

COURSE Descriptions



COURSE DESCRIPTIONS

C – The number of class hours per week

L – The number of laboratory hours per week

CL – The number of clinical hours per week

SHC – Semester Hour Credit received for the course

ACADEMIC RELATED

ACA 090 Study Skills **C-L-SHC 3-0-3**

This course is intended for those who placed into credit-level coursework 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.

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.

ACA 115 Success and Study Skills **0-2-1**

This course provides an orientation to the campus resources and academic skills necessary to achieve educational objectives. Emphasis is placed on an exploration of facilities and services, study skills, library skills, self-assessment, wellness, goal-setting, and critical thinking. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals.

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.

ACA 122 College Transfer Success **1-0-1**

Prerequisite: None

Corequisite: None

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ACCOUNTING

ACC 115 College Accounting **C-L-SHC 3-2-4**

This course introduces basic accounting principles for a business. Topics include the complete accounting cycle with end-of-period statements, bank reconciliation, payrolls, and petty cash. Upon completion, students should be able to demonstrate an understanding of accounting principles and apply those skills to a business organization.

ACC 120 Principles of Financial Accounting **3-2-4**

This course introduces business decision-making using accounting information systems. Emphasis is placed on analyzing, summarizing, reporting, and interpreting financial information. Upon completion, students should be able to prepare financial statements, understand the role of financial information in decision-making, and address ethical considerations. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

ACC 121 Principles of Managerial Accounting **3-2-4**

Prerequisite: 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 for transfer under the CAA and ICAA a premajor and/or elective course requirement.

ACC 122 Principles of Financial Accounting II **3-0-3**

Prerequisite: ACC 120

This course provides additional instruction in the financial accounting concepts and procedures introduced in ACC 120. Emphasis is placed on the analysis of specific balance sheet accounts, with in-depth instruction of the accounting principles applied to these accounts. Upon completion, students should be able to analyze data, prepare journal entries, and prepare reports in compliance with generally accepted accounting principles.

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.

ACC 130 Business Income Taxes 2-2-3*Local Prerequisite: ACC 120*

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.

ACC 140 Payroll Accounting 1-2-2*Prerequisite: 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.

ACC 150 Acct Software Appl 1-2-2*Prerequisite: ACC 115 or ACC 120*

This course introduces microcomputer applications related to the 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.

ACC 220 Intermediate Accounting I 3-2-4*Local Prerequisites: ACC 120 and ACC 122*

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 analysis of balance sheet components. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.

ACC 221 Intermediate Accounting II 3-2-4*Prerequisite: 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.

ACC 227 Practices in Accounting 3-0-3*Prerequisite: ACC 220*

This course provides an advanced in-depth study of selected topics in accounting using case studies and individual and

group problem solving. Topics include cash flow, financial statement analysis, individual and group problem solving, practical approaches to dealing with clients, ethics, and critical thinking. Upon completion, students should be able to demonstrate competent analytical skills and effective communication of their analysis in written and/or oral presentations.

ACC 269 Audit & Assurance Services 3-0-3*Prerequisite: ACC 220*

This course introduces selected topics pertaining to the objectives, theory, and practices in engagements providing auditing and other assurance services. Topics will include planning, conducting, and reporting, with emphasis on the related professional ethics and standards. Upon completion, students should be able to demonstrate an understanding of the types of professional services, the related professional standards, and engagement methodology.

AGRICULTURE**C-L-SHC****AGR 111 Basic Farm Maintenance 1-3-2**

This course covers fundamentals of maintenance and repair of farm facilities and equipment. Topics include safe use of hand tools and farm machinery, carpentry, concrete, painting, wiring, welding, plumbing, and calculating costs and materials needed. Upon completion, students should be able to answer theoretical questions on topics covered and assist with maintenance and repair of farm facilities and equipment.

AGR 121 Biological Pest Mgmt 3-0-3

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

AGR 139 Intro to Sustainable Ag 3-0-3

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

AGR 160 Plant Science 2-2-3

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

AGR 170 Soil Science 2-2-3

This course covers the basic principles of soil fertilizing. Topics include liming, fertilization, management, and plant nutrients. Upon completion, students should be able to give nutrient and liming recommendations for soils.

AGR 212 Farm Business Management 3-0-3

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

AGR 214 Agricultural Marketing 3-0-3

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

AGR 220 Ag Mechanization 2-2-3

This course is a study of farm machinery and agricultural equipment. Topics include selection and operation of tractors, materials handling equipment, tillage and harvesting equipment, and irrigation systems. Upon completion, students should be able to identify equipment parts and explain the basic principles of machinery operation and management.

AGR 221 Farm Structures 2-2-3

This course covers basic agricultural buildings and structures. Topics include building materials, cost estimating, basic blueprint reading, and job planning. Upon completion, students should be able to complete a cost estimate for constructing an agricultural structure.

AGR 265 Organic Crop Prod: Spring 2-2-3

This course includes a study of spring organic crop production practices, including vegetables, cut flowers, and culinary and medicinal herbs. Topics include variety selection, production methods, and record keeping procedures for certification. Upon completion, students should be able to demonstrate a knowledge of organic crop production appropriate for the spring season.

AGR 266 Organic Crop Prod: Fall 2-2-3

The course includes a study of spring organic crop production practices, including vegetables, cut flowers, and culinary and medicinal herbs. Topics include variety selection, production methods, and record keeping procedures for certification. Upon completion, students should be able to demonstrate a knowledge of organic crop production appropriate for the fall season.

AGR 268 Adv Organic Crop Prod 2-6-4

Prerequisites: AGR 265 or AGR 266

This course provides students with structured practical

experience in managing the complexities of organic crop production. Emphasis is placed on crop management skills and decision making associated with production-related operations such as cover crop management, irrigation, and post-harvest physiology. Upon completion, students should be able to create and implement a crop management plan and demonstrate competency in the selection and efficient use of equipment.

AGR 293 Selected Topics in Sustainable Agriculture 3-0-3

This course provides an opportunity to explore areas of current interest in Sustainable Agriculture. Emphasis is placed on subject matter appropriate to this discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

AIR CONDITIONING, HEATING, AND REFRIGERATION

C-L-SHC

AHR 120 HVACR Maintenance 1-3-2

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

ALTERNATIVE ENERGY TECHNOLOGY

C-L-SHC

ALT 110 Biofuels I 3-0-3

Prerequisite: None

Corequisite: None

This course is designed to provide an introduction to the fundamentals of bio-based fuels. Emphasis is placed on proper handling and use guidelines, basic chemistry of biofuels, production methods, and the social, environmental, and economic impacts of biofuels. Upon completion, students should be able to demonstrate a general understanding of biofuels.

ALT 120 Renewable Energy Tech 2-2-3

Prerequisite: None

Corequisite: None

This course provides an introduction to multiple technologies that allow for the production and/or conservation of energy from renewable sources. Topics will include hydroelectric, wind power, passive and active solar energy, tidal energy, appropriate building techniques, and energy conservation methods. Upon completion, students should be able to demonstrate an understanding of renewable energy production and its impact of humans and their environment.

ALT 210 Biofuels II 3-0-3*Prerequisite: ALT 110**Corequisites: None*

This course provides an in-depth study of commercial biofuels production and various methods for manufacturing biofuels on a large scale. Topics include advanced production technologies, feedstock selection and pretreatment, quality control, energy balance, and biofuels business models. Upon completion, students should possess a practical knowledge of commercial biofuels production and facility operation.

ALT 211 Biofuels Analytics 2-4-4*Prerequisite: ALT 110 AND CHM 131 or CHM 151**Corequisites: None*

This course is designed to address quality control management during all phases of the biofuels production process. Topics include feedstock analysis, in-process quality monitoring, and standards compliance with national and international biofuels specifications. Upon completion, students should be able to demonstrate safe and accurate laboratory practices as well as an understanding of various quality control techniques.

ALT 220 Photovoltaic Sys Tech 2-3-3

This course introduces the concepts, tools, techniques, and materials needed to understand systems that convert solar energy into electricity with photovoltaic (pv) technologies. Topics include site analysis for system integration, building codes, and advances in photovoltaic technology. Upon completion, students should be able to demonstrate an understanding of the principles of photovoltaic technology and current applications.

ALT 221 Adv PV Sys Designs 2-3-3*Prerequisites: ALT 220*

This course introduces specific elements in photovoltaic (pv) systems technologies including efficiency, modules, inverters, charge controllers, batteries, and system installation. Topics include National Electrical Code (NEC), electrical specifications, photovoltaic system components, array design and power integration requirements that combine to form a unified structure. Upon completion, students should be able to demonstrate an understanding of various photovoltaic designs and proper installation of NEC compliant solar electric power systems.

