion, students should be able to demonstrate increased competence in the expressive use of graphic form and techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10831</p>				

ART 283 Ceramics I**0 6 3**

This course provides an introduction to three-dimensional design principles using the medium of clay. Emphasis is placed on fundamentals of forming, surface design, glaze application, and firing. Upon completion, students should be able to demonstrate skills in slab and coil construction, simple wheel forms, glaze technique, and creative expression. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11998

ASTRONOMY (AST)**AST 111 Descriptive Astronomy****3 0 3**

This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S10553

AST 111A Descriptive Astronomy Lab**0 2 1**

Corequisites: AST 111

The course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S13670

AST 151 General Astronomy I**3 0 3**

This course introduces the science of modern astronomy with a concentration on the solar system. Emphasis is placed on the history and physics of astronomy and an introduction to the solar system, including the planets, comets, and meteors. Upon completion, students should be able to demonstrate a general understanding of the solar system. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S10092

AST 151A General Astronomy I Lab**0 2 1**

Corequisites: AST 151

The course is a laboratory to accompany AST 151. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 151 and which provide practical experience. Upon completion, students should be able to demonstrate a general understanding of the solar system. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics S10019

AST 152 General Astronomy II**3 0 3**

Prerequisites: AST 151

This course is a continuation of AST 151 with primary emphasis beyond the solar system. Topics include the sun, stars, galaxies, and the larger universe, including cosmology. Upon completion, students should be able to demonstrate a working knowledge of astronomy. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S10028

AST 152A General Astronomy II Lab**0 2 1**

Prerequisites: AST 151

Corequisites: AST 152

The course is a laboratory to accompany AST 152. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 152 and which provide practical experience. Upon completion, students should be able to demonstrate a working knowledge of astronomy. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S12436

AUTOMATION AND ROBOTICS (ATR)

ATR 112 Introduction to Automation	2	3	3
This course introduces the basic principles of automated manufacturing and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems. S13610			
ATR 280 Robotic Fundamentals	3	2	4
This course covers application, programming, and maintenance fundamentals for robotic devices. Emphasis is placed on terminology, problem solving, robotic systems controls, and hands-on projects. Upon completion, students should be able to apply basic concepts in application, programming, and robotic control systems. S12171			
ATR 282 Robotics and CIM	3	2	4
This course covers robotics and CIM. Topics include application, programming, and maintenance of robotic devices and the relationship between robotics and CIM. Upon completion, students should be able to safely program, operate, and maintain robots and understand the relationship between robotics and CIM. S20675			

AUTOMOTIVE (AUT)

AUT 110 Introduction to Automotive Technology	2	2	3
This course covers workplace safety, hazardous material and environmental regulations, use of hand tools, service information resources, basic concepts, systems, and terms of automotive technology. Topics include familiarization with vehicle systems along with identification and proper use of various automotive hand and power tools. Upon completion, students should be able to describe safety and environmental procedures, terms associated with automobiles, identify and use basic tools and shop equipment. S21683			
AUT 114 Safety and Emissions	1	2	2
This course covers the laws, procedures, and specifications needed to perform a North Carolina State Safety and Emissions inspection. Topics include brake, steering and suspension, lighting, horn, windshield wiper, tire, mirrors, and emission control devices inspection. Upon completion, students should be able to perform complete and thorough North Carolina State Safety and Emissions inspections. S21685			
AUT 114A Safety and Emissions Lab	0	2	1
Corequisites: AUT 114 This course is an optional lab that allows students to enhance their understanding of North Carolina State Emissions Inspection failures. Topics include evaporative, positive crankcase ventilation, exhaust gas recirculation and exhaust emissions systems operation, including catalytic converter failure diagnosis. Upon completion, students should be able to employ diagnostic strategies to repair vehicle emissions failures resulting from North Carolina State Emissions inspection. S21686			
AUT 116 Engine Repair	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, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information. S21687			
AUT 116A Engine Repair Lab	0	3	1
Corequisites: AUT 116 This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information. S21688			

AUT 123 Powertrain Diagnosis & Service	1	3	2
This course covers the diagnosis, repair and service of the vehicle powertrain and related systems. Topics include fundamental operating principles of engines and transmissions and use of proper service procedures for diagnosis, service and removal and replacement of major components. Upon completion, students should be able to perform basic service and diagnosis of the powertrain and related systems, and to perform in vehicle repairs and remove and replace components. S21689			
AUT 141 Suspension & Steering Systems	2	3	3
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 steering and suspension components, check and adjust alignment angles, repair tires, and balance wheels. S21690			
AUT 141A Suspension & Steering Systems Lab	0	3	1
Corequisites: AUT 141 This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. 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 steering and suspension components, check and adjust alignment angles, repair tires, and balance wheels. S21691			
AUT 151 Brake Systems	2	3	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. S21692			
AUT 151A Brake Systems Lab	0	3	1
Corequisites: AUT 151 This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include drum and disc brakes involving hydraulic, vacuum-boost, hydra-boost, electrically powered boost, and anti-lock, parking brake systems and emerging brake systems technologies. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems. S21693			
AUT 161 Basic Automotive Electricity	4	3	5
This course covers basic electrical theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of batteries, starters, and alternators. Topics include Ohm's Law, circuit construction, wiring diagrams, circuit testing, and basic troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair basic wiring, battery, starting, charging, and electrical concerns. S21697			
AUT 163 Advanced Automotive Electricity	2	3	3
Prerequisites: AUT 161 This course covers electronic theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of electronics, lighting, gauges, horn, wiper, accessories, and body modules. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, and troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns. S21698			
AUT 171 Auto Climate Control	2	4	4
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. S21700			

AUT 181 Engine Performance 1	2	3	3
This course covers the introduction, theory of operation, and basic diagnostic procedures required to restore engine performance to vehicles equipped with complex engine control systems. Topics include an overview of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related driveability problems using appropriate test equipment/service information. S21701			
AUT 181A Engine Performance 1 Lab	0	3	1
Corequisites: AUT 181 This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include overviews of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices and emerging engine performance technologies. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related driveability problems using appropriate test equipment/service information. S21702			
AUT 183 Engine Performance 2	2	6	4
Prerequisites: AUT 181 This course covers study of the electronic engine control systems, the diagnostic process used to locate engine performance concerns, and procedures used to restore normal operation. Topics will include currently used fuels and fuel systems, exhaust gas analysis, emission control components and systems, OBD II (on-board diagnostics) and inter-related electrical/electronic systems. Upon completion, students should be able to diagnose and repair complex engine performance concerns using appropriate test equipment and service information. S21703			
AUT 231 Manual Trans/Axles/Drtrains	2	3	3
This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, driveshafts, 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, diagnose and repair manual drive trains. S21711			
AUT 231A Manual Trans/Axles/Drtrains Lab	0	3	1
Corequisites: AUT 231 This course is an optional lab for the program that needs to meet NATEF hour standards but does not have a co-op component in the program. Topics include manual drive train diagnosis, service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to diagnose and repair manual drive trains. S21712			
AUT 281 Advanced Engine Performance	2	2	3
This course utilizes service information and specialized test equipment to diagnose and 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 diagnosis and repair. S21713			

BIOLOGY (BIO)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by the college's placement test.

BIO 90 Foundations of Biology	3	2	4
Corequisites: RED 090 This course introduces basic biological concepts. Topics include basic biochemistry, cell structure and function, interrelationships among organisms, scientific methodology, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level biology courses. S12386			

BIO 094 Concepts of Human Biology

3 2 4

Corequisites: ENG 095 or RED 090

This course focuses on fundamental concepts of human biology. Topics include terminology, biochemistry, cell biology, tissues, body systems, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level anatomy and physiology courses. S22373

BIO 110 Principles of Biology

3 3 4

This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, taxonomy, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S13284

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. S13307

BIO 112 General Biology II

3 3 4

Prerequisites: BIO 111

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. S13261

BIO 120 Introductory Botany

3 3 4

Prerequisites: BIO 110 or BIO 111

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. S13789

BIO 130 Introductory Zoology

3 3 4

Prerequisites: BIO 110 or BIO 111

This course provides an introduction to the classification, relationships, structure, and function of major animal phyla. Emphasis is placed on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla. Upon completion, students should be able to demonstrate comprehension of animal form and function including comparative systems of selected groups. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S11571

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 economic 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. S14156

BIO 140A Environmental Biology Lab	0	3	1
Corequisites: BIO 140			
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. S13084			
BIO 145 Ecology	3	3	4
Prerequisites: BIO 110 or BIO 111			
This course provides an introduction to ecological concepts using an ecosystems approach. Topics include energy flow, nutrient cycling, succession, population dynamics, community structure, and other related topics. Upon completion, students should be able to demonstrate comprehension of basic ecosystem structure and dynamics. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S14188			
BIO 155 Nutrition	3	0	3
This course covers the biochemistry of foods and nutrients with consideration of the physiological effects of specialized diets for specific biological needs. Topics include cultural, religious, and economic factors that influence a person's acceptance of food, as well as nutrient requirements of the various life stages. Upon completion, students should be able to identify the functions and sources of nutrients, the mechanisms of digestion, and the nutritional requirements of all age groups. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12502			
BIO 161 Introduction to Human Biology	3	0	3
This course provides a basic survey of human biology. Emphasis is placed on the basic structure and function of body systems and the medical terminology used to describe normal and pathological states. Upon completion, students should be able to demonstrate an understanding of normal anatomy and physiology and the appropriate use of medical terminology. S13523			
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. S13508			
BIO 168 Anatomy and Physiology I	3	3	4
Prerequisites: BIO 094 (Required for Nursing Program)			
This course provides a comprehensive study of the anatomy and physiology of the human body. Topics include body organization, homeostasis, cytology, histology, and the integumentary, skeletal, muscular, and nervous systems and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11555			
BIO 169 Anatomy and Physiology II	3	3	4
Prerequisites: BIO 168			
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. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11629			

BIO 175	General Microbiology	2	2	3
Prerequisites: BIO 110, BIO 111, or BIO 168				
This course covers principles of microbiology with emphasis on microorganisms and human disease. Topics include an overview of microbiology and aspects of medical microbiology, identification and control of pathogens, disease transmission, host resistance, and immunity. Upon completion, students should be able to demonstrate knowledge of microorganisms and the disease process as well as aseptic and sterile techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20491				
BIO 226	Local Flora Fall	1	2	2
This course provides an introduction to the identification of native plants. Emphasis is placed on fall wildflowers. Upon completion, students should be able to identify a variety of fall wild flowers and native plants. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S14245				
BIO 243	Marine Biology	3	3	4
Prerequisites: BIO 110 or BIO 111				
This course covers the physical and biological components of the marine environment. Topics include major habitats, the diversity of organisms, their biology and ecology, marine productivity, and the use of marine resources by humans. Upon completion, students should be able to identify various marine habitats and organisms and to demonstrate a knowledge of their biology and ecology. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13534				
BIO 271	Pathophysiology	3	0	3
Prerequisites: BIO 163, BIO 166, or BIO 169				
This course provides an in-depth study of human pathological processes and their effects on homeostasis. Emphasis is placed on interrelationships among organ systems in deviations from homeostasis. Upon completion, students should be able to demonstrate a detailed knowledge of pathophysiology. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13002				

BLUEPRINT READING (BPR)

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. S13137				
BPR 121	Blueprint Reading: Mechanical	1	2	2
Prerequisites: BPR 111 or MAC 131				
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. S10436				
BPR 130	Blueprint Reading/Construction	1	2	2
This course covers the interpretation of blueprints and specifications that are associated with the construction trades. Emphasis is placed on interpretation of details for foundations, floor plans, elevations, and schedules. Upon completion, students should be able to read and interpret a set of construction blueprints. S11505				

BUSINESS (BUS)

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 for transferability as a premajor and/or elective course requirement. S11497				

BUS 112	SIFE Business Development	1	2	2
Prerequisites: BUS 110				
This course provides students with opportunities for the practical application of concepts taught in business, marketing and economics courses. Emphasis is placed on free markets in a global economy, how entrepreneurs succeed, personal financial success skills, and business ethics. Upon completion, students should be able to demonstrate knowledge in business, marketing, and economics and display creative problem-solving, public speaking, leadership, and public relations skills. S20830				
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 for transferability as a premajor and/or elective course requirement. S11427				
BUS 116	Business Law II	3	0	3
Prerequisites: BUS 115				
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. S11517				
BUS 121	Business Math	2	2	3
This course covers fundamental mathematical operations and their application to business problems. Topics include payroll, pricing, interest and discount, commission, taxes, and other pertinent uses of mathematics in the field of business. Upon completion, students should be able to apply mathematical concepts to business. S14289				
BUS 125	Personal Finance	3	0	3
This course provides a study of individual and family financial decisions. Emphasis is placed on building useful skills in buying, managing finances, increasing resources, and coping with current economic conditions. Upon completion, students should be able to develop a personal financial plan. S14300				
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. S12782				
BUS 139	Entrepreneurship I	3	0	3
This course provides an introduction to the principles of entrepreneurship. Topics include self-analysis of entrepreneurship readiness, the role of entrepreneur in economic development, legal problems, organizational structure, sources of financing, budgeting, and cash flow. Upon completion, students should have an understanding of the entrepreneurial process and issues faced by entrepreneurs. S22030				
BUS 153	Human Resource Management	3	0	3
This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns. S11845				
BUS 225	Business Finance	2	2	3
Prerequisites: ACC 120				
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. S13686				

BUS 240 Business Ethics 3 0 3
 This course introduces contemporary and controversial ethical issues that face the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society. S14002

BUS 245 Entrepreneurship II 3 0 3
 Prerequisites: BUS 139
 This course is designed to allow the student to develop a business plan. Topics include the need for a business plan, sections of the plan, writing the plan, and how to find assistance in preparing the plan. Upon completion, students should be able to design and implement a business plan based on sound entrepreneurship principles. S21146

BUS 260 Business Communications 3 0 3
 Prerequisites: ENG 111
 This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the work place. S13810

CHEMISTRY (CHM)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by the college's placement test.