ALT 230 Biofuels Waste Management 2-0-2*Prerequisite: ALT 110**Corequisites: None*

This course is designed to address the issues of sustainability and environmental stewardship involved with the production and use of biofuels. Topics include the sustainable production of feedstocks, efficient and low-energy methods of fuel production, and management of biofuels sidestreams. Upon completion, students should be able to identify and mediate environmental impacts of biofuels and understand the importance of producing biofuels using sustainable practices.

ALT 240 Wind & Hydro Power Sys 2-2-3

This course introduces concepts, designs, tools, techniques, and material requirements for systems that convert wind and water into usable energy. Topics include the analysis, measurement, and estimation of potential energy of wind and water systems. Upon completion, students should be able to demonstrate an understanding of the technologies associated with converting wind and water into a viable energy source.

ALT 250 Thermal Systems 2-2-3

This course introduces concepts, tools, techniques, and materials used to convert thermal energy into a viable, renewable energy resource. Topics include forced convection, heat flow and exchange, radiation, the various elements of thermal system design, regulations, and system installation and maintenance. Upon completion, students should be able to demonstrate an understanding of geothermal and solar thermal systems and corresponding regulations.

ALT 281 Biofuels Project Experience 0-6-2*Prerequisites: ALT 110, ALT 120, and ALT 210**Corequisites: None*

This course provides an opportunity to pursue an individual project in biofuels. Emphasis is placed on developing, performing, and maintaining records of a project in a specific area of interest. Upon completion, students should be able to complete the project with accurate records and demonstrate an understanding of the process.

ANIMAL SCIENCE**C-L-SHC****ANS 110 Animal Science 3-0-3**

This course introduces the livestock industry. Topics include nutrition, reproduction, production practices, diseases, meat processing, and marketing. Upon completion, students should be able to demonstrate a basic understanding of livestock production practices and the economic impact of livestock in North Carolina.

ANS 111 Sustainable Livestock Mgt 2-2-3

This course covers the integration of livestock as part of a sustainable farming system with emphasis on small-scale production for niche markets and pasture. Topics included are appropriate breed selection, nutrition and living requirements for livestock such as goats, hogs, sheep, poultry, and bees. Upon completion, student should recognize appropriate breeds for their farm needs and demonstrate knowledge of small-scale livestock production.

ANTHROPOLOGY**C-L-SHC****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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

ANT 220 Cultural Anthropology 3-0-3

This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

ARCHITECTURAL TECHNOLOGY

ARC 111 Intro to Arch Technology C-L-SHC 1-6-3

This course introduces basic architectural drafting techniques, lettering, use of architectural and engineer scales, and sketching. Topics include orthographic, axonometric, and oblique drawing techniques using architectural plans, elevations, sections, and details; reprographic techniques; and other related topics. Upon completion, students should be able to prepare and print scaled drawings within minimum architectural standards.

ARC 210 Intro to Sustain Design 1-3-2

Prerequisites: ARC 111

This course introduces concepts and principles related to sustainable site development and architectural design. Topics include low impact and sustainable site development, water efficiency, energy efficiency, material and resource management, indoor environmental quality, and return on investment. Upon completion, students should be able to articulate and integrate sustainable design principles into site and architectural design.

AUTOMOTIVE RESTORATION

ARS 101 Intro to Automotive Rest 2-0-2

This course introduces the automotive restoration industry. Emphasis is placed on the research of the evolution of the automobile from steam to the internal combustion engine in the United States and Europe. Upon completion, students should be able to describe the process of automotive restoration and note the worldwide impact of the automobile.

ARS 102 Auto Restoration Research 3-0-3

This course covers identification and collection of

information needed to restore classic automobiles. Emphasis is placed on using books, numbers, emblems, titles, bills of sale, and other documents as resources. Upon completion, students should be able to use reference materials in the area of auto restoration to restore classic vehicles.

ARS 103 Automobile Upholstery 2-4-4

This course covers automobile upholstery work used in restoration of classic automobiles. Emphasis is placed on removing, repairing, or reconstructing worn/damaged upholstery material in classic automobiles. Upon completion, students should be able to disassemble, repair/reconstruct, or replace the seats, headliners, door panels, and other components in the interior of vehicles.

ARS 104 Restoration Skills I 2-4-4

Corequisites: ARS 103, ARS 107, ARS 131 and (AUT 161 or ARS 161)

This course covers mechanical, electrical, and upholstery restoration. Emphasis is placed on engines, transmissions, brakes, starters, generators, distributors, and replacement or fabrication of upholstery. Upon completion, students should be able to restore, rebuild, or replace specific components in a wide range of classic vehicles.

ARS 107 Automotive Engines 1-3-2

This course covers the repair, rebuilding, and troubleshooting of internal combustion engines. Emphasis is placed on use of tools and equipment to measure reconditioning tolerances of the internal combustion engine. Upon completion, students should be able to disassemble, repair and/or replace, and reassemble an internal combustion engine.

ARS 108 Wood & Metal Restoration 2-2-3

This course introduces various wood materials used in early automobile construction including a general overview of woodworking techniques. Emphasis is placed on wood material, metal behavior, and trim construction. Upon completion, students should be able to perform simple woodworking techniques, attach and remove trim, and be familiar with basic hardware techniques.

ARS 131 Chassis and Drive Trains 2-3-3

This course introduces principles of operation of automotive drive trains, perimeter/ladder/full-framed vehicles, and related restoration processes. Emphasis is placed on the technology related to restoration of manual and automatic transmissions, transaxles, and final drive components used on vehicles. Upon completion, students should be able to describe, diagnose, and determine needed service and repairs in the vehicle restoration industry.

ARS 161 Electrical Systems Fund 2-6-4

This course covers six/twelve volt electrical theory, wiring diagrams, test equipment, diagnosis/repair/replacement of batteries, starters, accessories, and AC/DC generators. Topics include diagnosis, repair, and/or modification of

conventional battery, starting, charging, lighting, and basic accessory systems problems. Upon completion, students should be able to diagnose, test, and repair the basic electrical components on vehicles in the restoration industry.

ART

C-L-SHC
3-0-3

ART 111 Art Appreciation

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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ART 114 Art History Survey I **3-0-3**

This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ART 115 Art History Survey II **3-0-3**

This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ART 117 Non-Western Art History **3-0-3**

This course introduces non-Western cultural perspectives. Emphasis is placed on, but not limited to, African, Oriental, and Oceanic art forms throughout history. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of non-Western social and cultural development. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ART 121 Design I **0-6-3**

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 122 Design II **0-6-3**

Prerequisites: ART 121

This course introduces basic studio problems in three-dimensional visual design. Emphasis is placed on the structural elements and organizational principles as applied to mass and space. Upon completion, students should be able to apply three-dimensional design concepts. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 131 Drawing I **0-6-3**

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 132 Drawing II **0-6-3**

Prerequisites: ART 131

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 214 Portfolio and Resume **0-2-1**

This course covers resume writing, interview skills, and the preparation and presentation of an art portfolio. Emphasis is placed on the preparation of a portfolio of original artwork, the preparation of a photographic portfolio, approaches to resume writing, and interview techniques. Upon completion, students should be able to mount original art for portfolio presentation, photograph and display a professional slide portfolio, and write an effective resume. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 231 Printmaking I **0-6-3**

This course introduces printmaking: its history, development techniques, and processes. Emphasis is placed on basic applications with investigation into image source and development. Upon completion, students should be able to produce printed images utilizing a variety of methods. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 232 Printmaking II **0-6-3**

Prerequisites: ART 231

This course includes additional methods and printmaking processes. Emphasis is placed on the printed image as related to method, source, and concept. Upon completion, students should be able to produce expressive images utilizing both traditional and innovative methods. This

course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 240 Painting I 0-6-3

This course introduces the language of painting and the use of various painting materials. Emphasis is placed on the understanding and use of various painting techniques, media, and color principles. Upon completion, students should be able to demonstrate competence in the use of creative processes directed toward the development of expressive form. . This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 241 Painting II 0-6-3

Prerequisites: ART 240

This course provides a continuing investigation of the materials, processes, and techniques of painting. Emphasis is placed on the exploration of expressive content using a variety of creative processes. Upon completion, students should be able to demonstrate competence in the expanded use of form and variety. . This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 281 Sculpture I 0-6-3

This course provides an exploration of the creative and technical methods of sculpture with focus on the traditional processes. Emphasis is placed on developing basic skills as they pertain to three-dimensional expression in various media. Upon completion, students should be able to show competence in variety of sculptural approaches. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 282 Sculpture II 0-6-3

Prerequisites: ART 281

This course provides an exploration of the creative and technical methods of sculpture with focus on the traditional processes. Emphasis is placed on developing basic skills as they pertain to three-dimensional expression in various media. Upon completion, students should be able to show competence in variety of sculptural approaches. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 284 Ceramics II 0-6-3