CHM 90 Chemistry Concepts 4 0 4
 This course provides a non-laboratory based introduction to basic concepts of chemistry. Topics include measurements, matter, energy, atomic theory, bonding, molecular structure, nomenclature, balancing equations, stoichiometry, solutions, acids and bases, gases, and basic organic chemistry. Upon completion, students should be able to understand and apply basic chemical concepts necessary for success in college-level science courses. S13027

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. S12692

CHM 131A Introduction to Chemistry Lab 0 3 1
 Corequisites: CHM 131
 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. S12403

CHM 132 Organic and Biochemistry 3 3 4
 Prerequisites: CHM 131 and CHM 131A or CHM 151
 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. S20394

CHM 151 General Chemistry I 3 3 4
 This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S12258

CHM 152 General Chemistry II 3 3 4
 Prerequisites: CHM 151
 This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S12137

INFORMATION SYSTEMS (CIS)

CIS 70 Fundamentals of Computing 0 2 1
 This course covers fundamental functions and operations of the computer. Topics include identification of components, overview of operating systems, and other basic computer operations. Upon completion, students should be able to operate computers, access files, print documents and perform basic applications operations. S11239

CIS 110 Computer Concepts 2 2 3
 Prerequisites: CIS 070
 This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option). S21058

CIS 111 Basic PC Literacy 1 2 2
 Prerequisites: CIS 070
 This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills. S21059

CIS 115 Introduction to Programming & Logic 2 3 3
 Prerequisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175
 This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to 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 science/mathematics (Quantitative Option). S21061

CIS 126 Graphics Software Intro 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. S10029

CIS 165 Desktop Publishing I 2 2 3

This course provides an introduction to desktop publishing software capabilities. Emphasis is placed on efficient use of a page layout software package to create, design, and print publications; hardware/software compatibility; and integration of specialized peripherals. Upon completion, students should be able to prepare publications given design specifications. S10453

CRIMINAL JUSTICE (CJC)**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. S10631

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. S10598

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. S10602

CJC 114 Investigative Photography 1 2 2

This course covers the operation of digital photographic equipment and its application to criminal justice. Topics include the use of digital cameras, storage of digital images, the retrieval of digital images and preparation of digital images as evidence. Upon completion, students should be able to demonstrate and explain the role and use of digital photography, image storage and retrieval in criminal investigations. S20900

CJC 120 Interviews/Interrogations 1 2 2

This course covers basic and special techniques employed in criminal justice interviews and interrogations. Emphasis is placed on the interview/interrogation process, including interpretation of verbal and physical behavior and legal perspectives. Upon completion, students should be able to conduct interviews/interrogations in a legal, efficient, and professional manner and obtain the truth from suspects, witnesses, and victims. S11674

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. S11746

CJC 122 Community Policing 3 0 3

This course covers the historical, philosophical, and practical dimensions of community policing. Emphasis is placed on the empowerment of police and the community to find solutions to problems by forming partnerships. Upon completion, students should be able to define community policing, describe how community policing strategies solve problems, and compare community policing to traditional policing. S11648

- 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. S11110
- CJC 132 Court Procedure & 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. S11046
- 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. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12643
- 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. S10970
- CJC 213 Substance Abuse** 3 0 3
This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be able to identify various types of drugs, their effects on human behavior and society, and treatment modalities. S10983
- CJC 214 Victimology** 3 0 3
This course introduces the study of victims. Emphasis is placed on roles/characteristics of victims, victim interaction with the criminal justice system and society, current victim assistance programs, and other related topics. Upon completion, students should be able to discuss and identify victims, the uniqueness of victims' roles, and current victim assistance programs. S10951
- 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. S11008
- 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. S12498

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. S12396				
CJC 223	Organized Crime	3	0	3
This course introduces the evolution of traditional and non-traditional organized crime and its effect on society and the criminal justice system. Topics include identifying individuals and groups involved in organized crime, areas of criminal activity, legal and political responses to organized crime, and other related topics. Upon completion, students should be able to identify the groups and activities involved in organized crime and the responses of the criminal justice system. S12507				
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. S12466				
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. S10090				
CJC 232	Civil Liability	3	0	3
This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues. S10037				
CJC 241	Community-Based Corrections	3	0	3
This course covers programs for convicted offenders that are used both as alternatives to incarceration and in post-incarceration situations. Topics include offenders, diversion, house arrest, restitution, community service, probation and parole, including both public and private participation, and other related topics. Upon completion, students should be able to identify/discuss the various programs from the perspective of the criminal justice professional, the offender, and the community. S12261				

COOPERATIVE EDUCATION (COE)

COE 111	Co-op 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. S11680					
COE 113	Co-op Work Experience I	0	0	30	3
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. S11649					
COE 115	Work Experience Seminar I	1	0	0	1
Corequisites: COE 111, COE 112, COE 113, or COE 114 This seminar gives the student an opportunity to evaluate practical experiences and to discuss curriculum components. S11699					

COE 121 Co-op 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. S14220

COE 131 Co-op Work Experience III 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. S12607

COE 135 Work Experience Seminar III 1 0 0 1
 Corequisites: COE 131, COE 132, COE 133, or COE 134
 This seminar gives the student an opportunity to evaluate practical experiences and to discuss curriculum components. S12598

COE 232 Co-op Work Experience VI 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. S12262

COMMUNICATION (COM)

COM 110 Introduction to Communication 3 0 3
 Prerequisites: ENG 113 or ENG 114
 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 humanities/fine arts. S13264

COM 120 Introduction to Interpersonal Communication 3 0 3
 This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute). S21722

COM 130 Nonverbal Communication 3 0 3
 Prerequisites: COM 110 or COM 120
 This course introduces the contemporary study of nonverbal communication in daily life. Topics include haptics, kinesics, proxemics, facial displays, and appearance. Upon completion, students should be able to analyze/interpret nonverbal communication and demonstrate greater awareness of their own nonverbal communication habits. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S22359

COM 160 Small Group Communication 3 0 3
 This course provides an overview of the theory, practice, and critical analysis of communication in the small group setting. Emphasis is placed on group development, conflict, and conformity; leadership skills and styles; group roles and ranks; and decision making, problem solving, and conflict resolution. Upon completion, students should be able to apply topics of gender, culture, and social-emotional functions within group settings. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S21739

COM 231 Public Speaking	3	0	3
Prerequisites: ENG 111			
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. S12601			
COM 233 Persuasive Speaking	3	0	3
Prerequisites: ENG 112 or ENG 113			
This course introduces theory and history of persuasive speaking, covering critical thinking skills in analyzing problems, assessing solutions, and communicating the information to an audience. Emphasis is placed on analysis, evidence, reasoning, and library and field research used to enhance persuasive public speaking skills. Upon completion, students should be able to apply the principles of persuasive speaking in a public setting. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12535			
COM 251 Debate I	3	0	3
This course introduces the principles of debate. Emphasis is placed on argument, refutation, research, and logic. Upon completion, students should be able to use research skills and logic in the presentation of ideas within the context of formal debate. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12166			

COSMETOLOGY (COS)

COS 111 Cosmetology Concepts I	4	0	4
Corequisites: COS 112			
This course introduces basic cosmetology concepts. Topics include safety, first aid, sanitation, bacteriology, anatomy, diseases and disorders, hygiene, product knowledge, chemistry, ethics, manicures, and other related topics. Upon completion, students should be able to safely and competently apply cosmetology concepts in the salon setting. S12363			
COS 112 Salon I	0	24	8
Corequisites: COS 111			
This course introduces basic salon services. Topics include scalp treatments, shampooing, rinsing, hair color, design, haircutting, permanent waving, pressing, relaxing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate salon services. S12316			
COS 113 Cosmetology Concepts II	4	0	4
Prerequisites: COS 111 and COS 112			
Corequisites: COS 114			
This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, chemistry, manicuring, chemical restructuring, and hair coloring. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting. S12335			
COS 114 Salon II	0	24	8
Prerequisites: COS 111 and COS 112			
Corequisites: COS 113			
This course provides experience in a simulated salon setting. Topics include basic skin care, manicuring, nail application, scalp treatments, shampooing, rinsing, hair color, design, haircutting, chemical restructuring, pressing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services. S12284			

COS 115	Cosmetology Concepts III	4	0	4
Prerequisites: COS 113 and COS 114				
Corequisites: COS 116				
This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, salon management, salesmanship, skin care, electricity/light therapy, wigs, thermal hair styling, lash and brow tinting, superfluous hair removal, and other related topics. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting. S12373				
COS 116	Salon III	0	12	4
Prerequisites: COS 113 and COS 114				
Corequisites: COS 115				
This course provides comprehensive experience in a simulated salon setting. Emphasis is placed on intermediate-level of skin care, manicuring, scalp treatments, shampooing, hair color, design, haircutting, chemical restructuring, pressing, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services. S12300				
COS 117	Cosmetology Concepts IV	2	0	2
Prerequisites: COS 111, COS 112, COS 113, COS 114, COS 115 and COS 116				
Corequisites: COS 118				
This course covers advanced cosmetology concepts. Topics include chemistry and hair structure, advanced cutting and design, and an overview of all cosmetology concepts in preparation for the licensing examination. Upon completion, students should be able to demonstrate an understanding of these cosmetology concepts and meet program completion requirements. S12343				
COS 118	Salon IV	0	21	7
Prerequisites: COS 111, COS 112, COS 113, COS 114, COS 115 and COS 116				
Corequisites: COS 117				
This course provides advanced experience in a simulated salon setting. Emphasis is placed on efficient and competent delivery of all salon services in preparation for the licensing examination and employment. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology Licensing Examination and meet entry-level employment requirements. S20023				
COS 119	Esthetics Concepts I	2	0	2
This course covers the concepts of esthetics. Topics include orientation, anatomy, physiology, hygiene, sterilization, first aid, chemistry, basic dermatology, and professional ethics. Upon completion, students should be able to demonstrate an understanding of the concepts of esthetics and meet course requirements. S12170				
COS 120	Esthetics Salon I	0	18	6
This course covers the techniques of esthetics in a comprehensive experience in a simulated salon setting. Topics include client consultation, facials, body treatments, hair removal, make-up applications, and color analysis. Upon completion, students should be able to safely and competently demonstrate esthetic services on clients in a salon setting. S10851				
COS 121	Manicure/Nail Technology I	4	6	6
This course covers techniques of nail technology, hand and arm massage, and recognition of nail diseases and disorders. Topics include OSHA/safety, sanitation, bacteriology, product knowledge, salesmanship, manicures, artificial applications, pedicures, massage, and other related topics. Upon completion, students should be able to safely and competently perform nail care, including manicures, pedicures, massage, decorating, and artificial applications in a salon setting. S14134				

COS 125	Esthetics Concepts II	2	0	2
This course covers more comprehensive esthetics concepts. Topics include nutrition, business management, make-up, and color analysis. Upon completion students should be able to demonstrate an understanding of the advanced esthetics concepts and meet course requirements. S10785				
COS 126	Esthetics Salon II	0	18	6
This course provides experience in a simulated esthetics setting. Topics include machine facials, aroma therapy, massage therapy, electricity, and apparatus. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology licensing examination for Estheticians. S10869				
COS 222	Manicure/Nail Technology II	4	6	6
Prerequisites: COS 121 This course covers advanced techniques of nail technology and hand and arm massage. Topics include OSHA/ safety, product knowledge, customer service, salesmanship, artificial applications, nail art, and other related topics. Upon completion, students should be able to demonstrate competence necessary for the licensing examination, including advanced nail care, artificial enhancements, and decorations. S10861				
COS 271	Instructor Concepts I	5	0	5
Corequisites: COS 272 This course introduces the basic cosmetology instructional concepts. Topics include orientation, theories of education, unit planning, daily lesson planning, laboratory management, student assessment, record keeping, and other related topics. Upon completion, students should be able to identify theories of education, develop lesson plans, demonstrate supervisory techniques, and assess student performance in a classroom setting. S11990				
COS 272	Instructor Practicum I	0	21	7
Corequisites: COS 271 This course covers supervisory and instructional skills for teaching entry-level cosmetology students in a laboratory setting. Topics include demonstrations of services, supervision, and entry-level student assessment. Upon completion, students should be able to demonstrate salon services and instruct and objectively assess the entry-level student. S12026				
COS 273	Instructor Concepts II	5	0	5
Prerequisites: COS 271 and COS 272 Corequisites: COS 274 This course covers advanced cosmetology instructional concepts. Topics include practical demonstrations, lesson planning, lecture techniques, development and administration of assessment tools, record keeping, and other related topics. Upon completion, students should be able to develop lesson plans, demonstrate supervision techniques, assess student performance in a classroom setting, and keep accurate records. S11965				
COS 274	Instructor Practicum II	0	21	7
Prerequisites: COS 271 and COS 272 Corequisites: COS 273 This course is designed to develop supervisory and instructional skills for teaching advanced cosmetology students in a laboratory setting. Topics include practical demonstrations, supervision, and advanced student assessment. Upon completion, students should be able to demonstrate competence in the areas covered by the Instructor Licensing Examination and meet program completion requirements. This is a certificate-level course. S12083				

COMPUTER SCIENCE (CSC)

CSC 139	Visual BASIC Programming	2	3	3
This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S21071				

CSC 151 JAVA Programming 2 3 3

This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S21076

COMPUTER INFORMATION TECHNOLOGY (CTS)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by the college's placement test.

CTS 80 Computing Fundamentals 2 3 3

This course covers fundamental functions and operations of the computer. Topics include identification of components and basic computer operations including introduction to operating systems, the Internet, web browsers, and communication using World Wide Web. Upon completion, students should be able to operate computers, access files, print documents and perform basic applications operations. S20994

CTS 112 Windows™ 1 2 2

This course includes the fundamentals of the Windows™ software. Topics include graphical user interface, icons, directories, file management, accessories, and other applications. Upon completion, students should be able to use Windows™ software in an office environment. S20995

CTS 115 Information Systems Business Concept 3 0 3

The course introduces the role of IT in managing business processes and the need for business process and IT alignment. Emphasis is placed on industry need for understanding business challenges and developing/managing information systems to contribute to the decision making process based on these challenges. Upon completion, students should be able to demonstrate knowledge of the 'hybrid business manager' and the potential offered by new technology and systems. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20996

CTS 118 IS Professional Communication 2 0 2

This course prepares the information systems professional to communicate with corporate personnel from management to end-users. Topics include information systems cost justification tools, awareness of personal hierarchy of needs, addressing these needs, and discussing technical issues with non-technical personnel. Upon completion, students should be able to communicate information systems issues to technical and non-technical personnel. S20997

CTS 120 Hardware/Software Support 2 3 3

Prerequisites: CIS 110 or CIS 111

This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers. S20998

CTS 125 Presentation Graphics 2 2 3

Prerequisites: CIS 110 or CIS 111

This course provides hands-on experience with a graphics presentation package. Topics include terminology, effective chart usage, design and layout, integrating hardware components, and enhancing presentations with text, graphics, audio and video. Upon completion, students should be able to design and demonstrate an effective presentation. S20999

CTS 130	Spreadsheet	2	2	3
Prerequisites: CIS 110 or CIS 111 or OST 137				
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. S21000				
CTS 135	Integrated Software Introduction	2	4	4
Prerequisites: CIS 110 or CIS 111				
This course instructs students in the Windows or Linux based program suites for word processing, spreadsheet, database, personal information manager, and presentation software. This course prepares students for introductory level skills in database, spreadsheet, personal information manager, word processing, and presentation applications to utilize data sharing. Upon completion, students should be able to design and integrate data at an introductory level to produce documents using multiple technologies. S21001				
CTS 155	Tech Support Functions	2	2	3
This course introduces a variety of diagnostic and instructional tools that are used to evaluate the performance of technical support technologies. Emphasis is placed on technical support management techniques and support technologies. Upon completion, students should be able to determine the best technologies to support and solve actual technical support problems. S21002				
CTS 210	Computer Ethics	3	0	3
Prerequisites: CIS 110 or CIS 111 or NET 110 OR TNE 111				
This course introduces the student to current legal and ethical issues in the computer/engineering field. Topics include moral reasoning, ethical standards, intellectual property, social issues, encryption, software piracy, constitutional issues, and public policy in related matters. Upon completion, students should be able to demonstrate an understanding of the moral and social responsibilities and public policy issues facing an industry. S21003				
CTS 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. S21004				
CTS 220	Advanced Hardware/Software Support	2	3	3
Prerequisites: CTS 120				
This course provides advanced knowledge and competencies in hardware and operating system technologies for computer technicians to support personal computers. Emphasis is placed on: configuring and upgrading; diagnosis and troubleshooting; as well as preventive maintenance of hardware and system software. Upon completion, students should be able to install, configure, diagnose, perform preventive maintenance, and maintain basic networking on personal computers. S21005				
CTS 230	Advanced Spreadsheet	2	2	3
Prerequisites: CTS 130				
This course covers advanced spreadsheet design and development. Topics include advanced functions and statistics, charting, macros, databases, and linking. Upon completion, students should be able to demonstrate competence in designing complex spreadsheets. S21006				
CTS 235	Integrated Software Advanced	2	4	4
Prerequisites: CTS 135				
This course provides strategies to perform data transfer among software programs. Emphasis is placed on data interchange among word processors, spreadsheets, presentation graphics, databases and communications products. Upon completion, students should be able to integrate data to produce documents using multiple technologies. S21007				

CTS 240	Project Management	2	2	3
Prerequisites: CIS 110 or CIS 111				
This course introduces computerized project management software. Topics include identifying critical paths, cost management, and problem solving. Upon completion, students should be able to plan a complete project and project time and costs accurately. S21542				
CTS 250	User Support & Software Evaluations	2	2	3
Prerequisites: CTS 120 and NOS 130				
This course provides an opportunity to evaluate software and hardware and make recommendations to meet end-user needs. Emphasis is placed on software and hardware evaluation, installation, training, and support. Upon completion, students should be able to present proposals and make hardware and software recommendations based on their evaluations. S21009				
CTS 255	Advanced Tech Support Functions	2	2	3
Prerequisites: CTS 155				
This course introduces a variety of diagnostic and instructional tools that are used to evaluate the performance of technical support technologies. Topics include technical support management techniques, evaluation, and methods of deployment for technical support technologies. Upon completion, students should be able to determine the best technologies to support and solve more complex technical support problems. S21010				
CTS 270	Essentials of System Performance	2	2	3
Prerequisites: CTS 255				
This course introduces performance factors that affect the reliability and performance of networks. Topics include service-oriented indicators such as availability, response time, and accuracy, as well as efficiency-oriented indicators including throughput and utilization. Upon completion, students should be able to estimate how the limitations of network components affect the overall performance of a network. S21011				
CTS 285	Systems Analysis & Design	3	0	3
Prerequisites: CIS 115				
This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM 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. S21012				
CTS 286	Network Support	2	2	3
Prerequisites: NOS 230 or NOS 231				
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. S21013				
CTS 287	Emerging Technologies	3	0	3
This course introduces emerging information technologies. Emphasis is placed on evolving technologies and trends in business and industry. Upon completion, students should be able to articulate an understanding of the current trends and issues in emerging technologies for information systems. S21014				
CTS 288	Professional Practices in IT	2	2	3
This course provides students with the business skills needed for success in the information technology field. Topics include portfolio development, resume design, interviewing techniques and professional practices. Upon completion, students should be able to present themselves and their work in the information technology field in a professional manner. S20944				

CTS 289 System Support Project

1 4 3

Prerequisites: CTS 285

This course provides an opportunity to complete a significant support project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a project from the definition phase through implementation. S21015

DATABASE MANAGEMENT TECHNOLOGY (DBA)**DBA 110 Database Concepts**

2 3 3

Prerequisites: CIS 070

This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms. S21017

DBA 112 Database Utilization

2 2 3

Prerequisites: CIS 110 or CIS 111 or OST 137

This course introduces basic database functions and uses. Emphasis is placed on database manipulation with queries, reports, forms, and some table creation. Upon completion, students should be able to enter and manipulate data from the end user mode. S21018

DBA 115 Database Applications

2 2 3

Prerequisites: DBA 110

This course applies concepts learned in DBA 110 to a specific DBMS. Topics include manipulating multiple tables, advanced queries, screens and reports, linking, and command files. Upon completion, students should be able to create multiple table systems that demonstrate updates, screens, and reports representative of industry requirements. S21019

DBA 120 Database Programming I

2 2 3

This course is designed to develop SQL programming proficiency. Emphasis is placed on data definition, data manipulation, and data control statements as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports. S21020

DBA 210 Database Administration

2 3 3

This course covers database administration issues and distributed database concepts. Topics include: database administrator (DBA) goals and functions, backup and recovery, standards and procedures, training, and database security and performance evaluations. Upon completion, students should be able to produce functional DBA documentation and administer a database. S21021

DBA 220 Oracle DB Programming II

2 2 3

Prerequisites: DBA 120

This course is designed to enhance programming skills developed in DBA 120. Topics include application development with GUI front-ends and embedded programming. Upon completion, students should be able to develop an Oracle DBMS application which includes a GUI front-end and report generation. S21022

DBA 221 SQL Server DB Programming II

2 2 3

Prerequisites: DBA 120

This course is designed to enhance programming skills developed in DBA 120. Topics include application development with GUI front-ends and embedded programming. Upon completion, students should be able to develop a SQL Server DBMS application which includes a GUI front-end and report generation. S21023

DBA 222 DB2 DB Programming II

2 2 3

Prerequisites: DBA 120

This course is designed to enhance programming skills developed in DBA 120. Topics include application development with GUI front-ends and embedded programming. Upon completion, students should be able to develop a DB2 DBMS application which includes a GUI front-end and report generation. S21024

DBA 223	MySQL DB Programming II	2	2	3
Prerequisites: DBA 120				
This course is designed to enhance programming skills developed in DBA 120. Topics include application development with GUI front-ends and embedded programming. Upon completion, students should be able to develop a MySQL DBMS application which includes a GUI front-end and report generation. S21025				
DBA 224	SAS DB Programming II	2	2	3
Prerequisites: DBA 120				
This course is designed to enhance programming skills developed in DBA 120. Topics include application development with GUI front-ends and embedded programming. Upon completion, students should be able to develop a SAS DBMS application which includes a GUI front-end and report generation. S21026				
DBA 230	Database in Corporate Environments	3	0	3
This course covers database systems as they relate to the corporate environment. Topics include knowledge-based, decision-support, and expert systems; database choices; data warehousing; and corporate structure. Upon completion, students should be able to analyze and recommend database systems needed by a corporation. S21028				
DBA 240	Database Analysis/Design	2	3	3
This course is an exploration of the established and evolving methodologies for the analysis, design, and development of a database system. Emphasis is placed on business data characteristics and usage, managing database projects, prototyping and modeling, and CASE tools. Upon completion, students should be able to analyze, develop, and validate a database implementation plan. S21029				
DBA 260	Oracle DBMS Administration	2	2	3
This course examines advanced Oracle database administration issues and distributed database concepts. Topics include backup and recovery, transporting of data between databases, database networking concepts, and resolution of database networking issues. Upon completion, students should be able to manage backup recovery and implement networked database solutions. S21030				
DBA 261	SQL Server DBMS Administration	2	2	3
This course examines advanced SQL Server database administration issues and distributed database concepts. Topics include backup and recovery, transporting of data between databases, database networking concepts, and resolution of database networking issues. Upon completion, students should be able to manage backup recovery and implement networked database solutions. S21031				
DBA 262	DB2 DBMS Administration	2	2	3
This course examines advanced DB2 database administration issues and distributed database concepts. Topics include backup and recovery, transporting of data between databases, database networking concepts, and resolution of database networking issues. Upon completion, students should be able to manage backup recovery and implement networked database solutions. S21032				
DBA 263	MySQL DBMS Administration	2	2	3
This course examines advanced MySQL database administration issues and distributed database concepts. Topics include backup and recovery, transporting of data between databases, database networking concepts, and resolution of database networking issues. Upon completion, students should be able to manage backup recovery and implement networked database solutions. S21033				
DBA 264	SAS DBMS Administration	2	2	3
This course examines advanced SAS database administration issues and distributed database concepts. Topics include backup and recovery, transporting of data between databases, database networking concepts, and resolution of database networking issues. Upon completion, students should be able to manage backup recovery and implement networked database solutions. S21034				

DBA 270 Oracle Performance Tuning	2	2	3
Prerequisites: NOS 130			
This course covers Oracle performance tuning concepts and techniques. Topics include database tuning and Oracle performance tools. Upon completion, students should be able to configure and diagnose an Oracle database for optimal performance. S21036			
DBA 271 SQL Server Performance Tuning	2	2	3
Prerequisites: NOS 130			
This course covers SQL Server performance tuning concepts and techniques. Topics include database tuning and SQL Server performance tools. Upon completion, students should be able to configure and diagnose an SQL Server database for optimal performance. S21038			
DBA 272 DB2 Performance Tuning	2	2	3
Prerequisites: NOS 130			
This course covers DB2 performance tuning concepts and techniques. Topics include database tuning and DB2 performance tools. Upon completion, students should be able to configure and diagnose a DB2 database for optimal performance. S21039			
DBA 273 MySQL Performance Tuning	2	2	3
Prerequisites: NOS 130			
This course covers MySQL performance tuning concepts and techniques. Topics include database tuning and MySQL performance tools. Upon completion, students should be able to configure and diagnose a MySQL database for optimal performance. S21041			
DBA 274 SAS Performance Tuning	2	2	3
Prerequisites: NOS 130			
This course covers SAS performance tuning concepts and techniques. Topics include database tuning and SAS performance tools. Upon completion, students should be able to configure and diagnose a SAS database for optimal performance. S21042			
DBA 285 Data Warehousing & Mining	2	3	3
Prerequisites: NOS 130			
This course introduces data warehousing and data mining techniques. Emphasis is placed on data warehouse design, data transference, data cleansing, retrieval algorithms, and mining techniques. Upon completion, students should be able to create, populate, and mine a data warehouse. S21043			
DBA 289 Database Project	1	4	3
Prerequisites: DBA 240 & DBA 120			
This course provides an opportunity to complete a significant database systems project with minimal instructor support. Emphasis is placed on written and verbal communication skills, documentation, presentation, and user training. Upon completion, students should be able to present an operational database system which they have created. S21044			

DRAFTING (DFT)

DFT 170 Engineering Graphics	2	2	3
This course introduces basic engineering graphics skills and applications. Topics include sketching, selection and use of current methods and tools, and the use of engineering graphics applications. Upon completion, students should be able to demonstrate an understanding of basic engineering graphics principles and practices. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20734			

DIGITAL MEDIA TECHNOLOGY (DME)

DME 110 Introduction to Digital Media	2	2	3
This course introduces students to key concepts, technologies, and issues related to digital media. Topics include emerging standards, key technologies and related design issues, terminology, media formats, career paths, and ethical issues. Upon completion, students should be able to demonstrate the various media formats that are used in digital media technology. S20550			
DME 115 Graphic Design Tools	2	2	3
This course provides students with an introduction to creative expression and art/design techniques in a digital environment. Emphasis is placed on designing, creating editing and integrating visual components consisting of bit-mapped and vector-based images, drawings, banners, text, simple animations, and multiple layers. Upon completion, students should be able to design and produce a range of visual products using digital processing techniques. S20551			
DME 120 Introduction to Multimedia Application	2	2	3
Prerequisites: DME 110 This course introduces storyboarding and multimedia application design. Topics include vector and bit-mapped graphics, interactive multimedia interfaces, layering techniques, image and animation libraries, and scripting. Upon completion, students should be able to produce basic high-quality interactive multimedia applications. S20552			
DME 130 Digital Animation I	2	2	3
Prerequisites: DME 110 This course introduces concepts for planning and developing animation sequences. Emphasis will be placed on review of digital animation concepts and exploration of various animation software packages. Upon completion, students should be able to produce simple animations. S20553			
DME 140 Introduction to Audio/Video Media	2	2	3
Prerequisites: DME 110 This course is designed to teach students how to manipulate digital and audio content for multimedia applications. Topics include format conversion and a review of current technologies and digital formats. Upon completion, students should be able to modify existing audio and video content to meet a range of production requirements associated with digital media applications. S20554			
DME 210 User Interface Design	2	2	3
Prerequisites: DME 110 This course covers current design approaches and emerging standards related to the design and development of user interfaces. Emphasis is placed on conducting research, and analyzing and reviewing current practices in effective interface design. Upon completion, students should be able to intelligently discuss and evaluate new and existing digital media products in terms of the user interface. S20555			
DME 220 Interactive Multi-Media Programming	2	2	3
Prerequisites: DME 120 This course is designed to build on concepts developed in DME 120 and teaches students to apply custom programming to develop advanced applications and components. Emphasis is placed on scripting language functionalities associated with a variety of software packages. Upon completion, students should be able to produce advanced, high-quality interactive multimedia applications. S20556			
DME 230 Digital Animation II	2	2	3
Prerequisites: DME 130 This course introduces state-of-the-art 3D animation techniques and concepts. Emphasis is placed on utilizing the features of current animation software. Upon completion, students should be able to produce 3D animations as components of a multimedia application. S20557			

DME 240 Media Compression 2 2 3

Prerequisites: DME 110 and DME 140

This course introduces software and usage of digital audio and video compression and streaming media technologies. Topics include compression techniques, file formats and Codecs, streaming media, streaming media services, and current and emerging trends. Upon completion, students should be able to utilize compressed media in a variety of video, web and multimedia applications. S21735

DME 260 Emerging Technology in Digital Media 2 2 3

Prerequisites: DME 120 and DME 130

This course provides students with the latest technologies and strategies in the field of digital media. Emphasis is placed on the evaluation of emerging digital media technologies and presenting those findings to the class. Upon completion, students should be able to critically analyze emerging digital media technologies and establish informed opinions. S20558

DME 270 Professional Practices in Digital Media 2 2 3

Prerequisites: DME 120 and DME 130

This course introduces students to business skills needed to succeed in the digital media workplace. Topics include portfolio development, resume design, and preparation of media contacts. Upon completion, students should be able to prepare themselves and their work for a career in the digital media workplace. S20559

DME 285 Systems Projects 2 2 3

Prerequisites: DME 120 and DME 130

This course provides an opportunity to complete a significant digital media project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete, maintain and implement a digital media project. S20560

DRAMA/THEATRE (DRA)**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 requirement in humanities/fine arts. S11248

DRA 170 Play Production I 0 9 3

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10529

ECONOMICS (ECO)**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. S13257

ECO 251 Principles of Microeconomics 3 0 3

This course introduces economic analysis of individual, business, and industry choices 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. S11774

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. S11710

EDUCATION (EDU)**EDU 118 Principles & Practice of Instructional Assistant 3 0 3**

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085

This course covers the instructional assistant'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 role of the instructional assistant, demonstrate positive communication skills, and discuss educational philosophy. S22282

EDU 119 Introduction to Early Childhood Education 4 0 4

This course covers the foundations of the education profession, the diverse educational settings for young children, professionalism and planning developmentally appropriate programs for all children. Topics include historical foundations, program types, career options, professionalism and creating inclusive environments and curriculum responsive to the needs of all children and families. Upon completion, students should be able to design career plans and develop schedules, environments and activity plans appropriate for all children. S22283

EDU 131 Child, Family, & Community 3 0 3

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085

This course covers the development of partnerships between culturally and linguistically diverse families, children, schools and communities. Emphasis is placed on developing skills and identifying benefits for establishing, supporting, and maintaining respectful, collaborative relationships between diverse families, programs/schools, and community agencies/resources. Upon completion, students should be able to explain appropriate relationships between families, educators, and professionals that enhance development and educational experiences of all children. S22287

EDU 144 Child Development I 3 0 3

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085

This course includes the theories of child development, needs, milestones, and factors that influence development, from conception through approximately 36 months. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development. S22288

EDU 145 Child Development II	3	0	3
Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085			
This course includes the theories of child development, needs, milestones, and factors that influence development, from preschool through middle childhood. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development. S22289			
EDU 146 Child Guidance	3	0	3
Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085			
This course introduces principles and practical techniques including the design of learning environments for providing developmentally appropriate guidance for all children, including those at risk. Emphasis is placed on observation skills, cultural influences, underlying causes of behavior, appropriate expectations, development of self control and the role of communication and guidance. Upon completion, students should be able to demonstrate direct/indirect strategies for preventing problem behaviors, teaching appropriate/acceptable behaviors, negotiation, setting limits and recognizing at risk behaviors. S22290			
EDU 151 Creative Activities	3	0	3
Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085			
This course covers planning, creation and adaptation of developmentally supportive learning environments with attention to curriculum, interactions, teaching practices and learning materials. Emphasis is placed on creating and adapting integrated, meaningful, challenging and engaging developmentally supportive learning experiences in art, music, movement and dramatics for all children. Upon completion, students should be able to create, adapt, implement and evaluate developmentally supportive learning materials, experiences and environments. S22294			
EDU 153 Health, Safety & Nutrition	3	0	3
Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085			
This course covers promoting and maintaining the health and well-being of all children. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy learning environments, recognition and reporting of abuse and neglect and state regulations. Upon completion, students should be able to demonstrate knowledge of health, safety, and nutritional needs, safe learning environments, and adhere to state regulations. S22300			
EDU 162 Observation & Assessment in ECE	3	0	3
Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085			
This course introduces the research, benefits, goals, and ethical considerations associated with observation and assessment in Early Childhood environments. Emphasis is placed on the implementation of multiple observation/assessment strategies including anecdotal records, event samples, rating scales, and portfolios to create appropriate learning experiences. Upon completion, students should be able to practice responsible assessment and use assessments to enhance programming and collaboration for children and families. S22305			
EDU 163 Classroom Management & Instruction	3	0	3
Prerequisites: Take one set. Set 1: ENG 080, RED 080 Set 2: ENG 085			
This course covers management and instructional techniques with school-age populations. Topics include classroom management and organization, teaching strategies, individual student differences and learning styles, and developmentally appropriate classroom guidance techniques. Upon completion, students should be able to utilize developmentally appropriate behavior management and instructional strategies that enhance the teaching/learning process and promote students' academic success. S22306			