Prerequisites: ART 283

This course covers advanced hand building and wheel techniques. Emphasis is placed on creative expression, surface design, sculptural quality, and glaze effect. Upon completion, students should be able to demonstrate a high level of technical competence in forming and glazing with a development of three-dimensional awareness. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 285 Ceramics III 0-6-3

Prerequisites: ART 284

This course provides the opportunity for advanced self-determined work in sculptural and functional ceramics. Emphasis is placed on developing the technical awareness of clay bodies, slips, engobes, and firing procedures necessary to fulfill the student's artistic goals. Upon completion, students should be able to demonstrate a knowledge of materials and techniques necessary to successfully create original projects in the clay medium. This course covers the important elements of designing and producing utilitarian pottery such as bowls, mugs, plates, casseroles, stemware, and bottles. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 286 Ceramics IV 0-6-3

Prerequisites: Art 285

This course provides the opportunity for self-determined work in sculptural and functional ceramics. Emphasis is placed on developing the technical awareness of glaze materials, glaze formulation, and firing techniques necessary to fulfill the student's artistic goals. Upon completion, students should be able to demonstrate knowledge of materials and techniques necessary to successfully create original projects in the clay medium. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ART 288 Studio 0-6-3

This course provides the opportunity for advanced self-determined work beyond the limits of regular studio course sequences. Emphasis is placed on creative self-expression and in-depth exploration of techniques and materials. Upon completion, students should be able to create original projects specific to media, materials, and techniques. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ASTRONOMY

C-L-SHC

AST 111 Descriptive Astronomy 3-0-3

Corequisite: AST 111A

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 for transfer under the CAA and ICAA as a general education course in Natural Science.

AST 111A Descriptive Astronomy Lab 0-2-1*Corequisite: AST 111*

This 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 for transfer under the CAA and ICAA as a general education course in Natural Science.

AUTOMOTIVE BODY REPAIR**AUB 111 Painting and Refinishing I C-L-SHC 2-6-4**

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

AUB 112 Painting and Refinishing II 2-6-4*Prerequisite: AUB 111*

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

AUB 121 Non-Structural Damage I 1-4-3

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

AUB 134 Autobody MIG Welding 1-4-3

This course covers the terms and procedures for welding the various metals found in today's autobody repair industry with an emphasis on personal/environmental safety. Topics include safety and precautionary measures, setup/operation of MIG equipment, metal identification methods, types of welds/joints, techniques, inspection methods, and other related topics. Upon completion, students should be able to demonstrate a basic knowledge of welding operations and safety procedures according to industry standards.

AUB 141 Mech & Elec Components I 2-2-3

This course covers the basic principles of automotive mechanical and electrical components. Topics include personal and environmental safety, suspension and steering, electrical, brake, heating and air-conditioning, cooling, drive train, and restraint systems. Upon completion, students should be able to identify system components and perform basic system diagnostic checks and/or repairs according to industry standards.

AUTOMOTIVE**AUT 110 Intro to Auto Technology C-L-SHC 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, and identify and use basic tools and shop equipment.

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.

AUT 114A Safety and Emissions Lab 0-2-1*Corequisite: 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.

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.

AUT 116A Engine Repair Lab 0-3-1

Corequisite: 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.

AUT 141 Suspension & Steering Sys 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.

AUT 141A Suspension & Steering Lab 0-3-1

Corequisite: 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.

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.

AUT 151A Brake Systems Lab 0-3-1

Corequisite: 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.

AUT 161 Basic Auto 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.

AUT 163 Adv Auto Electricity 2-3-3

Prerequisite: 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.

AUT 163A Adv Auto Electricity Lab 0-3-1

Corequisite: AUT 163

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 networking and module communication, circuit construction, wiring diagrams, circuit testing, troubleshooting, and emerging electrical/electronic systems technologies. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns.

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.

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.

AUT 181A Engine Performance 1 Lab 0-3-1

Corequisite: 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 drive ability problems using appropriate test equipment/service information.

AUT 183 Engine Performance 2 2-6-4

Prerequisite: 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.

AUT 186 PC Skills for Auto Techs 2-2-3

This course introduces students to personal computer literacy and Internet literacy with an emphasis on the automotive service industry. Topics include service information systems, management systems, computer-based systems, and PC-based diagnostic equipment. Upon completion, students should be able to access information pertaining to automotive technology and perform word processing.

AUT 212 Auto Shop Management 3-0-3

This course covers the principles of management essential to decision-making, communication, authority, and leadership. Topics include shop supervision, shop organization, customer relations, cost effectiveness and workplace ethics. Upon completion, students should be able to describe basic automotive shop operation from a management standpoint.

AUT 221 Auto Transm/Transaxles 2-3-3

This course covers operation, diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair automatic drive trains.

AUT 221A Auto Transm/Transax Lab 0-3-1

Corequisite: AUT 221

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 hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to diagnose and repair automatic drive trains.

AUT 231 Man 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 servicing and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair manual drive trains.

AUT 231A Man Trans/Ax/Drtrains Lab 0-3-1

Corequisite: 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.

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.

AUT 282 Engine Electrical Management 3-9-6

This course includes principles, systems, and procedures required for diagnosing and restoring engine performance/driveability and emission control through mechanical, electrical, and gas analysis. Emphasis is placed on diagnostics using mechanical, electrical (including on-board), and gas analysis to determine root causes for repair purposes. Upon completion, students should be able to diagnose and repair PCM-related engine performance/driveability and emission problems.

AUT 283 Advanced Automotive Electronics 2-2-3

Prerequisite: AUT 161

This course covers advanced electronic systems on automobiles. Topics include microcontrollers, on-board communications, telematics, hybrid systems, navigation, collision avoidance, and electronic accessories. Upon completion, students should be able to diagnose electronic systems using appropriate service information, procedures, and equipment and remove/replace/reprogram controllers, sensors, and actuators.

BARBERING

C-L-SHC

BAR 111 Barbering Concepts I 4-0-4

Corequisite: BAR 112

This course introduces basic barbering concepts and includes careers in barber styling and various hair treatments. Emphasis is placed on sanitizing equipment, professional ethics, skin, scalp, and hair disorders and treatment, and safe work practices. Upon completion, students should be able to safely and competently apply barbering concepts in the shop setting.

BAR 112 Barbering Clinic I 0-24-8

Corequisite: BAR 111

This course introduces basic clinic services. Topics include a study of sanitizing procedures for implements and equipment, determination of hair texture, hair cutting, and hair processing. Upon completion, students should be able to safely and competently demonstrate shop services.

BAR 113 Barbering Concepts II 4-0-4

Corequisite: BAR 114

This course covers more comprehensive barbering concepts. Topics include safety and sanitation, product knowledge, as well as both wet and thermal hairstyling. Upon completion, students should be able to safely and competently apply these barbering concepts in the shop setting.

BAR 114 Barbering Clinic II 0-24-8

Corequisite: BAR 113

This course provides experience in a simulated shop setting. Topics include draping, shampooing, hair cutting, and hair drying as well as chemical processing. Upon completion, students should be able to safely and competently apply these barbering concepts in the shop setting.

BAR 115 Barbering Concepts III 4-0-4

Corequisite: BAR 116

This course covers more comprehensive barbering concepts. Topics include hair processing as well as finger waving, wet and thermal hairstyling, skin care, including electricity/light therapy, and manicuring. Upon completion, students should be able to safely and competently apply these barbering concepts in the shop setting.

BAR 116 Barbering Clinic III 0-12-4

Corequisite: BAR 115

This course covers more comprehensive barbering concepts. Emphasis is placed on intermediate-level of skin care manicuring, scalp treatments, hair design, chemical restructuring, and other related topics. Upon completion, students should be able to safely and competently apply these barbering concepts in the shop setting.

BAR 117 Barbering Concepts IV 2-0-2

Corequisite: BAR 118

This course covers advanced barbering concepts. Topics include hair color, advanced hair cutting techniques, hair styling, shaving, skin care, retailing, and preparing for a job interview. Upon completion, students should be able to demonstrate an understanding of these barbering concepts and meet program completion requirements.

BAR 118 Barbering Clinic IV 0-21-7

Corequisite: BAR 117

This course provides advanced experience in a simulated shop setting. Emphasis is placed on efficient and competent delivery of all shop services in preparation for the licensing examination and employment. Upon completion, students should be able to demonstrate competence in the areas covered on the Barbering Licensing Examination and meet

entry-level employment requirements.

BIOLOGY

C-L-SHC

BIO 090 Foundations of Biology 3-2-4

Corequisite: RED 090 or appropriate placement test scores

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.

BIO 094 Concepts of Human Biology 3-2-4

Corequisite: RED 090 or appropriate placement test scores

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.

BIO 106 Introduction to Anatomy/Physiology/Microbiology 2-2-3

This course covers the fundamental and principle concepts of human anatomy, physiology, and microbiology. Topics include an introduction to the structure and function of cells, tissues, and human organ systems, and an overview of microbiology, epidemiology, and control of microorganisms. Upon completion, students should be able to identify structures and functions of the human body and describe microorganisms and their significance in health and disease. This is a diploma-level course.