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|--|----------|----------|----------|
| EDU 184 Early Child Intro Pract | 1 | 3 | 2 |
|--|----------|----------|----------|
- Prerequisites: Take one set Set 1: ENG 080, RED 080, EDU 119 Set 2: ENG 085, EDU 119
 This course introduces students to early childhood settings and applying skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on observing children and assisting in the implementation of developmentally appropriate activities/environments for all children; and modeling reflective/professional practices. Upon completion, students should be able to demonstrate developmentally appropriate interactions with children and ethical/professional behaviors as indicated by assignments and onsite faculty visits. S22268
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|---|----------|----------|----------|
| EDU 216 Foundations of Education | 4 | 0 | 4 |
|---|----------|----------|----------|
- Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095
 This course introduces the American educational system and the teaching profession. Topics include historical and philosophical foundations of education, contemporary educational, structural, legal, and financial issues, and experiences in public school classrooms. Upon completion, students should be able to relate classroom observations to the roles of teachers and schools and the process of teacher education. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement at select institutions only. S22317
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|---|----------|----------|----------|
| EDU 221 Children with Exceptionalities | 3 | 0 | 3 |
|---|----------|----------|----------|
- Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 144 EDU 145 Set 2: ENG 090, RED 090, PSY 244 PSY 245 Set 3: ENG 095, EDU 144 EDU 145 Set 4: ENG 095, PSY 244 PSY 245
 This course introduces children with exceptionalities, their families, support services, inclusive/diverse settings, and educational/family plans based on the foundations of child development. Emphasis is placed on the characteristics of exceptionalities, observation and assessment of children, strategies for adapting the learning environment, and identification of community resources. Upon completion, students should be able to recognize diverse abilities, describe the referral process, and depict collaboration with families/professionals to plan/implement, and promote best practice. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement at select institutions only. S22318
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|---|----------|----------|----------|
| EDU 222 Learn w/ Behav Disord
(EDU 222 replaced EDU 147) | 3 | 0 | 3 |
|---|----------|----------|----------|
- Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 144, EDU 145 Set 2: ENG 090, RED 090, PSY 244, PSY 245 Set 3: ENG 095, EDU 144, EDU 145 Set 4: ENG 095, PSY 244, PSY 245
 This course provides a comprehensive study of learners with behavioral disorders encompassing characteristics, assessments, placement alternatives, inclusion and family interventions. Topics include legislation, appropriate management interventions, and placement options for children with behavior disorders. Upon completion, students should be able to identify, develop, and utilize positive behavior support systems. S22291
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|---|----------|----------|----------|
| EDU 223 Specific Learning Disabilities | 3 | 0 | 3 |
|---|----------|----------|----------|
- Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 144, EDU 145 Set 2: ENG 090, RED 090, PSY 244, PSY 245 Set 3: ENG 095, EDU 144, EDU 145 Set 4: ENG 095, PSY 244, PSY 245
 This course provides a comprehensive study of characteristics, alternative assessments, teaching strategies, placement options, inclusion, and family intervention for children with specific learning disabilities. Topics include causes, assessment instruments, learning strategies, and collaborative/inclusion methods for children with specific learning disabilities. Upon completion, students should be able to assist in identifying, assessing, and providing educational interventions for children with specific learning disabilities and their families. S22292
- | | | | |
|--|----------|----------|----------|
| EDU 234 Infants, Toddlers, & Twos | 3 | 0 | 3 |
|--|----------|----------|----------|
- Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 119 Set 2: ENG 095, EDU 119
 This course covers the unique needs and rapid changes that occur in the first three years of life and the inter-related factors that influence development. Emphasis is placed on recognizing and supporting developmental milestones through purposeful strategies, responsive care routines and identifying elements of quality, inclusive early care and education. Upon completion, students should be able to demonstrate respectful relationships that provide a foundation for healthy infant/toddler/twos development, plan/select activities/materials, and partner with diverse families. S22321

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|---|----------|----------|----------|
| EDU 235 School-Age Dev & Program | 3 | 0 | 3 |
| Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095 | | | |
| This course includes developmentally appropriate practices in group settings for school-age children. Emphasis is placed on principles of development, environmental planning, and positive guidance techniques. Upon completion, students should be able to discuss developmental principles for all children ages five to twelve and plan and implement developmentally-appropriate activities. S22322 | | | |
| EDU 241 Adult-Child Relations | 2 | 0 | 2 |
| Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095 | | | |
| This course covers self-concept and effective and active listening skills in positive one-to-one interactions with individuals and groups of children. Emphasis is placed on self-concept development and effective communication techniques used with children. Upon completion, students should be able to identify principles underlying self-concept and demonstrate effective listening and communication skills used by adults with children. S22324 | | | |
| EDU 243 Learning Theory | 3 | 0 | 3 |
| Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095 | | | |
| This course provides lateral entry teachers an introduction to learning theory, various styles of learning, and motivational factors involved in the learning process. Emphasis is placed on the development of cognitive skills using the eight types of intelligence and applying these to practical classroom situations. Upon completion, students should be able to describe theories and styles of learning and discuss the relationship between different types of intelligence to learning motivation. S22325 | | | |
| EDU 247 Sensory & Physical Disabilities | 3 | 0 | 3 |
| Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 144, EDU 145 Set 2: ENG 090, RED 090, PSY 244, PSY 245 Set 3: ENG 095, EDU 144, EDU 145 Set 4: ENG 095, PSY 244, PSY 245 | | | |
| This course covers characteristics, intervention strategies, assistive technologies, and inclusive practices for children with sensory and physical disabilities. Topics include inclusive placement options, utilization of support services, other health impairments and family involvement for children with sensory and physical disabilities. Upon completion, students should be able to identify and utilize intervention strategies and service delivery options for those specific disabilities. S22328 | | | |
| EDU 248 Developmental Delays | 3 | 0 | 3 |
| Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 144, EDU 145 Set 2: ENG 090, RED 090, PSY 244, PSY 245 Set 3: ENG 095, EDU 144, EDU 145 Set 4: ENG 095, PSY 244, PSY 245 | | | |
| This course covers the causes and assessment of developmental delays and individualized instruction and curriculum for children with developmental delays. Emphasis is placed on definition, characteristics, assessment, educational strategies, inclusion, family involvement, and services for children with developmental delays. Upon completion, students should be able to identify, assess, and plan educational intervention strategies for children with developmental delays and their families. S22329 | | | |
| EDU 250 PRAXIS I Preparation | 1 | 0 | 1 |
| Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095 | | | |
| This course is designed to prepare potential teachers for the PRAXIS I exam that is necessary to enter the field of education. Emphasis is placed on content specifications of the PRAXIS I exam, study skills and simulated examinations. Upon completion, students should be able demonstrate an understanding of the content necessary for successful completion of the PRAXIS I exam. S22330 | | | |
| EDU 251 Exploration Activities | 3 | 0 | 3 |
| Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095 | | | |
| 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. S22331 | | | |

EDU 252 Math & Science Activities	3	0	3
Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095			
This course introduces discovery experiences in math and science. Topics include concepts, facts, phenomena, and skills in each area. Upon completion, students should be able to identify, plan, select materials and equipment, and implement and evaluate developmentally appropriate curriculum materials. S22333			
EDU 256 Inst Strat/Social Studies	2	2	3
Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095			
This course covers objectives, content, materials, and instructional approaches to social studies. Topics include the integration of history, geography, economics, and government materials; research/study techniques; and critical thinking. Upon completion, students should be able to assess, plan, implement, and evaluate developmentally appropriate experiences as it relates to the NC Standard Course of Study. S22343			
EDU 259 Curriculum Planning	3	0	3
Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 119 Set 2: ENG 095, EDU 119			
This course is designed to focus on curriculum planning for three to five year olds. Topics include philosophy, curriculum models, indoor and outdoor environments, scheduling, authentic assessment, and planning developmentally appropriate experiences. Upon completion, students should be able to evaluate children's development, critique curriculum, plan for individual and group needs, and assess and create quality environments. S22345			
EDU 261 Early Childhood Administration I	3	0	3
Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095			
Corequisites: EDU 119			
This course introduces principles of basic programming and staffing, budgeting/financial management and marketing, and rules and regulations of diverse early childhood programs. Topics include program structure and philosophy, standards of NC child care programs, finance, funding resources, and staff and organizational management. Upon completion, students should be able to develop components of program/personnel handbooks, a program budget, and demonstrate knowledge of fundamental marketing strategies and NC standards. S22346			
EDU 262 Early Childhood Admin II	3	0	3
Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 261 Set 2: ENG 095, EDU 261			
Corequisites: EDU 119			
This course focuses on advocacy/leadership, public relations/community outreach and program quality/evaluation for diverse early childhood programs. Topics include program evaluation/accreditation, involvement in early childhood professional organizations, leadership/mentoring, family, volunteer and community involvement and early childhood advocacy. Upon completion, students should be able to define and evaluate all components of early childhood programs, develop strategies for advocacy and integrate community into programs. S22347			
EDU 271 Educational Technology	2	2	3
Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095			
This course introduces the use of technology to enhance teaching and learning in all educational settings. Topics include technology concepts, instructional strategies, materials and adaptive technology for children with exceptionalities, facilitation of assessment/evaluation, and ethical issues surrounding the use of technology. Upon completion, students should be able to apply technology enhanced instructional strategies, use a variety of technology resources and demonstrate appropriate technology skills in educational environments. S22337			
EDU 280 Language & Literacy Exp	3	0	3
Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095			
This course is designed to expand students' understanding of children's language and literacy development and provides strategies for enhancing language/literacy experiences in an enriched environment. Topics include selection of diverse literature and interactive media, the integration of literacy concepts throughout the curriculum, appropriate observations/assessments and inclusive practices. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate and diverse language/literacy experiences. S22339			

EDU 281 Instruc Strat/Read & Writing 2 2 3
(EDU 281 replaced EDU 186)

Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095

This course covers concepts, resources, and methods for teaching reading and writing to elementary through middle-grade 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 school-age literacy experiences as related to the North Carolina Standard Course of Study. S22293

EDU 285 Internship Exp-School Age 1 9 4

Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 144, EDU 145, EDU 118, EDU 163 Set 2: ENG 090, RED 090, PSY 244, PSY 245, EDU 118, EDU 163 Set 3: ENG 090, RED 090, PSY 244, EDU 145, EDU 118, EDU 163 Set 4: ENG 090, RED 090, EDU 144, PSY 245, EDU 118, EDU 163 Set 5: ENG 090, RED 090, PSY 244, PSY 245, EDU 216, EDU 163 Set 6: ENG 090, RED 090, EDU 144, EDU 145, EDU 216, EDU 163 Set 7: ENG 090, RED 090, EDU 144, PSY 245, EDU 216, EDU 163 Set 8: ENG 090, RED 090, PSY 244, EDU 216, EDU 163 Set 9: ENG 095, PSY 244, PSY 245, EDU 118, EDU 163 Set 10: ENG 095, EDU 144, EDU 145, EDU 118, EDU 163 Set 11: ENG 095, EDU 144, PSY 245, EDU 118, EDU 163 Set 12: ENG 095, PSY 244, EDU 145, EDU 118, EDU 163 Set 13: ENG 095, PSY 244, PSY 245, EDU 216, EDU 163 Set 14: ENG 095, EDU 144, EDU 145, EDU 216, EDU 163 Set 15: ENG 095, EDU 144, PSY 245, EDU 216, EDU 163 Set 16: ENG 095, PSY 244, EDU 145, EDU 216, EDU 163

This course is designed to allow students to apply skills in a quality public or private school environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate lesson plans/assessments, appropriate guidance techniques, ethical/professional behaviors as indicated by assignments and on site faculty visits. S22349

EDU 287 Leadership/Early Child Education 3 0 3

Prerequisites: Take one set. Set 1: ENG 090, RED 090, EDU 119, EDU 131, EDU 144, EDU 145 Set 2: ENG 090, RED 090, EDU 119, EDU 131, PSY 244, PSY 245 Set 3: ENG 095, EDU 119, EDU 131, EDU 144, EDU 145 Set 4: ENG 095, EDU 119, EDU 131, PSY 244, PSY 245

This course is designed to facilitate and guide the development of early childhood professionals preparing for leadership roles in improving community early childhood services. Topics include principles of social change, characteristics of effective leaders, techniques of action research, childcare funding mechanisms, quality initiatives, and key issues in early care. Upon completion, students should be able to identify key issues; develop strategic plans; establish relationships with community leaders; and identify opportunities and barriers for advocacy. S22351

EDU 288 Advanced Issues/Early Child Ed 2 0 2

Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095

This course covers advanced topics and issues in early childhood. Emphasis is placed on current advocacy issues, emerging technology, professional growth experiences, and other related topics. Upon completion, students should be able to list, discuss, and explain advanced current topics and issues in early childhood education. S22342

EDU 289 Advanced Issues/School Age 2 0 2

Prerequisites: Take one set. Set 1: ENG 090, RED 090 Set 2: ENG 095

This course covers advanced topics and issues that relate to school-age programs. Emphasis is placed on current advocacy issues, emerging technology, professional growth, ethics, and organizations for providers/teachers working with school-age populations. Upon completion, students should be able to list, discuss, and explain advanced current topics and issues surrounding school-aged populations. S22275

ENGINEERING (EGR)

EGR 110 Introduction to Engineering Technology	1	2	2
This course introduces general topics relevant to engineering technology. Topics include career assessment, professional ethics, critical thinking and problem solving, usage of college resources for study and research, and using tools for engineering computations. Upon completion, students should be able to choose a career option in engineering technology and utilize college resources to meet their educational goals. S20645			
EGR 220 Engineering Statics Education	3	0	3
Prerequisites: PHY 251 Corequisites: MAT 272			
This course introduces the concepts of engineering based on forces in equilibrium. Topics include concentrated forces, distributed forces, forces due to friction, and inertia as they apply to machines, structures, and systems. Upon completion, students should be able to solve problems which require the ability to analyze systems of forces in static equilibrium. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement. S13929			

ELECTRICITY (ELC)

ELC 111 Introduction to Electricity	2	2	3
This course introduces the fundamental concepts of electricity and test equipment to non-electrical/electronic 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. S11841			
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, troubleshoot, and repair DC/AC circuits. S21587			
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. S11805			
ELC 114 Basic Wiring II	2	6	4
Prerequisites: ELC 113 This course provides instruction in the application of electrical tools, materials, and test equipment associated with electrical installations. Topics include the NEC; safety; electrical blueprints; planning, layout, and installation of equipment and conduits; and wiring devices such as panels and overcurrent devices. Upon completion, students should be able to properly install equipment and conduit associated with electrical installations. S21588			
ELC 117 Motors and 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. S21589			
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. S11926			
ELC 119 NEC Calculations	1	2	2
This course covers branch circuit, feeder, and service calculations. Emphasis is placed on sections of the National Electrical Code related to calculations. Upon completion, students should be able to use appropriate code sections to size wire, conduit, and overcurrent devices for branch circuits, feeders, and service. S11833			

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. S10676

ELC 228 PLC Applications 2 6 4
 Prerequisites: ELC 128
 This course covers programming and applications of programmable logic controllers. Emphasis is placed on programming techniques, networking, specialty I/O modules, and system troubleshooting. Upon completion, students should be able to specify, implement, and maintain complex PLC controlled systems. S21601

ENGLISH (ENG)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by the college's placement test.

ENG 75 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 prerequisite for ENG 111 or ENG 111A. S12307

ENG 85 Reading & Writing Foundations 5 0 5
 Prerequisites: ENG 070 and RED 070, or ENG 075
 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 for ENG 111 or ENG 111A. S10797

ENG 95 Reading & Composition Strategies 5 0 5
 Prerequisites: ENG 080 and RED 080; or ENG 085
 This course uses whole language to strengthen proficiency in reading and writing for college. Emphasis is placed on applying critical reading skills to narrative and expository texts and on using the writing process. Upon completion, students should be able to comprehend, analyze, and evaluate college texts and to compose essays in preparation for college writing. This course integrates ENG 090 and RED 090. This course satisfies the developmental reading and writing for ENG 111 and ENG 111A. S12996

ENG 101 Applied Communications I 3 0 3
 This course is designed to enhance reading and writing skills for the workplace. Emphasis is placed on technical reading, job-related vocabulary, sentence writing, punctuation, and spelling. Upon completion, students should be able to identify main ideas with supporting details and produce mechanically correct short writings appropriate to the workplace. This is a diploma-level course. S12858

ENG 111 Expository Writing 3 0 3
 Prerequisites: ENG 090 and RED 090 or ENG 095
 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. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition. S13673

ENG 113 Literature-Based Research	3	0	3
Prerequisites: ENG 111			
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. S13650			
ENG 114 Professional Research & Reporting	3	0	3
Prerequisites: ENG 111			
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. S13706			
ENG 125 Creative Writing I	3	0	3
Prerequisites: ENG 111			
This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing, fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S16350			
ENG 126 Creative Writing II	3	0	3
Prerequisites: ENG 125			
This course is designed as a workshop approach for advancing imaginative and literary skills. Emphasis is placed on the discussion of style, techniques, and challenges for first publications. Upon completion, students should be able to submit a piece of their writing for publication. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12088			
ENG 231 American Literature I	3	0	3
Prerequisites: ENG 113 or ENG 114			
This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to 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. S13883			
ENG 232 American Literature II	3	0	3
Prerequisites: ENG 113 or ENG 114			
This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to 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. S13856			
ENG 233 Major American Writers	3	0	3
Prerequisites: ENG 113 or ENG 114			
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. S13908			

ENG 235	Survey of Film as Literature	3	0	3
Prerequisites: ENG 113 This course provides a study of the medium of film with a focus on the historical impact and the various literary genres of movies. Emphasis is placed on an appreciation of film as a form of literature which demonstrates various elements of fiction (character, setting, theme, etc.). Upon completion, students should be able to analyze film critically in various literary contexts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13856				
ENG 241	British Literature I	3	0	3
Prerequisites: ENG 113 or ENG 114 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. S11763				
ENG 242	British Literature II	3	0	3
Prerequisites: ENG 113 or ENG 114 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. S11698				
ENG 243	Major British Writers	3	0	3
Prerequisites: ENG 113 or ENG 114 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. S11728				
ENG 251	Western World Literature I	3	0	3
Prerequisites: ENG 113 or ENG 114 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. S14255				
ENG 252	Western World Literature II	3	0	3
Prerequisites: ENG 113 or ENG 114 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. S14203				
ENG 261	World Literature I	3	0	3
Prerequisites: ENG 113 or ENG 114 This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from their literary beginnings through the seventeenth century. 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. S12708				

ENG 262 World Literature II	3	0	3
Prerequisites: ENG 113 or ENG 114			
This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from the eighteenth century 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. S12600			
ENG 272 Southern Literature	3	0	3
Prerequisites: ENG 113 or ENG 114			
This course provides an analytical study of the works of several Southern authors. Emphasis is placed on the historical and cultural contexts, themes, aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13535			
ENG 273 African-American Literature	3	0	3
Prerequisites: ENG 113 or ENG 114			
This course provides a survey of the development of African-American literature from its beginnings to the present. Emphasis is placed on historical and cultural context, themes, literary traditions, and backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and respond to selected texts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13578			
ENG 274 Literature by Women	3	0	3
Prerequisites: ENG 112, ENG 113, or ENG 114			
This course provides an analytical study of the works of several women authors. Emphasis is placed on the historical and cultural contexts, themes and aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13548			
ENG 275 Science Fiction	3	0	3
Prerequisites: ENG 113 or ENG 114			
This course covers the relationships between science and literature through analysis of short stories and novels. Emphasis is placed on scientific discoveries that shaped Western culture and our changing view of the universe as reflected in science fiction literature. Upon completion, students should be able to trace major themes and ideas and illustrate relationships between science, worldview, and science fiction literature. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13564			

ENTREPRENEURSHIP (ETR)

ETR 215 Law for Entrepreneurs	3	0	3
This course introduces students to basic legal concepts specifically relevant to a business start-up venture. Topics include bailments and documents of title, nature and form of sales, risk and property rights, obligations and performance, business organizations, and agency and employment. Upon completion, students should be able to assess the legal responsibilities of a business start-up. S22096			

ETR 220	Innovation and Creativity	3	0	3
This course provides a study of developing and enhancing individual and organizational creativity and innovation. Topics include that innovation needs to be applied to products, services, and processes to increase competitive advantages and add value to businesses. Upon completion, students should be able to apply innovation and creativity principles in the work place. S22099				
ETR 230	Entrepreneur Marketing	3	0	3
This course covers the techniques to correctly research and define the target market to increase sales for start up businesses or to expand current businesses. Topics include how to target market and meet customers' needs with a limited budget in the early stages of the life of a start up business. Upon completion, students should be able to demonstrate an understanding of how to correctly target market for a start-up business with limited resources. S22100				
ETR 240	Funding for Entrepreneurs	3	0	3
Prerequisites: ACC 120 This course provides a focus on the financial issues and needs confronting entrepreneurs attempting to grow their businesses by attracting startup and growth capital. Topics include sources of funding including angel investors, venture capital, IPO's, private placement, banks, suppliers, buyers, partners, and the government. Upon completion, students should be able to demonstrate an understanding of how to effectively finance a business venture. S22101				
ETR 270	Entrepreneurship Issues	3	0	3
This course introduces current and emerging entrepreneurship issues and opportunities. Topics include franchising, import/export, small business taxes, legal structures, negotiations, contract management, and time management. Upon completion, students should be able to apply a variety of analytical and decision-making requirements to start a new business. S22102				

FRENCH (FRE)

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. S11554				
FRE 112	Elementary French II	3	0	3
Prerequisites: FRE 111 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. S11626				
FRE 141	Culture and Civilization	3	0	3
This course, taught in English, provides an opportunity to explore issues related to the Francophone 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 Francophone world. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10038				

GEOLOGY (GEL)

GEL 111	Introductory Geology	3	2	4
<p>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. S12347</p>				

GEOGRAPHY (GEO)

GEO 111	World Regional Geography	3	0	3
<p>This course introduces the regional concept which emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. S13742</p>				

HEALTH (HEA)

HEA 110	Personal Health/Wellness	3	0	3
<p>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. S10185</p>				

HEA 112	First Aid & CPR	1	2	2
<p>This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10211</p>				

HEALTHCARE MANAGEMENT (HMT)

HMT 110	Introduction to Healthcare Management	3	0	3
<p>This course introduces the functions, practices, organizational structures, and professional issues in healthcare management. Emphasis is placed on planning, controlling, directing, and communicating within health and human services organizations. Upon completion, students should be able to apply the concepts of management within a healthcare service environment. S20232</p>				

HMT 210	Medical Insurance	3	0	3
<p>Prerequisites: MED 122 or OST 142</p> <p>This course introduces the concepts of medical insurance. Topics include types and characteristics of third-party payers, coding concepts, payment systems, and manual/electronic claims form preparation. Upon completion, students should be able to process third-party claims forms. S11549</p>				

HMT 211	Long-Term Care Administration	3	0	3
<p>Prerequisites: HMT 110</p> <p>This course introduces the administration of long-term care facilities and services. Emphasis is placed on nursing home care, home health care, hospice, skilled nursing facilities, and other long-term care services. Upon completion, students should be able to administer state and national standards and regulations as they apply to long-term care. S11621</p>				

HMT 212 Management of Healthcare Organizations 3 0 3

Prerequisites: HMT 110

This course examines current issues affecting the management of healthcare delivery systems. Topics include current problems, changes, and challenges in the healthcare environment. Upon completion, students should be able to identify current health care issues and their impact on healthcare management. S20233

HMT 220 Healthcare Financial Management 4 0 4

Prerequisites: HMT 110 and ACC 121

This course covers the methods and techniques utilized in the financial management of healthcare programs. Topics include cost determination, pricing of services, financial statement analysis, forecasting/projections, third-party billing, reimbursement, Medicare, Medicaid, and budgeting. Upon completion, students should be able to interpret and apply the principles of financial management in a healthcare environment. S20623

HISTORY (HIS)

HIS 115 Introduction to Global History 3 0 3

This course introduces the study of global history. Emphasis is placed on topics such as colonialism, industrialism, and nationalism. Upon completion, students should be able to analyze significant global historical issues. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. S10822

HIS 116 Current World Problems 3 0 3

This course covers current world events from an historical perspective. Topics include regional problems as well as international concerns. Upon completion, students should be able to analyze significant current world problems from an historical perspective. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10826

HIS 117 History of Religions 3 0 3

This course surveys the historical development of the world's major religions. Topics include systems of belief and religious practice, polytheism, monotheism, and current religious movements. Upon completion, students should be able to analyze the world's major religious traditions. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10780

HIS 121 Western Civilization I 3 0 3

This course introduces western civilization from pre-history 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. S13000

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. S13096

HIS 131 American History I 3 0 3

This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. S10370

- 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. S10386
- HIS 141 Genealogy & Local History** 3 0 3
 This course explores the role of the local or family historian. Emphasis is placed on historical or genealogical research techniques including a survey of local, state, and national archival resources. Upon completion, students should be able to conduct genealogical research and do a major research project on local or family history. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11285
- HIS 161 Science and Technology** 3 0 3
 This course examines the history of science and technology from pre-history to the present. Topics include the origins, impact, and consequences of scientific and technological developments. Upon completion, students should be able to analyze significant developments in the history of science and technology. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12942
- HIS 162 Women and History** 3 0 3
 This course surveys the experience of women in historical perspective. Topics include the experiences and contributions of women in culture, politics, economics, science, and religion. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural contributions of women in history. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12886
- HIS 163 The World Since 1945** 3 0 3
 This course surveys world developments since the end of World War II. Topics include the Cold War, nationalism, colonialism, the Third World, the arms race, and global capitalism and regionalism. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the world since 1945. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12914
- HIS 165 Twentieth-Century World** 3 0 3
 This course includes the major developments, issues, and ideas in twentieth-century world history. Emphasis is placed on contrasting political systems, the impact of science and technology, and the philosophical temperament of twentieth-century people. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the twentieth century. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12963
- HIS 221 African-American History** 3 0 3
 This course covers African-American history from the Colonial period to the present. Topics include African origins, the slave trade, the Civil War, Reconstruction, the Jim Crow era, the civil rights movement, and contributions of African Americans. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the history of African Americans. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11507
- HIS 227 Native American History** 3 0 3
 This course surveys the history and cultures of Native Americans from pre-history to the present. Topics include Native American civilizations, relations with Europeans, and the continuing evolution of Native American cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments among Native Americans. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11493

HIS 231	Recent American History	3	0	3
This course is a study of American society from the post-Depression era to the present. Topics include World War II, the Cold War, social unrest, the Vietnam War, the Great Society, and current political trends. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in recent America. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11165				
HIS 233	History of Appalachia	3	0	3
This course introduces the Appalachian region and its relationship to mainstream American history. Topics include regional settlement patterns and a study of Appalachian culture. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in Appalachia. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11169				
HIS 234	Cherokee History	3	0	3
This course is a survey of the history and culture of the Cherokees. Topics include origins, belief systems, contact and conflict with European settlers, removals, and contemporary problems faced by the Cherokees. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in Cherokee history. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11138				
HIS 262	Middle East History	3	0	3
This course surveys the history of the Middle East from the development of civilization in Mesopotamia to the present. Emphasis is placed on social, political, economic, religious, and governmental structures in the Middle East. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the Middle East. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11865				

HUMAN SERVICES (HSE)

HSE 110	Intro to Human Services	2	2	0	3
This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/professional characteristics, diverse populations, community resources, disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker. S12827					
HSE 112	Group Process I	1	2	0	2
This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by their interactions in group settings. S12789					
HSE 123	Interviewing Techniques	2	2	0	3
This course covers the purpose, structure, focus, and techniques employed in effective interviewing. Emphasis is placed on observing, attending, listening, responding, recording, and summarizing of personal histories with instructor supervision. Upon completion, students should be able to perform the basic interviewing skills needed to function in the helping relationship. S13513					
HSE 125	Counseling	2	2	0	3
This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of self-exploration, problem solving, decision making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques. S21902					

HSE 210 Human Services Issues 2 0 0 2
 This course covers current issues and trends in the field of human services. Emphasis is placed on contemporary topics with relevance to special issues in a multi-faceted field. Upon completion, students should be able to integrate the knowledge, skills, and experiences gained in classroom and clinical experiences with emerging trends in the field. S11975

HSE 225 Crisis Intervention 3 0 0 3
 This course introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Upon completion, students should be able to assess crisis situations and respond appropriately. S14034

HUMANITIES (HUM)

HUM 110 Technology and 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. S14059

HUM 115 Critical Thinking 3 0 3
 Prerequisites: ENG 095 or RED 090 and ENG 090
 This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course may meet the SACS humanities requirement for AAS degree programs. S20059

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. S12973

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. S13721

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. S16395

HUM 161 Advanced Film Studies 2 2 3
 Prerequisites: HUM 160
 This course provides an advanced study of film art and production, building on skills learned in HUM 160. Topics include film production techniques, film genres, examination of master directors' styles, and the relation of film to culture. Upon completion, students should be able to recognize and critically analyze advanced elements of film production. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S10896

HUM 211 Humanities I

3 0 3

Prerequisites: ENG 111

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from ancient through early modern times. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S10430

HUM 212 Humanities II

3 0 3

Prerequisites: ENG 111

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from early modern times to the present. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S10487

INDUSTRIAL SCIENCE (ISC)**ISC 112 Industrial Safety**

2 0 2

This course introduces the principles of industrial safety. Emphasis is placed on industrial safety, OSHA, and environmental regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment and OSHA compliance. S20649

JOURNALISM (JOU)**JOU 110 Introduction to Journalism**

3 0 3

This course presents a study of journalistic news, feature, and sports writing. Emphasis is placed on basic news writing techniques and on related legal and ethical issues. Upon completion, students should be able to gather, write, and edit news, feature, and sports articles. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12092

JOU 216 Writing for Mass Media

2 2 3

This course is an introduction to news writing for newspapers and other print media including the techniques of news gathering, reporting, and interviewing. Emphasis is placed on basic methods of gathering information, conducting interviews, organizing a story, writing leads, writing clear, concise copy, and upon developing research skills. Upon completion, students should be able to write clear, concise, accurate, complete, balanced and readable news stories according to guidelines set by industry standards. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S21391

JOU 217 Feature/Editorial Writing

2 2 3

Prerequisites: ENG 111

This course covers the basics of persuasive writing for community newspapers and other print media. Emphasis is placed on writing features, reviews, and editorials including audience analysis, appropriate language, effective supporting details, completeness, and accuracy. Upon completion, students should be able to write effective feature stories, reviews, and editorials. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20976

MACHINING TECHNOLOGY (MAC)**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. S11631

MAC 112 Machining Technology II	2	12	6
Prerequisites: MAC 111			
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. S11762			
MAC 113 Machining Technology III	2	12	6
Prerequisites: MAC 112			
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. S11700			
MAC 114 Introduction to Metrology	2	0	2
This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments. S11725			
MAC 121 Introduction to CNC	2	0	2
This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage. S11049			
MAC 122 Introduction to 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. S11081			
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. S11096			
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. S12105			
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. S12224			
MAC 214 Machining Technology IV	2	12	6
Prerequisites: MAC 112			
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. S12479			
MAC 222 Advanced CNC Turning	1	3	2
Prerequisites: MAC 122			
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. S10067			

MAC 224 Advanced CNC Milling

1 3 2

Prerequisites: MAC 124

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. S10080

MAC 229 CNC Programming

2 0 2

Prerequisites: MAC 121, MAC 122, MAC 124, or MAC 226

This course provides concentrated study in advanced programming techniques for working with modern CNC machine tools. Topics include custom macros and subroutines, canned cycles, and automatic machining cycles currently employed by the machine tool industry. Upon completion, students should be able to program advanced CNC functions while conserving machine memory. S10035

MATHEMATICS (MAT)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by that college's placement test.