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. Under the CAA and ICAA, this course satisfies the general education Natural Science requirement for the AA and AFA degrees. It does not satisfy the general education Natural Science requirement for the AS degree.

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 for transfer under the CAA and ICAA as a general education course in Natural Science.

BIO 112 General Biology II 3-3-4*Prerequisite: 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 for transfer under the CAA and ICAA as a general education course in Natural Science.

BIO 120 Introductory Botany 3-3-4*Prerequisite: Take one: 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 the 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 for transfer under the CAA and ICAA as a general education course in Natural Science.

BIO 130 Introductory Zoology 3-3-4*Prerequisite: Take one: 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 for transfer under the CAA and ICAA as a general education course in Natural Science.

BIO 140 Environmental Biology 3-0-3*Corequisite: BIO 140A*

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 for transfer under the CAA and ICAA as a general education course in Natural Science.

BIO 140A Environmental Biology Laboratory 0-3-1*Corequisite: 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 for transfer under the CAA and ICAA as a general education course in Natural Science.

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.

BIO 163 Basic Anatomy and 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 165 Anatomy and Physiology I 3-3-4*Prerequisite: Take one: BIO 090, BIO 094, or BIO 110, or by permission of instructor*

This course is the first of a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 166 Anatomy and Physiology II 3-3-4*Prerequisite: BIO 165*

This course is the second in a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and the interrelationships of all body systems. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 168 Anatomy and Physiology I 3-3-4*Prerequisite: Take one: BIO 090, BIO 094, or BIO 110, or by permission of instructor*

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 169 Anatomy and Physiology II 3-3-4

Prerequisite: 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 175 General Microbiology 2-2-3

Prerequisite: Take one: BIO 110, BIO 111, BIO 163, BIO 165, 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 176 Advanced General Microbiology 1-2-2

Prerequisite: BIO 175

This course is a continuation of BIO 175. Emphasis is placed on microbial metabolism, genetics, and environmental and food microbiology. Upon completion, students should be able to identify unknown microbes and demonstrate an understanding of the fundamentals of molecular biology and microbial ecology. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 271 Pathophysiology 3-0-3

Prerequisite: Take one: 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 275 Microbiology 3-3-4

Prerequisite: Take one: BIO 110, BIO 111, BIO 163, BIO 165, or BIO 168

This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity,

infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIO 280 Biotechnology 2-3-3

Prerequisite: Take one: BIO 111, CHM 131, or CHM 151

This course provides experience in selected laboratory procedures. Topics include proper laboratory techniques in biology and chemistry. Upon completion, students should be able to identify laboratory techniques and instrumentation in basic biotechnology. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BIOPROCESS MANUFACTURING

C-L-SHC

BPM 110 Bioprocess Practices 3-4-5

This course provides a study of plant operations including various plant utility systems and detailed study of the varied plant environments in a bioprocessing facility. Emphasis is placed on quality mindset and principles of validation through applications of monitoring procedures. Upon completion, students should be able to demonstrate the rigors of industry regulation and its necessity.

BPM 111 Bioprocess Measurements 3-3-4

Prerequisite: BIO 110 and BPM 110

This course covers a variety of physical measurements. Emphasis is placed on pH, temperature, pressure and flow rates, as well as spectrophotometry, and biochemical and chemical analysis methods. Upon completion, students should be able to demonstrate and perform many aspects of process monitoring.

BPM 112 Upstream Bioprocessing 3-4-5

Prerequisite: BPM 111

This course introduces techniques involved in cell growth and fractionation. Topics include fermentation theory and application, as well as cell harvesting, cell disruption, and fractionation methods. Upon completion, students should be able to grow cells as well as isolate and collect various fractions.

BPM 113 Downstream Bioprocessing 3-3-4

Prerequisites: BPM 111, CHM 131, and CHM 131A

This course introduces a variety of techniques involved in separation procedures. Topics include extraction and precipitation, concentration and molecular filtration methods, as well as different types of chromatography. Upon completion, students should be able to perform separation procedures with an understanding of industrial-scale procedures.

BLUEPRINT READING**C-L-SHC****BPR 111 Blueprint Reading****1-2-2**

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

BPR 115 Electric/Fluid Power Diagrams**1-2-2**

This course covers sketching of detail and assembly drawings and reading of hydraulic, pneumatic, electrical, mechanical, and piping schematics. Emphasis is placed on interpretation and communication skills utilizing sketches, symbols, diagrams, and other related topics. Upon completion, students should be able to read, demonstrate an understanding of, and draw sketches and schematics commonly used in industry.

BPR 121 Blueprint Reading: Mechanical**1-2-2**

Prerequisite: 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.

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.

BROADCAST PRODUCTION**C-L-SHC****BPT 110 Intro to Broadcasting****3-0-3**

This course introduces the field of broadcasting and other electronic media. Emphasis is placed on the history, development, and current status of radio, television, and related industries. Upon completion, students should be able to demonstrate knowledge of regulations, organizational structure, revenue sources, historical development, and ongoing operation of broadcasting and related industries.

BPT 111 Broadcast Law & Ethics**3-0-3**

This course covers judicial, legislative, and administrative policies pertinent to the ethical and legal operation of broadcast and other electronic media organizations. Emphasis is placed on legal and ethical issues including First Amendment protection, FCC regulations, copyright, and libel laws. Upon completion, students should be able to demonstrate an understanding of the historical significance and modern-day application of important broadcast laws and policies.

BPT 112 Broadcast Writing**3-2-4**

This course introduces proper copy and script writing techniques and formats for radio, television, and other electronic media. Emphasis is placed on creating effective scripts for programs and promotional materials, including commercial and public radio service announcements for a specific target audience. Upon completion, students should be able to understand and write copy and scripts according to standard industry formats.

BPT 113 Broadcast Sales**3-0-3**

This course covers sales principles applicable to radio, television, cable, and other electronic media. Emphasis is placed on prospecting and servicing accounts, developing clients, and preparing sales presentations. Upon completion, students should be able to create a sales presentation based upon standard ratings reports, prospect for new customers, and understand account management.

BPT 121 Broadcast Speech I**2-3-3**

This course covers basic preparation and performance of on-air talents' speaking quality. Emphasis is placed on developing a pleasant and efficient voice with techniques applied to taped news, features, commercial copy, and announcing. Upon completion, students should be able to show improvement and aptitude in proper articulation, pronunciation, rate of delivery, pitch, breathing techniques, inflection, projection, and phrasing.

BPT 122 Broadcast Speech II**2-3-3**

Prerequisite: BPT 121

This course covers basic and advanced preparation and performance of on-air speech. Emphasis is placed on enhancing a pleasant, effective voice with techniques applied to impromptu speaking, radio plays, and taped presentations. Upon completion, students should be able to employ proper articulation, pronunciation, rate of delivery, phrasing, and other voice techniques in a professional manner.

BPT 131 Audio/Radio Production I**2-6-4**

This course covers the creation, development, production, and presentation of audio programming elements for broadcast and/or other electronic media applications. Emphasis is placed on the proper operation of professional audio equipment and the study of basic physical behavior and perceptual effects of sound. Upon completion, students should be able to correctly operate audio recording and playback equipment and demonstrate an understanding of the basic components of sound.

BPT 132 Audio/Radio Production II**2-6-4**

Prerequisite: BPT 131

This course covers the use of advanced audio production techniques in broadcast and/or other electronic media applications. Topics include basic audio signal processing equipment and analog and digital professional audio recording and playback equipment. Upon completion, students should be able to optimize the use of professional

audio equipment in the production of effective audio programming.

BPT 135 Radio Performance I 0-6-2

This course provides an opportunity to operate the college radio station as an announcer/board operator. Emphasis is placed on operating control-room equipment, logging transmitter readings, EBS tests, reading news, and broadcasting free of interruptions. Upon completion, students should be able to prepare music, public service announcements, and promos for timely broadcast; introduce songs/programs smoothly; and follow FCC rules.

BPT 210 Broadcast Management 3-0-3

This course covers management duties within the fields of broadcasting and other electronic media. Emphasis is placed on the management of broadcast stations and cable systems, including financial, personnel, news, sales, and promotion management. Upon completion, students should be able to demonstrate knowledge of successful station operation, including key management concepts and strategies.

BPT 215 Broadcast Programming 3-0-3

This course covers programming methods, research, and resources needed to provide programs for radio, television, cable, and satellite target audiences. Topics include market research and analysis; local, network, and public station programming and program sources; and scheduling procedures for electronic media. Upon completion, students should be able to develop a programming format or schedule.

BPT 231 Video/TV Production I 2-6-4

This course covers the language of film/video, shot composition, set design, lighting, production planning, scripting, editing, and operation of video and television production equipment. Emphasis is placed on mastering the body of knowledge and techniques followed in producing all forms of video and television production. Upon completion, students should be able to produce basic video and television productions in a team environment.