MAT 50 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. S14130

MAT 60 Essential Mathematics

3 2 4

Prerequisites: MAT 050

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, multi-step mathematical problems using technology where appropriate. S13237

MAT 70 Introductory Algebra

3 2 4

Prerequisites: MAT 060

Corequisites: ENG 085

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. S13768

MAT 80 Intermediate Algebra

3 2 4

Prerequisites: MAT 070

Corequisites: ENG 085

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. S11372

MAT 101 Applied Mathematics I

2 2 3

Prerequisites: MAT 060, MAT 070, MAT 080, MAT 090, or MAT 095

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 diploma programs. S20906

- MAT 110 Mathematical Measurement** 2 2 3
 Prerequisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175
 This course provides an activity-based approach to utilizing, interpreting, and communicating data in a variety of measurement systems. Topics include accuracy, precision, conversion, and estimation within metric, apothecary, and avoirdupois systems; ratio and proportion; measures of central tendency and dispersion; and charting of data. Upon completion, students should be able to apply proper techniques to gathering, recording, manipulating, analyzing, and communicating data. S20801
- MAT 115 Mathematical Models** 2 2 3
 Prerequisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175
 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, function notation, linear functions, 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. S20802
- MAT 121 Algebra/Trigonometry I** 2 2 3
 Prerequisites: MAT 070 or MAT 080
 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. S20804
- MAT 140 Survey of Mathematics** 3 0 3
 Prerequisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175
 This course provides an introduction in a non-technical setting to selected topics in mathematics. Topics may 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. S20907
- MAT 140A Survey of Mathematics Lab** 0 2 1
 Prerequisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175
 Corequisites: MAT 140
 This course is a laboratory for MAT 140. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S20908
- MAT 141 Mathematical Concepts I** 3 0 3
 Prerequisites: MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175
 This course is the first of a two-course sequence that develops a deeper understanding and appreciation of the basic concepts of mathematics. Emphasis is placed on sets, logic, number bases, elementary number theory, introductory algebra, measurement including metrics, and problem solving. Upon completion, students should be able to communicate orally and in writing these basic mathematical concepts. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S20909

MAT 141A Mathematical Concepts I Lab	0	2	1
Prerequisites: MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175			
Corequisites: MAT 141			
This course is a laboratory for MAT 141. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20910			
MAT 142 Mathematical Concepts II	3	0	3
Prerequisites: MAT 141			
This course is the second of a two-course sequence that develops a deeper understanding and appreciation of the basic concepts of mathematics. Emphasis is placed on probability, statistics, functions, introductory geometry, and mathematics of finance. Upon completion, students should be able to communicate orally and in writing these basic mathematical concepts and utilize technology as a mathematical tool. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirements in natural sciences/mathematics. S20300			
MAT 142A Mathematical Concepts II Lab	0	2	1
Prerequisites: MAT 141			
Corequisites: MAT 142			
This course is a laboratory for MAT 142. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20301			
MAT 151 Statistics I	3	0	3
Prerequisites: MAT 080, MAT 121, MAT 140, or MAT 171			
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 (Quantitative Option). S21171			
MAT 151A Statistics I Lab	0	2	1
Prerequisites: MAT 080, MAT 121, or MAT 171			
Corequisites: MAT 151			
This course is a laboratory for MAT 151. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S21482			
MAT 161 College Algebra	3	0	3
Prerequisites: MAT 080, MAT 090, or MAT 095			
This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on applications involving equations and inequalities; polynomial, 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 for the Associate in Arts Degree. S20916			

MAT 161A College Algebra Lab	0	2	1
Prerequisites: MAT 080, MAT 090, or MAT 095			
Corequisites: MAT 161			
This course is a laboratory for MAT 161. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20917			
MAT 167 Discrete Mathematics	3	0	3
Prerequisites: MAT 121, MAT 161, MAT 171, or MAT 280			
This course is a study of discrete mathematics with emphasis on applications. Topics include number systems, combinations/permutations, mathematical logic/proofs, sets/counting, Boolean algebra, mathematical induction, trees/graphs, and algorithms. Upon completion, students should be able to demonstrate competence in the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11305			
MAT 171 Precalculus Algebra	3	0	3
Prerequisites: MAT 080, MAT 090, MAT 095, or MAT 161			
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. S20807			
MAT 171A Precalculus Algebra Lab	0	2	1
Prerequisites: MAT 080			
Corequisites: MAT 171			
This course is a laboratory for MAT 171. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S20808			
MAT 172 Precalculus Trigonometry	3	0	3
Prerequisites: MAT 171			
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. S11061			
MAT 172A Precalculus Trigonometry Lab	0	2	1
Prerequisites: MAT 171			
Corequisites: MAT 172			
This course is a laboratory for MAT 172. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13758			

MAT 252 Statistics II	3	0	3
Prerequisites: MAT 151 and either MAT 121 or MAT 161			
This course provides a technology-based treatment of multiple sample inferential statistics. Emphasis is placed on two sample hypothesis tests and confidence intervals, linear and multiple regression, analysis of variance, experimental design, and non-parametric techniques. Upon completion, students should be able to draw statistical inferences on multiple sample data taken from business and health, and social, natural, and applied sciences. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S14294			
MAT 252A Statistics II Lab	0	2	1
Prerequisites: MAT 151 and either MAT 121 or MAT 161			
Corequisites: MAT 252			
This course is a laboratory for MAT 252. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10287			
MAT 271 Calculus I	3	2	4
Prerequisites: MAT 172 or MAT 175			
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. S13631			
MAT 272 Calculus II	3	2	4
Prerequisites: MAT 271			
This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S13612			
MAT 273 Calculus III	3	2	4
Prerequisites: MAT 272			
This course covers the calculus of several variables and is the third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S13616			
MAT 285 Differential Equations	3	0	3
Prerequisites: MAT 272			
This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first-order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the phenomena. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11987			

MECHANICAL (MEC)

MEC 110 Introduction to CAD/CAM	1	2	2
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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. S14051

MEC 111 Machine Processes	2	3	3
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This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to safely machine simple parts to specified tolerances. S20654

MEDICAL ASSISTING (MED)

MED 110 Orientation to Medical Assisting	1	0	0	1
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This course covers the history of medicine and the role of the medical assistant in the health care setting. Emphasis is placed on professionalism, communication, attitude, behaviors, and duties in the medical environment. Upon completion, students should be able to project a positive attitude and promote the profession of medical assisting. S11175

MED 118 Medical Law and Ethics	2	0	0	2
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This course covers legal relationships of physicians and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent, and bioethical issues. Emphasis is placed on legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services. Upon completion, students should be able to meet the legal and ethical responsibilities of a multi-skilled health professional. S11173

MED 121 Medical Terminology I	3	0	3
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This course introduces prefixes, suffixes, and word roots used in the language of medicine. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders. S12737

MED 122 Medical Terminology II	3	0	3
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Prerequisites: MED 121
This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders. S12833

MED 130 Administrative Office Procedures I	1	2	2
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This course introduces medical office administrative procedures. Topics include appointment processing, written and oral communications, medical records, patient orientation, and safety. Upon completion, students should be able to perform basic administrative skills within the medical environment. S10285

MED 131 Administrative Office Procedures II	1	2	2
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Prerequisites: MED 130
This course provides medical office procedures in both economic and management skills. Topics include physical plant maintenance, equipment and supplies, liability coverage, medical economics, and introductory insurance procedures. Upon completion, students should be able to manage the economics of the medical office and supervise personnel. S16431

MED 134 Medical Transcription	2	2	3
Prerequisites: MED 121			
This course provides the basic knowledge, understanding, and skills required to complete medical reports and transcribe medical dictation. Emphasis is placed on correct punctuation, capitalization, and spelling. Upon completion, students should be able to demonstrate competence in medical transcription. S10271			
MED 140 Exam Room Procedures I	3	4	5
Prerequisites: MED 150 & MED 272			
This course provides instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with exams and treatment, patient education, preparation and administration of medications, EKG, vital signs, and medical emergencies. Upon completion, students should be able to demonstrate competence in exam room procedures. S11885			
MED 150 Laboratory Procedures I	3	4	5
Prerequisites: BIO 161 & MED 121			
This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting and processing specimens, performing selective tests, phlebotomy, screening and follow-up of test results, and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/skills based on course topics. S10688			
MED 232 Medical Insurance Coding	1	3	2
Prerequisites: MED 121			
This course is designed to develop coding skills. Emphasis is placed on advanced diagnostic and procedural coding in the outpatient facility. Upon completion, students should be able to demonstrate proficiency in coding for reimbursement. S16432			
MED 260 MED Clinical Externship	0	0	15
Prerequisites: MED 110, MED 118, MED 131, MED 134, MED 140, MED 150, & MED 232			
Corequisites: MED 262			
This course provides the opportunity to apply clinical, laboratory, and administrative skills in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as an entry-level health care professional. Students must complete first three semesters prior to entering MED 260. S13597			
MED 262 Clinical Perspectives	1	0	1
Corequisites: MED 260			
This course is designed to explore personal and occupational responsibilities of the practicing medical assistant. Emphasis is placed on problems encountered during externships and development of problem-solving skills. Upon completion, students should be able to demonstrate courteous and diplomatic behavior when solving problems in the medical facility. S13608			
MED 270 Symptomatology	2	2	3
Prerequisites: BIO 161			
This course covers the study of disease symptoms and the appropriate actions taken by medical assistants in a medical facility in relation to these symptoms. Emphasis is placed on interviewing skills and appropriate triage, preparing patients for procedures, and screening test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions. S11862			
MED 272 Drug Therapy	3	0	3
Prerequisites: MAT-110			
This course focuses on major drug groups, including their side effects, interactions, methods of administration, and proper documentation. Emphasis is placed on the theory of drug administration. Upon completion, students should be able to identify, spell, recognize side effects of, and document the most commonly used medications in a physician's office. S16433			

MARKETING & RETAILING (MKT)

MKT 120 Principles of Marketing	3	0	3
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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. S12573

THERAPEUTIC MASSAGE (MTH)

MTH 110 Fundamentals of Massage	6	9	3	10
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This course introduces concepts basic to the role of the massage therapist in a variety of clinical settings. Emphasis is placed on beginning theory and techniques of body work as well as skill in therapeutic touch. Upon completion of the course, the student should be able to apply basic practical massage therapy skills. S22033

MTH 120 Therapeutic Massage Applications	6	9	3	10
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Prerequisites: MTH 110 This course provides an expanded knowledge and skill base for the massage therapist in a variety of clinical settings. Emphasis is placed on selected therapeutic approaches throughout the lifespan. Upon completion, students should be able to perform entry level therapeutic massage on various populations. S22036

MTH 125 Ethics of Massage	2	0	0	2
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This course is designed to explore issues related to the practice of massage therapy. Emphasis is placed on ethical, legal, professional, and political issues. Upon completion, students should be able to discuss issues relating to the practice of massage therapy, client/therapist relationships as well as ethical issues. S20862

MTH 210 Advance Skills of Massage	4	9	3	8
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Prerequisites: MTH 120 or MTH 121

This course provides knowledge and skills in diverse body work modalities in a variety of clinical settings. Emphasis is placed on selected techniques such as Neuromuscular Therapy, Sports Massage, Soft Tissue Release, Spa Approaches, Oriental Therapies, and energy techniques. Upon completion, students should be able to perform basic skills in techniques covered. S22034

MTH 220 Outcome-Based Massage	4	6	3	7
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Prerequisites: MTH 120, MTH 121, or MTH 221

This course provides knowledge and skills in more complex body works modalities in a variety of clinical settings. Emphasis is placed on developing advanced skills in outcome-based Massage. Upon completion, students should be able to perform basic skills in techniques covered. S22035

MUSIC (MUS)

MUS 110 Music Appreciation	3	0	3
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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. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S13676

NETWORKING TECHNOLOGY (NET)

NET 110 Networking Concepts	2	2	3
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This course introduces students to the networking field. Topics include network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols. S21056

NET 125 Networking Basics	1	4	3
This course introduces the networking field. Emphasis is placed on network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols. S21095			
NET 126 Routing Basics	1	4	3
Prerequisites: NET 125 This course focuses on initial router configuration, router software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Emphasis will be placed on the fundamentals of router configuration, managing router software, routing protocol, and access lists. Upon completion, students should have an understanding of routers and their role in WANs, router configuration, routing protocols, TCP/IP, troubleshooting, and ACLs. S21096			
NET 175 Wireless Technology	2	2	3
Prerequisites: NET 110 or NET 125 This course introduces the student to wireless technology and interoperability with different communication protocols. Topics include Wireless Application Protocol (WAP), Wireless Mark-up language (WML), link manager, service discovery protocol, transport layer and frequency band. Upon completion, students should be able to discuss in written and oral form protocols and procedures required for different wireless applications. S21097			
NET 225 Routing & Switching I	1	4	3
Prerequisites: NET 126 This course focuses on advanced IP addressing techniques, intermediate routing protocols, command-line interface configuration of switches, Ethernet switching, VLANs, STP, and VTP. Emphasis will be placed on application and demonstration of skills acquired in pre-requisite courses. Upon completion, students should be able to perform tasks related to VLSM, routing protocols, switching concepts and configuration, STP, VLANs, and VTP. S21098			
NET 226 Routing & Switching II	1	4	3
Prerequisites: NET 225 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, PPP encapsulation operations on a router. Upon completion, students should be able to provide solutions for network routing problems, identify ISDN protocols, and describe the Spanning Tree protocol. S21099			
NET 230 Wide Area Networking	2	2	3
Prerequisites: NET 110 or NET 125 This course is designed to introduce significant aspects of network interconnectivity. Topics include LAN-to-LAN, LAN-to-host, LAN-to-WAN connectivity, Internet connections, and voice-video-data transmission. Upon completion, students should be able to demonstrate an understanding of wide area networking. S21100			
NET 240 Network Design	3	0	3
Prerequisites: NET 110 or NET 125 This course covers the principles of the design of LANs and WANs. Topics include network architecture, transmission systems, traffic management, bandwidth requirements, Internet working devices, redundancy, and broad-band versus base-band systems. Upon completion, students should be able to design a network to meet specified business and technical requirements. S21170			
NET 260 Internet Development & Support	3	0	3
Prerequisites: NET 110 or NET 125 This course covers issues relating to the development and implementation of Internet related tools and services. Topics include Internet organization, site registration, e-mail servers, Web servers, Web page development, legal issues, firewalls, multimedia, TCP/IP, service providers, FTP, list servers, and gateways. Upon completion, students should be able to develop and support the Internet services needed within an organization. S21424			

NET 270 Building Scalable Networks 1 4 3

Prerequisites: NET 226

This course covers principles and techniques of scalable networks. Topics include building multi-layer networks, controlling overhead traffic in growing routed networks, and router capabilities used to control traffic over LANs and WANs. Upon completion, students should be able to design; implement; and improve traffic flow, reliability, redundancy, and performance in enterprise networks. S21101

NET 271 Remote Access Networks 1 4 3

Prerequisites: NET 226

This course covers how to build a remote access network to interconnect central sites to branch offices, home offices, and telecommuters. Topics include enabling on-demand/ permanent connections to the central site, scaling and troubleshooting remote access networks, and maximizing bandwidth utilization over remote links. Upon completion, students should be able to assemble and configure equipment, establish WAN connections, enable protocols/technologies, allow traffic between sites, and implement accessible access control. S21102