BPT 232 Video/TV Production II 2-6-4

Prerequisite: BPT 231

This course covers advanced video and television production. Emphasis is placed on field production, post-production, digital video effects, graphics, and multi-camera productions. Upon completion, students should be able to create productions that optimize the use of studio, field, and post-production equipment.

BPT 235 TV Performance I 0-6-2

This course provides hands-on experience in the operation of television studios and/or stations. Emphasis is placed on the application of skills through direct participation in the production or distribution of television programs. Upon completion, students should be able to demonstrate competence in performing key station and/or studio duties.

BPT 236 TV Performance II 0-6-2

Prerequisite: BPT 235

This course provides hands-on experience in the operation of television studios and/or stations. Emphasis is placed on the application of skills through direct participation in the production or distribution of television programs. Upon completion, students should be able to demonstrate competence in performing key station and/or studio duties.

BPT 250 Institutional Video 2-3-3

This course covers development and production of non-broadcast video productions for clients. Emphasis is placed on satisfying client objectives, including interviewing, research, site surveying, script review, photography, and post-production. Upon completion, students should be able to plan, write, shoot, and edit an institutional video designed to meet a client's objectives.

BUSINESS

C-L-SHC

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement. This course is also available through the Virtual Learning Community (VLC).

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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.

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. This course has been approved for transfer

under the CAA and ICAA as a premajor and/or elective course requirement.

BUS 151 People Skills 3-0-3

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

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.

BUS 217 Employment Law and Regulations 3-0-3

This course introduces the principle laws and regulations affecting public and private organizations and their employees or prospective employees. Topics include fair employment practices, EEO, affirmative action, and employee rights and protections. Upon completion, students should be able to evaluate organization policy for compliance and assure that decisions are not contrary to law.

BUS 225 Business Finance 2-2-3

Prerequisite: 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.

BUS 228 Business Statistics 2-2-3

Prerequisite: MAT 115, MAT 140, or MAT 161

This course introduces the use of statistical methods and tools in evaluating research data for business applications. Emphasis is placed on basic probability, measures of spread and dispersion, central tendency, sampling, regression analysis, and inductive inference. Upon completion, students should be able to apply statistical problem solving to business. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

BUS 230 Small Business Management 3-0-3

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

able to develop a small business plan.

BUS 234 Training and Development 3-0-3

This course covers developing, conducting, and evaluating employee training with attention to adult learning principles. Emphasis is placed on conducting a needs assessment, using various instructional approaches, designing the learning environment, and locating learning resources. Upon completion, students should be able to design, conduct, and evaluate a training program.

BUS 237 Current Management Issues 2-0-2

This course introduces current management issues and problems. Emphasis is placed on the management topics and challenges faced by all employees in an organization. Upon completion, students should be able to critically analyze alternative solutions within a team environment.

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.

BUS 252 Labor Relations 3-0-3

This course covers the history of the organized labor movement and the contractual relationship between corporate management and employees represented by a union. Topics include labor laws and unfair labor practices, the role of the NLRB, organizational campaigns, certification/decertification elections, and grievance procedures. Upon completion, students should be able to act in a proactive and collaborative manner in an environment where union representation exists.

BUS 255 Organizational Behavior in Business 3-0-3

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

BUS 256 Recruit Select and Per Plan 3-0-3

This course introduces the basic principles involved in managing the employment process. Topics include personnel planning, recruiting, interviewing and screening techniques, maintaining employee records; and voluntary and involuntary separations. Upon completion, students should be able to acquire and retain employees who match position requirements and fulfill organizational objectives.

BUS 257 Testing and Assessment 3-0-3

This course presents the tools and techniques human

resource managers use for selection, advancement, research, and evaluation. Emphasis is placed on using valid and reliable testing methods, attitude surveys, performance appraisal instruments, and decision-making tools. Upon completion, students should be able to use the methods covered in the course to collect and analyze information for management decision-making.

BUS 258 Compensation and Benefits 3-0-3

This course is designed to study the basic concepts of pay and its role in rewarding performance. Topics include wage and salary surveys, job analysis, job evaluation techniques, benefits, and pay-for-performance programs. Upon completion, students should be able to develop and manage a basic compensation system to attract, motivate, and retain employees.

BUS 259 HRM Applications 3-0-3

Prerequisites: BUS 217, BUS 234, BUS 256, and BUS 258
This course provides students in the Human Resources Management concentration the opportunity to reinforce their learning experiences from preceding HRM courses. Emphasis is placed on application of day-to-day HRM functions by completing in-basket exercises and through simulations. Upon completion, students should be able to determine the appropriate actions called for by typical events that affect the status of people at work.

BUS 260 Business Communication 3-0-3

Prerequisite: 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 workplace.

BUS 261 Diversity in Mgmt 3-0-3

This course is designed to help managers recognize the need to incorporate diversity into all phases of organizational management. Topics include self-evaluation, management, sexual harassment, workforce diversity, dual careers, role conflict, and communication issues. Upon completion, students should be able to implement solutions that minimize policies, attitudes, and stereotypical behaviors that block effective team building.

BUS 270 Professional Development 3-0-3

This course provides basic knowledge of self-improvement techniques as related to success in the professional world. Topics include positive human relations, job-seeking skills, and projecting positive self-image. Upon completion, students should be able to demonstrate competent personal and professional skills necessary to get and keep a job.

BUS 280 REAL Small Business 4-0-4

This course introduces hands-on techniques and procedures for planning and opening a small business, including the personal qualities needed for entrepreneurship. Emphasis is placed on market research, finance, time management, and

day-to-day activities of owning/operating a small business. Upon completion, students should be able to write and implement a viable business plan and seek funding.

BUS 285 Business Management Issues 2-2-3

Prerequisites: BUS 137

This course covers contemporary issues that affect successful businesses and their managers and employees. Emphasis is placed on using case studies and exercises to develop analytical and problem-solving skills, ethics, quality management concepts, team skills, and effective communication. Upon completion, students should be able to apply the specific knowledge and skills covered to become more effective managers and employees.

CABINETMAKING

C-L-SHC

CAB 111 Cabinetmaking I 4-9-7

This course introduces wood technology, materials, purchasing, estimating, design considerations, and cabinet construction. Topics include wood identification and use, hand tools, safe machine operation, glue and clamping, abrasives, wood joinery, kitchen and bath layout, laminates, and finishing techniques. Upon completion, students should be able to select and process materials; make sound production decisions; and design, lay out, construct, and install cabinets. This is a diploma-level course.

CARPENTRY

C-L-SHC

CAR 110 Introduction to Carpentry 2-0-2

Prerequisite: None

Corequisite: None

This course introduces the student to the carpentry trade. Topics include duties of a carpenter, hand and power tools, building materials, construction methods, and safety. Upon completion, students should be able to identify hand and power tools, common building materials, and basic construction methods.

CAR 111 Carpentry I 3-15-8

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

CAR 112 Carpentry II 3-15-8

Prerequisite: CAR 111

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

supervision.

CAR 113 Carpentry III 3-9-6

Prerequisite: CAR 111

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

CAR 114 Residential Building Codes 3-0-3

This course covers building codes and the requirements of state and local construction regulations. Emphasis is placed on the minimum requirements of the North Carolina building codes related to residential structures. Upon completion, students should be able to determine if a structure is in compliance with North Carolina building codes.

CAR 115 Residential Planning/Estimating 3-0-3

Prerequisite: BPR 130

This course covers project planning, management, and estimating for residential or light commercial buildings. Topics include planning and scheduling, interpretation of working drawings and specifications, estimating practices, and other related topics. Upon completion, students should be able to perform quantity take-offs and cost estimates.

COMPUTER ENGINEERING TECHNOLOGY

C-L-SHC

CET 111 Computer Upgrade/Repair I 2-3-3

This course covers repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include CPU/memory/bus identification, disk subsystems, hardware/software installation/configuration, common device drivers, data recovery, system maintenance, and other related topics. Upon completion, students should be able to safely repair and/or upgrade computer systems to perform within specifications.

CET 211 Computer Upgrade/Repair II 2-3-3

Local Prerequisite: CET 111

This course covers concepts of repair service and upgrade of computers and peripherals in preparation for industry certification. Topics may include resolving resource conflicts and system bus specifications, configuration and troubleshooting peripherals, operating system configuration and optimization, and other related topics. Upon completion, students should be able to identify and resolve system conflicts and optimize system performance.

CET 222 Computer Architecture 2-0-2

This course introduces the organization and design philosophy of computer systems with respect to resource management, throughput, and operating system interaction. Topics include instruction sets, registers, data types,

memory management, virtual memory, cache, storage management, multi-processing, and pipelining. Upon completion, students should be able to evaluate system hardware and resources for installation and configuration purposes.

CET 225 Digital Signal Processing 2-2-3

Local Prerequisite: ELN 133

This course introduces concepts and applications of digital signal processing. Topics include Fourier analysis, signal sampling, digital filtering, IIR filters, FIR filters, and DSP programming. Upon completion, students should be able to implement and troubleshoot DSP systems in hardware and software.

CHEMISTRY

C-LSHC

CHM 090 **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.

CHM 130 General, Organic and Biochemistry 3-0-3

Corequisite: CHM 130A

This course provides a survey of basic facts and principles of general, organic, and biochemistry. Topics include measurement, molecular structure, nuclear chemistry, solutions, acid-base chemistry, gas laws, and the structure, properties, and reactions of major organic and biological groups. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

CHM 130A General, Organic and Biochemistry Lab 0-2-1

Corequisite: CHM 130

This course is a laboratory for CHM 130. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 130. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 130. Also included are EMR, spectrophotometry, extraction, safety, and feed analysis. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

CHM 131 Introduction to Chemistry 3-0-3

Corequisite: CHM 131A

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 for transfer under the CAA and ICAA as a general education course in Natural Science.

CHM 131A Introduction to Chemistry Lab 0-3-1

Corequisite: 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. Also included are EMR, spectrophotometry, extraction, safety, and feed analysis. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

CHM 132 Organic and Biochemistry 3-3-4

Prerequisite: Take one set: 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. Additional topics are spectrophotometer, extraction, MSDS, and a project. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

CHM 151 General Chemistry I 3-3-4

Prerequisite: MAT 080

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. Additional topics include laboratory and chemical safety rules, electromagnetic spectrum, spectrometer, and chromatography. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

CHM 152 General Chemistry II 3-3-4

Prerequisite: 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. The spectrophotometer, pH meters,

solids, liquids, and properties of solutions are covered. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

CHM 251 Organic Chemistry I 3-3-4

Prerequisite: CHM 152

This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252. Additional topics covered are chromatography and safety. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

CHM 252 Organic Chemistry II 3-3-4

Prerequisite: CHM 251

This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

CHINESE

CHI 111 Elementary Chinese I 3-0-3

This course introduces the fundamental elements of the Chinese 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 Chinese and demonstrate cultural awareness. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

CHI 112 Elementary Chinese II 3-0-3

Prerequisite: CHI 111

This course includes the basic fundamentals of the Chinese language within a cultural context of the Chinese people and its history. 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 Chinese and demonstrate further cultural awareness. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

CHI 181 Chinese Lab I 0-2-1

This course provides an opportunity to enhance acquisition of the fundamental elements of the Chinese language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Chinese and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement premajor and/or elective requirement.

CHI 182 Chinese Lab II 0-2-1

Prerequisite: CHI 181

This course provides an opportunity to enhance acquisition of the fundamental elements of the Chinese language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Chinese and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement premajor and/or elective requirement.

CHI 211 Intermediate Chinese I 3-0-3

Prerequisite: CHI 112

This course includes communicative competencies in speaking, listening comprehension, reading, and writing at an intermediate level with attention to cultural awareness. Emphasis is placed on intermediate skills in speaking, reading, writing, and comprehension of spoken language. Upon completion, students should demonstrate simple conversations and distinguish an appropriate range of Chinese characters, as well as read simple expressions in modern standard Chinese. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

CHI 212 Intermediate Chinese II 3-0-3

This course provides continuation of communicative competence in speaking, listening comprehension, reading and writing at an intermediate level with attention to cultural awareness. Emphasis is placed on intermediate skills in speaking, reading, writing, and comprehension of spoken language. Upon completion, students should demonstrate simple conversations and distinguish a broad range of Chinese characters, as well as read expressions in modern standard Chinese. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

COMPUTER INFORMATION SYSTEMS**C-L-SHC****CIS 110 Introduction to Computers 2-2-3**

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CIS 111 Basic PC Literacy 1-2-2

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

CIS 115 Introduction to Programming and Logic 2-3-3

Prerequisite: 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CRIMINAL JUSTICE**C-L-SHC****CJC 100 Basic Law Enforcement Trn 9-30-19**

This course covers the basic skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Topics are divided into general units of study: legal, patrol duties, law enforcement communications, investigations, practical application, and sheriff-specific. Upon successful completion, the student will be able to demonstrate competence in the topics and areas required for the state comprehensive certification examination.

CJC 111 Intro 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CJC 112 Criminology 3-0-3

This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past,

present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.

CJC 113 Juvenile Justice 3-0-3

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

CJC 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, 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 investigation.

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.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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.

CJC 131 Criminal Law 3-0-3

This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal

responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements.

CJC 132 Court 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.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CJC 144 Crime Scene Processing 2-3-3

This course introduces the theories and practices of crime scene processing and investigating. Topics include legal considerations at the crime scene, processing indoor and outdoor scenes, recording, note taking, collection and preservation of evidence, and submission to the crime laboratory. Upon completion, the student should be able to evaluate and search various crime scenes and demonstrate the appropriate techniques.

CJC 146 Trace Evidence 2-3-3

This course provides a study of trace evidence as it relates to forensic science. Topics include collection, packaging, and preservation of trace evidence from crime scenes such as bombings, fires, and other scenes. Upon completion, students should be able to demonstrate the fundamental concepts of trace evidence collection, preservation, and submission to the crime laboratory.

CJC 151 Intro to Loss Prevention 3-0-3

This course introduces the concepts and methods related to commercial and private security systems. Topics include the historical, philosophical, and legal basis of security, with emphasis on security surveys, risk analysis, and associated functions. Upon completion, students should be able to demonstrate and understand security systems, risk management, and the laws relative to loss prevention.

CJC 160 Terrorism: Underlying Issues 3-0-3

This course identifies the fundamental reasons why America

is a target for terrorists, covering various domestic/international terrorist groups and ideologies from a historical aspect. Emphasis is placed upon recognition of terrorist crime scene; weapons of mass destruction; chemical, biological, and nuclear terrorism; and planning considerations involving threat assessments. Upon completion, the student should be able to identify and discuss the methods used in terrorists' activities and complete a threat assessment for terrorists' incidents.

CJC 212 Ethics & Comm Relations 3-0-3

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

CJC 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.

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.

CJC 215 Organization & Administration 3-0-3

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

CJC 221 Investigative Principles 3-2-4

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

CJC 222 Criminalistics 3-0-3

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

CJC 225 Crisis Intervention 3-0-3

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

CJC 231 Constitutional Law 3-0-3

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

CJC 244 Footwear and Tire Imprints 2-3-3

This course provides a study of the fundamental concepts of footwear and tire imprint evidence as related to forensic science. Topics include proper photographic recording, casting, recognition of wear patterns, and imprint identification. Upon completion, students should be able to recognize, record, photograph, and identify footwear and tire imprints.

CJC 245 Friction Ridge Analysis 2-3-3

This course introduces the basic elements of fingerprint technology and techniques applicable to the criminal justice field. Topics include the history and meaning of fingerprints, pattern types and classification, filing sequence, searching, and referencing. Upon completion, students should be able to discuss and demonstrate the fundamental techniques of basic fingerprint technology.

CJC 246 Advanced Friction Ridge Analysis 2-3-3

Prerequisite: CJC 245

Corequisite: None

This course introduces the theories and processes of advanced friction ridge analysis. Topics include evaluation of friction ridges, chart preparation, comparative analysis for valued determination rendering proper identification, chemical enhancement, and AFIS preparation and usage. Upon completion, students must show an understanding of

proper procedures for friction ridge analysis through written testing and practical exercises.

CJC 250 Forensic Biology I 2-2-3

This course covers important biological principles that are applied in the crime laboratory. Topics include forensic toxicology, forensic serology, microscopy, and DNA typing analysis, with an overview of organic and inorganic analysis. Upon completion, students should be able to articulate how a crime laboratory processes physical evidence submitted by law enforcement agencies.

CJC 251 Forensic Chemistry I 3-2-4

This course provides a study of the fundamental concepts of chemistry as it relates to forensic science. Topics include physical and chemical properties of substances, metric measurements, chemical changes, elements, compounds, gases, and atomic structure. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of forensic chemistry.

CJC 252 Forensics Chemistry II 3-2-4

This course provides a study of specialized areas of chemistry specifically related to forensic science. Topics include properties of light, emission and absorption spectra, spectrophotometry, gas and liquid chromatography, and related topics in organic and biochemistry. Upon completion, students should be able to demonstrate an understanding of specialized concepts in forensic chemistry.

CONSTRUCTION MANAGEMENT TECHNOLOGY

CMT 120 Codes and Inspections 3-0-3

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

CMT 210 Prof Construction Superv 3-0-3

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

CMT 214 Planning and Scheduling 3-0-3

Prerequisites: CMT 210 and BPR 130

This course covers the need for and the process of planning construction projects, as well as the mechanics and

vocabulary of project scheduling. Topics include project preplanning, scheduling formats, planning for production, short interval planning, schedule updating and revising, and computer-based planning and scheduling. Upon completion, the student should be able to understand the need for planning and scheduling, the language and logic of scheduling, and use of planning skills.