NET 272 Multi-Layer Networks 1 4 3

Prerequisites: NET 226

This course covers building campus networks using multi-layer switching technologies over a high-speed Ethernet. Topics include improving IP routing performance with multi-layer switching, implementing fault tolerance routing, and managing high bandwidth broadcast while controlling IP multi-cast access to networks. Upon completion, students should be able to install and configure multi-layer enterprise networks and determine the required router configurations to support new services and applications. S21103

NET 273 Internetworking Support 1 4 3

Prerequisites: NET 226

This course covers how to baseline and troubleshoot and internetworking environment using routers and switches for multi-protocol client, host and servers. Topics include troubleshooting processes, routing and routed protocols, campus switching; and WAN troubleshooting. Upon completion, students should be able to troubleshoot Ethernet, Fast Ethernet, and Token Ring LANs; and Serial, Frame Relay, and ISDN connections. S21104

NET 289 Networking Project 1 4 3

Corequisites: NET 226

This course provides an opportunity to complete a significant networking 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. S21106

NETWORKING OPERATING SYSTEMS (NOS)

NOS 110 Operating System Concepts 2 3 3

Prerequisites: CIS 070

This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is place on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems. S20980

NOS 111 Operating System - DOS 2 2 3

This course introduces operating system concepts for DOS operating systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating system functions at the support level in a DOS environment. S20981

NOS 120 Linux/UNIX Single User	2	2	3
Prerequisites: NOS 110			
This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles. S20982			
NOS 130 Windows Single User	2	2	3
Prerequisites: NOS 110			
This course introduces operating system concepts for single-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating systems functions at the support level in a single-user environment. S20983			
NOS 149 Operating System - MVSTM	2	2	3
This course introduces operating systems concepts for MVS ^ä operating systems. Topics include hardware management, file and memory management, system configuration/optimization, utilities, Job Control Language, and support functions. Upon completion, students should be able to perform operating system functions at the support level in an MVS ^ä environment. S20984			
NOS 211 AS/400 Maintenance And Operation	2	3	3
This course is designed to cover the fundamental AS/400 System operations, screens, utilities, and terminology. Topics include an introduction to the AS/400 operating system, security, backup and restore, handling spooled files, and using commands and menus to create and manipulate objects. Upon completion, students should be able to use utilities, create libraries, save and restore files, monitor and control jobs and queues, and know AS/400 operations. S20985			
NOS 220 Linux/UNIX Administration I	2	2	3
Prerequisites: NOS 120			
This course introduces the Linux file system, group administration, and system hardware controls. Topics include installation, creation and maintaining file systems, NIS client and DHCP client configuration, NFS, SMB/Samba, Configure X, Gnome, KDE, basic memory, processes, and security. Upon completion, students should be able to perform system administration tasks including installation, configuring and attaching a new Linux workstation to an existing network. S20986			
NOS 221 Linux/UNIX Administration II	2	2	3
Prerequisites: NOS 220			
This course includes skill-building in configuring common network services and security administration using Linux. Topics include server-side setup, configuration, basic administration of common networking services, and security administration using Linux. Upon completion, students should be able to setup a Linux server and configure common network services including security requirements. S20987			
NOS 222 Linux/UNIX Administration III	2	2	3
Prerequisites: NOS 221			
This course includes technical topics in preparing an enterprise Linux system for common uses. Topics include advanced study of hardware, installation, boot process, file system administration, software administration, user administration, system administration, kernel services, configuration, securing services, and troubleshooting. Upon completion, students should be able to administer an enterprise Linux system. S20988			
NOS 230 Windows Administration I	2	2	3
Prerequisites: NOS 130			
This course covers the installation and administration of a Windows Server network operating system. Topics include managing and maintaining physical and logical devices, access to resources, the server environment, managing users, computers, and groups, and Managing/Implementing Disaster Recovery. Upon completion, students should be able to manage and maintain a Windows Server environment. S20989			

NOS 231 Windows Administration II	2	2	3
Prerequisites: NOS 230			
This course covers implementing, managing, and maintaining a Windows Server network infrastructure. Topics include implementing, managing, and maintaining IP addressing, name resolution, network security, routing and remote access, and managing a network infrastructure. Upon completion, students should be able to manage and maintain a Windows Server environment. S20990			
NOS 232 Windows Administration III	2	2	3
Prerequisites: NOS 231			
This course covers implementing and administering security in a Windows Server network. Topics include implementing, managing, and trouble shooting security policies, patch management infrastructure, security for network communications, authentication, authorization, and PKI. Upon completion, students should be able to implement, manage, and maintain a Windows Server network infrastructure. S20991			
NOS 240 Novell Administration I	2	2	3
Prerequisites: NOS 110			
This course will introduce students to the Novel network operating system. Topics include installing and using NetWare, managing printing, storage space, implementing internet services, and managing security. Upon completion, students should have basic knowledge about implementing NetWare and using its management tools. S20992			
NOS 244 Operating System - AS/400	2	2	3
This course includes operating systems concepts for AS/400 systems. Topics include hardware management, file and memory management, system configuration/optimization, utilities, Job Control Language, and support functions. Upon completion, students should be able to perform operating system functions in an AS/400 environment. S20993			

NURSING (NUR)

NUR 111 Introduction to Health Concepts	4	6	6	8
This course introduces the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts within each domain including medication administration, assessment, nutrition, ethics, interdisciplinary teams, informatics, evidence-based practice, individual-centered care, and quality improvement. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. S22213				
NUR 112 Health-Illness Concepts	3	0	6	5
Prerequisites: NUR 111				
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of acid-base, metabolism, cellular regulation, oxygenation, infection, stress/coping, health-wellness-illness, communication, caring interventions, managing care, safety, quality improvement, and informatics. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. S22212				
NUR 113 Family Health Concepts	3	0	6	5
Prerequisites: NUR 111				
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of oxygenation, sexuality, reproduction, grief/loss, mood/affect, behaviors, development, family, health-wellness-illness, communication, caring interventions, managing care, safety, and advocacy. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. S22214				
NUR 114 Holistic Health Concepts	3	0	6	5
Prerequisites: NUR 111				
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, inflammation, sensory perception, stress/coping, mood/affect, cognition, self, violence, health-wellness-illness, professional behaviors, caring interventions, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. S22215				

NUR 117 Pharmacology 1 3 0 2
 This course introduces information concerning sources, effects, legalities, and the safe use of medications as therapeutic agents. Emphasis is placed on nursing responsibility, accountability, pharmacokinetics, routes of medication administration, contraindications and side effects. Upon completion, students should be able to compute dosages and administer medication safely. S20178

NUR 211 Health Care Concepts 3 0 6 5
 Prerequisites: NUR 111
 This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, infection, immunity, mobility, comfort, behaviors, health-wellness-illness, clinical decision-making, caring interventions, managing care, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. S22216

NUR 212 Health System Concepts 3 0 6 5
 Prerequisites: NUR 111
 This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of grief/loss, violence, health-wellness-illness, collaboration, managing care, safety, advocacy, legal issues, policy, healthcare systems, ethics, accountability, and evidence-based practice. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. S22217

NUR 213 Complex Health Concepts 4 3 15 10
 Prerequisites: NUR 111, NUR 112, NUR 113, NUR 114, NUR 211, and NUR 212
 This course is designed to assimilate the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, perfusion, mobility, stress/coping, violence, health-wellness-illness, professional behaviors, caring interventions, managing care, healthcare systems, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality, individualized, entry level nursing care. S22219

NUTRITION (NUT)

NUT 110 Nutrition 3 0 0 3
 This course covers basic principles of nutrition and their relationship to human health. Topics include meeting nutritional needs of healthy people, menu modification based on special dietary needs, food habits, and contemporary problems associated with food selection. Upon completion, students should be able to apply basic nutritional concepts as they relate to health and well-being. S16468

OFFICE SYSTEMS TECHNOLOGY (OST)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by that college's placement test.

OST 80 Keyboarding Literacy 1 2 2
 This course is designed to develop elementary keyboarding skills. Emphasis is placed on mastery of the keyboard. Upon completion, students should be able to demonstrate basic proficiency in keyboarding. S12295

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. S13297

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. S13790

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| OST 134 | Text Entry & Formatting | 2 | 2 | 3 |
| This course is designed to provide 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 documents and key timed writings at speeds commensurate with employability. S22142 | | | | |
| OST 136 | Word Processing | 2 | 2 | 3 |
| This course is designed to introduce word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment. S22144 | | | | |
| OST 141 | Medical Terms I-Medical Office | 3 | 0 | 3 |
| This course uses a language-structure approach to present the terminology and vocabulary that will be encountered in medical office settings. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in approximately one-half of the systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms. S11561 | | | | |
| OST 148 | Medical Coding Billing & Insurance (Pending Approval) | 3 | 0 | 3 |
| This course introduces fundamentals of medical coding, billing, and insurance. Emphasis is placed on the medical billing cycle to include third party payers, coding concepts, and form preparation. Upon completion, students should be able to explain the life cycle of and accurately complete a medical insurance claim. S22148 | | | | |
| OST 149 | Medical Legal Issues (Pending Approval) | 3 | 0 | 3 |
| This course introduces the complex legal, moral, and ethical issues involved in providing health-care services. Emphasis is placed on the legal requirements of medical practices; the relationship of physician, patient, and office personnel; professional liabilities; and medical practice liability. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior. S10679 | | | | |
| OST 155 | Legal Terminology | 3 | 0 | 3 |
| This course covers the terminology appropriate to the legal profession. Topics include legal research, court systems, litigation, civil and criminal law, probate, real and personal property, contracts and leases, domestic relations, equity, and corporations. Upon completion, students should be able to spell, pronounce, define, and accurately use legal terms. S22150 | | | | |
| OST 156 | Legal Office Procedures | 2 | 2 | 3 |
| Prerequisites: OST 134
This course covers legal office functions involved in the operation of a law office. Emphasis is placed on procedures in the law office involving the court system, legal research, litigation, probate, and real estate, personal injury, criminal, and civil law. Upon completion, students should be able to demonstrate a high level of competence in performing legal office duties. This course is a unique requirement of the Legal Office Systems concentration in the Office Systems Technology program. S14189 | | | | |
| 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. S12524 | | | | |
| 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 co-workers 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. S12232 | | | | |

OST 184	Records Management	2	2	3
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. S22114				
OST 223	Admin Office Transcript I	2	2	3
Prerequisites: OST 164; and OST 134 or OST 136 This course provides experience in transcribing documents. Emphasis is placed on appropriate formatting, advanced text editing skills, and transcription techniques. Upon completion, students should be able to transcribe office documents. S22154				
OST 233	Office Publications Design	2	2	3
Prerequisites: OST 136 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. S14246				
OST 236	Advanced Word/Information Processing	2	2	3
Prerequisites: OST 136 This course develops proficiency in the utilization of advanced word/information processing functions. Emphasis is placed on advanced word processing features. Upon completion, students should be able to produce a variety of complex business documents. S22156				
OST 243	Medical Office Simulation	2	2	3
Prerequisites: OST 148 This course introduces medical systems used to process information in the automated office. Topics include traditional and electronic information resources, storing and retrieving information, and the billing cycle. Upon completion, students should be able to use the computer accurately to schedule, bill, update, and make corrections. S12315				
OST 252	Legal Transcription I	2	2	3
Prerequisites: OST 134 or OST 136 and OST 155 This course provides experience in transcribing legal correspondence, forms, and documents. Emphasis is placed on developing listening skills to transcribe documents. Upon completion, students should be able to transcribe documents with accuracy. S22160				
OST 284	Emerging Technologies	1	2	2
This course provides opportunities to explore emerging technologies. Emphasis is placed on identifying, researching, and presenting current technological topics for class consideration and discussion. Upon completion, students should be able to understand the importance of keeping abreast of technological changes that affect the office professional. S10158				
OST 286	Professional Development	3	0	3
This course covers the personal competencies and qualities needed to project a professional image in the office. Topics include interpersonal skills, health lifestyles, appearance, attitude, personal and professional growth, multicultural awareness, and professional etiquette. Upon completion, students should be able to demonstrate these attributes in the classroom, office, and society. S16501				
OST 289	Administrative Office Management	2	2	3
Prerequisites: OST 164 and either OST 134 or OST 136 This course is designed to be a capstone course for the office professional and provides a working knowledge of modern office procedures. Emphasis is placed on scheduling, telephone procedures, travel arrangements, event planning, office design, and ergonomics. Upon completion, students should be able to adapt in an office environment. S22162				

PHYSICAL EDUCATION (PED)

PED 110	Fit and Well for Life	1	2	2
<p>This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11789</p>				
PED 111	Physical Fitness I	0	3	1
<p>This course provides an individualized approach to physical fitness utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11678</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. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11039</p>				
PED 128	Golf-Beginning	0	2	1
<p>This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11067</p>				
PED 129	Golf-Intermediate	0	2	1
<p>Prerequisites: PED 128</p> <p>This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases of the games such as club selection, trouble shots, and course management. Upon completion, students should be able demonstrate the knowledge and ability to play a recreational round of golf. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11033</p>				
PED 130	Tennis-Beginning	0	2	1
<p>This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12680</p>				
PED 131	Tennis-Intermediate	0	2	1
<p>Prerequisites: PED 130</p> <p>This course emphasizes the refinement of playing skills. Topics include continuing the development of fundamentals, learning advanced serves, and strokes and pace and strategies in singles and doubles play. Upon completion, students should be able to play competitive tennis. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12604</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. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12553</p>				

PED 138 Archery	0	2	1
This course introduces basic archery safety and skills. Topics include proper techniques of stance, bracing, drawing, and releasing as well as terminology and scoring. Upon completion, students should be able to participate safely in target archery. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12688			
PED 139 Bowling-Beginning	0	2	1
This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12615			
PED 142 Lifetime Sports	0	2	1
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. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10204			
PED 143 Volleyball-Beginning	0	2	1
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. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10153			
PED 144 Volleyball-Intermediate	0	2	1
Prerequisites: PED 143 This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10176			
PED 145 Basketball-Beginning	0	2	1
This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10128			
PED 146 Basketball-Intermediate	0	2	1
Prerequisites: PED 145 This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10225			
PED 148 Softball	0	2	1
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in recreational softball. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S10188			
PED 170 Backpacking	0	2	1
This course covers the proper techniques for establishing a campsite, navigating in the wilderness, and planning for an overnight trip. Topics include planning for meals, proper use of maps and compass, and packing and dressing for extended periods in the outdoors. Upon completion, students should be able to identify quality backpacking equipment, identify the principles of no-trace camping, and successfully complete a backpacking experience. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13081			

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. S13031			
PED 172 Outdoor Living	1	2	2
This course is designed to acquaint the beginning camper with outdoor skills. Topics include camping techniques such as cooking and preserving food, safety, and setting up camp. Upon completion, students should be able to set up camp sites in field experiences using proper procedures. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S13042			
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. S10428			
PED 210 Team Sports	0	3	1
This course introduces the fundamentals of popular American team sports. Emphasis is placed on rules, equipment, and motor skills used in various sports. Upon completion, students should be able to demonstrate knowledge of the sports covered. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S12519			

PHILOSOPHY (PHI)

PHI 220 Western Philosophy I	3	0	3
Prerequisites: ENG 111 This course covers Western intellectual and philosophic thought from the early Greeks through the medievalists. Emphasis is placed on such figures as the pre-Socratics, Plato, Aristotle, Epicurus, Epictetus, Augustine, Suarez, Anselm, and Aquinas. Upon completion, students should be able to trace the development of leading ideas regarding reality, knowledge, reason, and faith. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S13045			
PHI 221 Western Philosophy II	3	0	3
Prerequisites: ENG 111 This course covers Western intellectual and philosophic thought from post-medievalists through recent thinkers. Emphasis is placed on such figures as Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, Kant, Hegel, Marx, Mill, and representatives of pragmatism, logical positivism, and existentialism. Upon completion, students should be able to trace the development of leading ideas concerning knowledge, reality, science, society, and the limits of reason. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S12988			
PHI 240 Introduction to Ethics	3	0	3
Prerequisites: ENG 111 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. S11379			

PHYSICS (PHY)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by that college's placement test.