CMT 224 Statics in Construction 2-2-3

This course covers the concepts and principles of statics in construction. Topics include systems of forces and moments on structures in two and three dimensions in equilibrium. Upon completion, students should be able to analyze forces and moments on structures.

COOPERATIVE EDUCATION

C-L-W-SHC

COE 110 World of Work 1-0-1

This course covers basic knowledge necessary for gaining and maintaining employment. Topics include job search skills, work ethic, meeting employer expectations, workplace safety, and human relations. Upon completion, students should be able to successfully make the transition from school to work.

COE 111 Co-op Work Experience I 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.

COE 112 Co-op Work Experience I 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.

COE 115 Work Experience Seminar I 1-0-1

Corequisites: COE 111, COE 112, COE 113, or COE 114

This course may accompany COE 111, COE 112, COE 113, or COE 114. Students will present their work experience and evaluate work opportunities afforded by the co-op.

COE 121 Co-op Work Experience II 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.

COE 122 Co-op Work Experience II 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.

COE 125 Work Experience Seminar II 1-0-1
Corequisite: COE 121, COE 122, COE 123, or COE 124
This course may accompany COE 121, COE 122, COE 123, or COE 124. Students will present their work experience and evaluate work opportunities afforded by the co-op.

COE 131 Co-op Work Experience III 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.

COE 135 Work Experience Seminar III 1-0-1
Corequisite: COE 131, COE 132, COE 133, or COE 134
This course may accompany COE 131, COE 132, COE 133, or COE 134. Students will present their work experience and evaluate work opportunities afforded by the co-op.

COMMUNICATION

COM 110 Introduction to Communication C-L-SHC 3-0-3
This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

COM 130 Nonverbal Communication 3-0-3
Prerequisite: 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 verbal communication habits. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

COM 140 Introduction to Intercultural Communication 3-0-3

This course introduces techniques of cultural research, definitions, functions, characteristics, and impacts of cultural differences in public address. Emphasis is placed on how diverse backgrounds influence the communication act and how cultural perceptions and experiences determine how one sends and receives messages. Upon completion, students should be able to demonstrate an understanding of the principles and skills needed to become effective in communicating outside one's primary culture. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts (Substitute).

COM 231 Public Speaking 3-0-3

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

COSMETOLOGY

COS 111 Cosmetology Concepts I C-L-SHC 4-0-4

Corequisite: 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.

COS 112 Salon I 0-24-8

Corequisite: 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.

COS 113 Cosmetology Concepts II 4-0-4

Corequisite: 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.

COS 114 Salon II 0-24-8

Corequisite: 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.

COS 115 Cosmetology Concepts III 4-0-4

Corequisite: 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.

COS 116 Salon III 0-12-4

Corequisite: 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.

COS 117 Cosmetology Concepts IV 2-0-2

Corequisite: 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.

COS 118 Salon IV 0-21-7

Corequisite: 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.

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.

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.

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.

COS 126 Esthetics Salon II 0-18-6

This course provides experience in a simulated esthetics setting. Topics include machine facials, aromatherapy, 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 Esthetics.

COS 223 Contemp Hair Coloring 1-3-2

Prerequisite: COS 111 and COS 112

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

COS 253 Esthetics Instr Concepts I 6-15-11

This course introduces esthetic instructional concepts and skills. Topics include orientation, theories of education, unit planning, daily lesson plans, laboratory management, and student assessment in a laboratory setting. Upon completion, students should be able to demonstrate esthetic services and instruct and objectively assess student performance in a classroom setting.

COS 254 Esthetics Instr Concepts II 6-15-11

This course covers advanced esthetic instructional concepts and skills. 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 demonstrate competencies in the areas covered by the Esthetics Instructor Licensing Examination and meet

program requirements.

COS 271 Instructor Concepts I 5-0-5

Prerequisite: Cosmetology License

Corequisite: 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.

COS 272 Instructor Practicum I 0-21-7

Prerequisite: Cosmetology License

Corequisite: 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.

COS 273 Instructor Concepts II 5-0-5

Prerequisites: COS 271 and COS 272

Corequisite: 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.

COS 274 Instructor Practicum II 0-21-7

Prerequisites: COS 271 and COS 272

Corequisite: 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.

COMPUTER SCIENCE

CSC 134 C++ Programming 2-3-3 C-L-SHC

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

beginning level. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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. Upon completion students should be able to design, code, test, debug JAVA language programs. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CONSTRUCTION TECHNOLOGY

CST 111 Construction I 3-3-4

This course covers standard and alternative building methods to include wall framing. Topics include safety and footings, foundations, floor framing systems, and wall framing systems commonly used in the construction industry. Upon completion, students should be able to safely erect all framing necessary to begin roof framing.

CST 112 Construction II 3-3-4

Prerequisites: CST 111

This course covers building methods and materials used to dry-in a building. Topics include safety, ceiling/roof framing applications, roof finishes, windows, and exterior doors. Upon completion, students should be able to safely erect different roof types and properly install windows and exterior doors, roofing, and exterior finish materials.

COMPUTER INFORMATION TECHNOLOGY

CTS 115 Information Systems Business Concept 3-0-3 C-L-SHC

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CTS 120 Hardware/Software Support 2-3-3

Prerequisite: 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.

CTS 130 Spreadsheet 2-2-3

Prerequisite: 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.

CTS 135 Integrated Software Introduction 2-4-4

Prerequisite: 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.

CTS 220 Advanced Hardware/Software Support 2-3-3

Prerequisite: 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.

CTS 285 Systems Analysis and Design 3-0-3

Prerequisite: 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.

CTS 286 Network Support 2-2-3

Prerequisite: NOS 230 or NOS 231

This course provides experience using CD-ROM and online 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.

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.

CTS 289 System Support Project 1-4-3

Prerequisite: 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.

DATABASE MANAGEMENT TECHNOLOGY

C-L-SHC

DBA 110 Database Concepts 2-3-3

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.

DBA 115 Database Applications 2-2-3

Prerequisite: 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.

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 that create, update, and produce reports.

DESIGN DRAFTING

DDF 211 Design Process I

C-L-SHC
1-6-4

Local Prerequisite: DFT 152

This course emphasizes design processes for finished products. Topics include data collection from manuals and handbooks, efficient use of materials, design sketching, specifications, and vendor selection. Upon completion, students should be able to research and plan the design process for a finished product.

DENTAL

DEN 100 Basic Orofacial Anatomy

C-L-CI-SHC
2-0-0-2

This course provides a basic introduction to the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to demonstrate knowledge of normal structures and development and how they relate to the practice of dental assisting. This is a diploma-level course.

DEN 101 Preclinical Procedures

4-6-0-7

This course provides instruction in procedures for the clinical dental assistant as specified by the North Carolina Dental Practice Act. Emphasis is placed on orientation to the profession, infection control techniques, instruments, related expanded functions, and diagnostic, operative, and specialty procedures. Upon completion, students should be able to demonstrate proficiency in clinical dental assisting procedures. This is a diploma-level course.

DEN 102 Dental Materials

3-4-0-5

This course provides instruction in identification, properties, evaluation of quality, principles, and procedures related to manipulation and storage of operative and specialty dental materials. Emphasis is placed on the understanding and safe application of materials used in the dental office and laboratory. Upon completion, students should be able to demonstrate proficiency in the laboratory and clinical application of routinely used dental materials. This is a diploma-level course.

DEN 103 Dental Sciences

2-0-0-2

This course is a study of oral pathology, pharmacology, and dental office emergencies. Topics include oral pathological conditions, dental therapeutics, and management of emergency situations. Upon completion, students should be able to recognize abnormal oral conditions, identify classifications, describe actions and effects of commonly prescribed drugs, and respond to medical emergencies. This is a diploma-level course.

DEN 104 Dental Health Education

2-2-0-3

This course covers the study of preventive dentistry to prepare dental assisting students for the role of dental health educator. Topics include etiology of dental diseases, preventive procedures, and patient education theory and practice. Upon completion, students should be able to demonstrate proficiency in patient counseling and oral health instruction in private practice or public health settings. This is a diploma-level course.

DEN 105 Practice Management

2-0-0-2

This course provides a study of principles and procedures related to management of the dental practice. Emphasis is placed on maintaining clinical and financial records, patient scheduling, and supply and inventory control. Upon completion, students should be able to demonstrate fundamental skills in dental practice management. This is a diploma-level course.

DEN 106 Clinical Practice I

1-0-12-5

Prerequisite: DEN 101

This course is designed to provide experience assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to utilize classroom theory and laboratory and clinical skills in a dental setting. This is a diploma-level course.