PHY 80	Introduction to Physics	3	2	4
This course introduces applied principles of physics through hands-on activities and guided discussions. Emphasis is placed on basic graphical analysis, machines, friction, work, energy, power, hydraulics, heat transfer, and the gas laws. Upon completion, students should be able to use the basic language of physics and utilize problem-solving skills necessary for success in certificate-level physics courses. S10975				
PHY 151	College Physics I	3	2	4
Prerequisites: MAT 161, MAT 171, or MAT 175 This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S20924				
PHY 152	College Physics II	3	2	4
Prerequisites: PHY 151 This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S11553				
PHY 251	General Physics I	3	3	4
Prerequisites: MAT 271 Corequisites: MAT 272 This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vector operations, linear kinematics and dynamics, energy, power, momentum, rotational mechanics, periodic motion, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S12543				
PHY 252	General Physics II	3	3	4
Prerequisites: MAT 272 and PHY 251 This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. S12686				

POLITICAL SCIENCE (POL)

POL 110 Introduction to Political Science	3	0	3
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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 non-democratic 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. S13770

POL 120 American Government	3	0	3
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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. S11509

POL 210 Comparative Government	3	0	3
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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. S14332

POL 220 International Relations	3	0	3
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This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, non-governmental organizations, and international institutions such as the World Court and UN. Upon completion, students should be able to identify and discuss major international relationships, institutions, and problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. S12877

PSYCHOLOGY (PSY)

PSY 115 Stress Management	2	0	2
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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. S11106

PSY 118 Interpersonal Psychology	3	0	3
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This course introduces the basic principles of psychology as they relate to personal and professional development. Emphasis is placed on personality traits, communication/leadership styles, effective problem solving, and cultural diversity as they apply to personal and work environments. Upon completion, students should be able to demonstrate an understanding of these principles of psychology as they apply to personal and professional development. S11025

PSY 150 General Psychology	3	0	3
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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. S10777

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| PSY 183 | Psychology of Addiction | 3 | 0 | 3 |
| This course covers historical and theoretical perspectives on addictive behavior and the genetic, familial, and sociocultural influences on addiction. Topics include addictions to eating, gambling, alcohol, drugs, relationships, work, and sex. Upon completion, students should be able to demonstrate a knowledge of the theories of addiction and the factors underlying addictive behaviors. S11416 | | | | |
| PSY 237 | Social Psychology | 3 | 0 | 3 |
| Prerequisites: PSY 150 or SOC 210
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. S10878 | | | | |
| PSY 239 | Psychology of Personality | 3 | 0 | 3 |
| Prerequisites: PSY 150
This course covers major personality theories and personality research methods. Topics include psychoanalytic, behavioristic, social learning, cognitive, humanistic, and trait theories including supporting research. Upon completion, students should be able to compare and contrast traditional and contemporary approaches to the understanding of individual differences in human behavior. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. S10904 | | | | |
| PSY 241 | Developmental Psychology | 3 | 0 | 3 |
| Prerequisites: PSY 150
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. S13114 | | | | |
| PSY 255 | Intro to Exceptionality | 3 | 0 | 3 |
| Prerequisites: PSY 150
This course introduces the psychology of the exceptional person. Topics include theoretical perspectives, terminology, and interventions pertaining to various handicapping conditions as well as the resulting psychosocial adjustments. Upon completion, students should be able to demonstrate a basic understanding of the potentials and limitations of the exceptional person. S10456 | | | | |
| PSY 256 | Exceptional Children | 3 | 0 | 3 |
| Prerequisites: PSY 150
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. S10464 | | | | |
| PSY 281 | Abnormal Psychology | 3 | 0 | 3 |
| Prerequisites: PSY 150
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. S12906 | | | | |

READING (RED)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by that college's placement test.

RED 90 Improved College Reading 3 2 4

Prerequisites: RED 080 or ENG 085

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. This course satisfies the developmental reading prerequisite for ENG 111 or ENG 111A. S13035

RELIGION (REL)

REL 111 Eastern Religions 3 0 3

This course introduces the major Asian religious traditions. Topics include Hinduism, Buddhism, Taoism, Confucianism, and Shinto. 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. S13358

REL 112 Western Religions 3 0 3

This course introduces the major western religious traditions. Topics include Zoroastrianism, 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. S13280

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, archeological, 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. S11707

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. S11723

REL 221 Religion in America 3 0 3

This course is an examination of religious beliefs and practice in the United States. Emphasis is placed on mainstream religious traditions and non-traditional religious movements from the Colonial period to the present. Upon completion, students should be able to recognize and appreciate the diversity of religious traditions in America. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. S11026

SCIENCE (SCI)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by that college's placement test.

SCI 90 Skills for the Sciences 2 2 3
 This course is designed to provide fundamental skills necessary for entry into college-level science courses. Topics include scientific vocabulary, measurement, scientific notation, the scientific method for solving problems, collaborative skills, and applications to various areas of science. Upon completion, students should be able to demonstrate a readiness for college-level science courses. S14242

INFORMATION SYSTEMS SECURITY (SEC)

SEC 110 Security Concepts 3 0 3
 This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy. S21053

SEC 150 Secure Communications 2 2 3
 Prerequisites: SEC 110 and NET 110 or NET 125
 This course provides an overview of current technologies used to provide secure transport of information across networks. Topics include data integrity through encryption, Virtual Private Networks, SSL, SSH, and IPsec. Upon completion, students should be able to implement secure data transmission technologies. S21054

SEC 160 Secure Administration I 2 2 3
 Prerequisites: SEC 110 and NET 110 or NET 125
 This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion, students should be able to identify normal network traffic using network analysis tools and design basic security defenses. S21109

SEC 170 SOHO Security 2 2 3
 Prerequisites: SEC 110
 This course introduces security principles and topics related to the small office/home office networking environment. Topics include network topologies, network protocols, security issues, and best practices for SOHO environments. Upon completion, students should be able to design, setup, secure, and manage a small office/home office network. This course is restricted to the Information Systems Security/Operating Systems curriculum. S21110

SEC 210 Intrusion Detection 2 2 3
 Prerequisites: SEC 160
 This course introduces the student to intrusion detection methods in use today. Topics include the types of intrusion detection products, traffic analysis, and planning and placement of intrusion detection solutions. Upon completion, students should be able to plan and implement intrusion detection solution for networks and host based systems. S21111

SEC 240 Wireless Security 2 2 3
 Prerequisites: SEC 110 and NET 175
 This course introduces security principles and topics related to the wireless networking environment. Topics include network topologies, network protocols, security issues, and best practices for wireless environments. Upon completion, students should be able to design, setup, manage, and secure a wireless network. S21114

SOCIOLOGY (SOC)

SOC 210	Introduction to Sociology	3	0	3
<p>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. S11919</p>				
SOC 213	Sociology of the Family	3	0	3
<p>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. S11798</p>				
SOC 220	Social Problems	3	0	3
<p>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. S13948</p>				
SOC 225	Social Diversity	3	0	3
<p>This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. S13923</p>				
SOC 240	Social Psychology	3	0	3
<p>This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. S13849</p>				
SOC 250	Sociology of Religion	3	0	3
<p>This course examines religion from a sociological perspective as part and product of human society. Topics include the origins, development, and functions of belief systems; religious organizations; conversion; and interactions with politics, the economy, science, and the class system. Upon completion, students should be able to describe and analyze religious systems. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11715</p>				
SOC 254	Rural and Urban Sociology	3	0	3
<p>This course applies sociological concepts to a comparative study of major social issues facing contemporary rural and urban America. Emphasis is placed on growth and development patterns, ecological factors, social organizations, social controls, and processes of change. Upon completion, students should be able to illustrate the differences and similarities that exist between urban and rural environments as they resolve contemporary issues. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. S11677</p>				

SPANISH (SPA)

SPA 111	Elementary Spanish I	3	0	3
<p>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. S13047</p>				
SPA 112	Elementary Spanish II	3	0	3
<p>Prerequisites: SPA 111</p> <p>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. S12995</p>				
SPA 141	Culture and Civilization	3	0	3
<p>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. S11221</p>				

WEB TECHNOLOGIES (WEB)

WEB 110	Internet/Web Fundamentals	2	2	3
<p>This course introduces World Wide Web Consortium (W3C) standard markup language and services of the Internet. Topics include creating web pages, search engines, FTP, and other related topics. Upon completion, students should be able to deploy a hand-coded web site created with mark-up language, and effectively use and understand the function of search engines. S22058</p>				
WEB 115	Web Markup and Scripting	2	2	3
<p>This course introduces Worldwide Web Consortium (W3C) standard client-side Internet programming using industry-established practices. Topics include JavaScript, markup elements, stylesheets, validation, accessibility, standards, and browsers. Upon completion, students should be able to develop hand-coded web pages using current markup standards. S22059</p>				
WEB 119	Web Tech Prog Orient	1	2	2
<p>This course provides an opportunity for students to develop the knowledge and skills required to succeed in the Web Technologies program. Emphasis is placed on introducing students to the tools and resources available for Web Technologies. Upon completion, students should be able to use the tools, resources, and services available. S21483</p>				
WEB 120	Introduction to Internet Multimedia	2	2	3
<p>This is the first of two courses covering the creation of Internet Multimedia. Topics include Internet multimedia file types, file type conversion, acquisition of digital audio/video, streaming audio/video and graphics animation plug-in programs and other related topics. Upon completion, students should be able to create Internet multimedia presentations utilizing a variety of methods and applications. S21280</p>				
WEB 140	Web Development Tools	2	2	3
<p>This course provides an introduction to web development software suites. Topics include the creation of web sites and applets using web development software. Upon completion, students should be able to create entire web sites and supporting applets. S21133</p>				

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| WEB 179 | JAVA Web Programming | 2 | 3 | 3 |
| This course introduces the development of dynamic, database-driven web applications using the JAVA programming languages. Topics include Object Oriented Programming JAVA Server Pages, servlets, database interactions, and form handling. Upon completion, students should be able to create and modify JAVA-based internet applications. S21484 | | | | |
| WEB 182 | PHP Programming | 2 | 2 | 3 |
| Prerequisites: CIS 115
This course introduces students to the server-side, HTML-embedded scripting language PHP. Emphasis is placed on programming techniques required to create dynamic web pages using PHP scripting language features. Upon completion, students should be able to design, code, test, debug, and create a dynamic web site using the PHP scripting language. S21306 | | | | |
| WEB 183 | Perl Programming | 2 | 2 | 3 |
| Prerequisites: CIS 115
This course introduces students to the Perl Programming language. Topics include programming techniques using CGI script, input/output operations, sequence, iteration, selection, arithmetic operations, subroutines, modules, integrating database, pattern matching and other related topics. Upon completion, students should be able to design, code, test, and debug Perl language programs. S21307 | | | | |
| WEB 185 | ColdFusion Programming | 2 | 2 | 3 |
| Prerequisites: CIS 115
This course introduces ColdFusion Programming. Topics include installing a ColdFusion development environment, using CFQUERY tags to send and receive database information, creating and displaying a form, and other related topics. Upon completion, students should be able to design, code, test, and debug using a ColdFusion environment. S21308 | | | | |
| WEB 186 | XML Technology | 2 | 2 | 3 |
| Prerequisites: CIS 115
This course is designed to introduce students to XML and related internet technologies. Topics include extendible style language (XSL) document object model (DOM), extendible stylesheet language transformation (XSLT), and simple object access protocol (SOAP). Upon completion, students should be able to create a complex XML document. S21309 | | | | |
| WEB 187 | Wireless/Internet Programming | 2 | 2 | 3 |
| Prerequisites: CIS 115
This course introduces the Internet and Web development for portable wireless devices with a focus on practical business-related applications. Topics include WAP, WML, XHTML, XML, and wireless internet and mobile business practices and techniques. Upon completion, students should be able to develop and wirelessly enable websites and business applications for use on portable electronic devices. This course is restricted to the Information Systems Security/Security Hardware curriculum. S21310 | | | | |
| WEB 211 | Advanced Web Graphics | 2 | 2 | 3 |
| Prerequisites: WEB 110
This course is the second of two courses covering web graphics. Topics include graphics acquisition using scanners and digital cameras, graphics optimization, use of masks, advanced special effects, GIF animation, and other related topics. Upon completion, students should be able to create graphics optimized for size, graphic file type, properly converted from digitized sources and create useful animated graphics. S21311 | | | | |
| WEB 215 | Advanced Markup and Scripting | 2 | 2 | 3 |
| Prerequisites: WEB 115
This course covers advanced programming skills required to design Internet applications. Emphasis is placed on programming techniques required to support Internet applications. Upon completion, students should be able to design, code, debug, and document Internet-based programming solutions to various real-world problems using an appropriate programming language. S22062 | | | | |

WEB 220	Advanced Multimedia	2	2	3
Prerequisites: WEB 120				
This is the second of two courses covering Internet multimedia. Topics include use of advanced Internet multimedia applications. Upon completion, students should be able to create interactive Internet multimedia presentations. S21313				
WEB 230	Implementing Web Servers	2	2	3
Prerequisites: NET 110 or NET 125				
This course covers web site and web server architecture. Topics include installation, configuration, administration, and security of web servers, services and sites. Upon completion, students should be able to effectively manage the web services deployment lifecycle according to industry standards. S21135				
WEB 240	Internet Security	2	2	3
Prerequisites: WEB 110 and CIS 110 or CIS 111 and SEC 110				
This course covers security issues related to Internet services. Topics include the operating system and the Internet service security mechanisms. Upon completion, students should be able to implement security procedures for operating system level and server level alerts. S21131				
WEB 260	E-Commerce Infrastructure	2	2	3
Prerequisites: WEB 250				
This course introduces the concepts and tools to implement electronic commerce via the Internet. Topics include application and server software selection, securing transactions, use and verification of credit cards, publishing of catalogs, documentation, and site administration. Upon completion, students should be able to setup a working e-commerce Internet web site. S21314				
WEB 285	Emerging Web Technologies	2	2	3
This course will explore, discuss, and research emerging technologies in the web arena. Emphasis is placed on exposure to up-and-coming technologies relating to the web, providing hands-on experience, and discussion of practical implications of these emerging fields. Upon completion, students should be able to articulate issues relating to these technologies. S21315				
WEB 289	Internet Technologies Project	1	4	3
Prerequisites: WEB 230 and WEB 250				
This course provides an opportunity to complete a significant Web technologies 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 an Internet project from the definition phase through implementation. S21136				

WELDING (WLD)

WLD 110	Cutting Processes	1	3	2
This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness. 10913				
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. S10926				
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. S10891				

WLD 116 SMAW (Stick) Plate/Pipe 1 9 4

Prerequisites: WLD 115

This course is designed to enhance skills with the shielded metal arc (stick) welding process. Emphasis is placed on advancing manipulative skills with SMAW electrodes on varying joint geometry. Upon completion, students should be able to perform groove welds on carbon steel with prescribed electrodes in the flat, horizontal, vertical, and overhead positions. S10935

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. S13138

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. S10437

WLD 141 Symbols & Specifications 2 2 3

This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding. S11462

WLD 212 Inert Gas Welding 1 3 2

This course introduces inert gas-shielded welding methods (MIG/TIG). Topics include correct selection of consumable and non-consumable electrodes, equipment setup, safety, and welding techniques. Upon completion, students should be able to perform inert gas welding in flat, horizontal, and overhead positions. S16565

WLD 215 SMAW (Stick) Pipe 1 9 4

Prerequisites: WLD 115 or WLD 116

This course covers the knowledge and skills that apply to welding pipe. Topics include pipe positions, joint geometry, and preparation with emphasis placed on bead application, profile, and discontinuities. Upon completion, students should be able to perform SMAW welds to applicable codes on carbon steel pipe with prescribed electrodes in various positions. S10353