DEN 107 Clinical Practice II

1-0-12-5

Prerequisite: DEN 106

This course is designed to increase the level of proficiency in assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to combine theoretical and ethical principles necessary to perform entry-level skills, including functions delegable to a DA II. This is a diploma-level course.

DEN 110 Orofacial Anatomy

2-2-0-3

This course introduces the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to relate the identification of normal structures and development to the practice of dental assisting and dental hygiene.

DEN 111 Infection/Hazard Control

2-0-0-2

This course introduces the infection and hazard control procedures necessary for the safe practice of dentistry. Topics include microbiology, practical infection control, sterilization and monitoring, chemical disinfectants, aseptic technique, infectious diseases, OSHA standards, and applicable North Carolina laws. Upon completion, students should be able to understand infectious diseases, disease transmission, infection control procedures, biohazard management, OSHA standards, and applicable North Carolina laws.

DEN 112 Dental Radiography 2-3-0-3

This course provides a comprehensive view of the principles and procedures of radiology as they apply to dentistry. Topics include techniques in exposing, processing, and evaluating radiographs, as well as radiation safety, quality assurance, and legal issues. Upon completion, students should be able to demonstrate proficiency in the production of diagnostically acceptable radiographs using appropriate safety precautions.

DEN 120 Dental Hygiene Preclinic Lecture 2-0-0-2

Corequisite: DEN 121

This course introduces preoperative and clinical dental hygiene concepts. Emphasis is placed on the assessment phase of patient care as well as the theory of basic dental hygiene instrumentation. Upon completion, students should be able to collect and evaluate patient data at a basic level and demonstrate knowledge of dental hygiene instrumentation.

DEN 121 Dental Hygiene Preclinic Laboratory 0-6-0-2

Corequisite: DEN 120

This course provides the opportunity to perform clinical dental hygiene procedures discussed in DEN 120. Emphasis is placed on clinical skills in patient assessment and instrumentation techniques. Upon completion, students should be able to demonstrate the ability to perform specific preclinical procedures.

DEN 123 Nutrition/Dental Health 2-0-0-2

This course introduces basic principles of nutrition with emphasis on nutritional requirements and their application to individual patient needs. Topics include the study of the food pyramid, nutrient functions, Recommended Daily Allowances, and related psychological principles. Upon completion, students should be able to recommend and counsel individuals on their food intake as related to their dental health.

DEN 124 Periodontology 2-0-0-2

Prerequisites: DEN 110

This course provides an in-depth study of the periodontium, periodontal pathology, periodontal monitoring, and the principles of periodontal therapy. Topics include periodontal anatomy and a study of the etiology, classification, and treatment modalities of periodontal diseases. Upon completion, students should be able to describe, compare, and contrast techniques involved in periodontal/maintenance therapy, as well as patient care management.

DEN 130 Dental Hygiene Theory I 2-0-0-2

Prerequisite: DEN 120

Corequisite: DEN 131

This course is a continuation of the didactic dental hygiene concepts necessary for providing an oral prophylaxis. Topics include deposits/removal, instrument sharpening, patient education, fluorides, planning for dental hygiene treatment, charting, and clinical records and procedures.

Upon completion, students should be able to demonstrate knowledge needed to complete a thorough oral prophylaxis.

DEN 131 Dental Hygiene Clinic I 0-0-9-3

Prerequisite: DEN 121

Corequisites: DEN 130

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of the recall patients with gingivitis or light deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

DEN 140 Dental Hygiene Theory II 1-0-0-1

Prerequisites: DEN 130

Corequisite: DEN 141

This course provides a continuation of the development, theory, and practice of patient care. Topics include modification of treatment for special needs patients, advanced radiographic interpretation, and ergonomics. Upon completion, students should be able to differentiate necessary treatment modifications, effective ergonomic principles, and radiographic abnormalities.

DEN 141 Dental Hygiene Clinic II 0-0-6-2

Prerequisite: DEN 131

Corequisite: DEN 140

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with early periodontal disease and subgingival deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

DEN 220 Dental Hygiene Theory III 2-0-0-2

Prerequisite: DEN 140

Corequisite: DEN 221

This course provides a continuation in developing the theories and practices of patient care. Topics include periodontal debridement, pain control, subgingival irrigation, air polishing, and case presentations. Upon completion, students should be able to demonstrate knowledge of methods of treatment and management of periodontally compromised patients.

DEN 221 Dental Hygiene Clinic III 0-0-12-4

Prerequisite: DEN 141

Corequisite: DEN 220

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with moderate to advanced periodontal involvement and moderate deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

DEN 222 General and Oral Pathology 2-0-0-2

Prerequisite: Take one: BIO 163, BIO 165, or BIO 168

This course provides a general knowledge of oral pathological manifestations associated with selected systemic and oral diseases. Topics include developmental and degenerative diseases, selected microbial diseases, and

specific and nonspecific immune and inflammatory responses with emphasis on recognizing abnormalities. Upon completion, students should be able to differentiate between normal and abnormal tissues and refer unusual findings to the dentist for diagnosis.

DEN 223 Dental Pharmacology 2-0-0-2

Corequisite: Take one: BIO 163, BIO 165, or BIO 168

This course provides basic drug terminology, general principles of drug actions, dosages, routes of administration, adverse reactions, and basic principles of anesthesiology. Emphasis is placed on knowledge of drugs in overall understanding of patient histories and health status. Upon completion, students should be able to recognize that each patient's general health or drug usage may require modification of the treatment procedures.

DEN 224 Materials and Procedures 1-3-0-2

Prerequisite: DEN 111

This course introduces the physical properties of materials and related procedures used in dentistry. Topics include restorative and preventive materials, fabrication of casts and appliances, and chairside functions of the dental hygienist. Upon completion, students should be able to demonstrate proficiency in the laboratory and/or clinical application of routinely used dental materials and chairside functions.

DEN 230 Dental Hygiene Theory IV 1-0-0-1

Prerequisite: DEN 220

Corequisite: DEN 231

This course provides an opportunity to increase knowledge of the profession. Emphasis is placed on dental specialties and completion of a case presentation. Upon completion, students should be able to demonstrate knowledge of various disciplines of dentistry and principles of case presentations.

DEN 231 Dental Hygiene Clinic IV 0-0-12-4

Prerequisite: DEN 221

Corequisite: DEN 230

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on periodontal maintenance and on treating patients with moderate to advanced/refractory periodontal disease. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

DEN 232 Community Dental Health 2-0-3-3

This course provides a study of the principles and methods used in assessing, planning, implementing, and evaluating community dental health programs. Topics include epidemiology, research methodology, biostatistics, preventive dental care, dental health education, program planning, and financing and utilization of dental services. Upon completion, students should be able to assess, plan, implement, and evaluate a community dental health program.

DEN 233 Professional Development 2-0-0-2

This course includes professional development, ethics, and

jurisprudence with applications to practice management. Topics include conflict management, state laws, résumés, interviews, and legal liabilities as health care professionals. Upon completion, students should be able to demonstrate the ability to practice dental hygiene within established ethical standards and state laws.

DRAFTING

C-L-SHC

DFT 111 Technical Drafting I 1-3-2

This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorials drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices.

DFT 151 CAD I 2-3-3

Local Prerequisite: DFT 111 or Instructor Approval

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

DFT 152 CAD II 2-3-3

Local Prerequisite: DFT 151

This course introduces extended CAD applications. Emphasis is placed upon intermediate applications of CAD skills. Upon completion, students should be able to use extended CAD applications to generate and manage drawings.

DFT 153 CAD III 2-3-3

Local Prerequisite: DFT 152

This course introduces advanced CAD applications. Emphasis is placed upon advanced applications of CAD skills. Upon completion, students should be able to use advanced CAD applications to generate and manage data.

DFT 154 Introduction to Solid Modeling 2-3-3

Local Prerequisite: DFT 151

This course is an introduction to basic three-dimensional solid modeling and design software. Topics include basic design, creation, editing, rendering, and analysis of solid models and creation of multi view drawings. Upon completion, students should be able to use design techniques to create, edit, render, and generate a multi view drawing.

DFT 214 Descriptive Geometry 1-2-2

Prerequisite: DFT 111

This course includes a graphic analysis of space problems. Topics include points, lines, planes, connectors, and combinations of these. Upon completion, students should be able to solve real world spatial problems using descriptive geometry techniques.

DFT 254 Intermed Solid Model/Render 2-3-3

Prerequisites: DFT 154

This course presents a continuation of basic three-dimensional solid modeling and design software. Topics include advanced study of parametric design, creation, editing, rendering and analysis of solid model assemblies, and multiview drawing generation. Upon completion, students should be able to use parametric design techniques to create and analyze the engineering design properties of a model assembly.

DIGITAL MEDIA TECHNOLOGY

DME 115 Graphic Design Tools C-L-SHC 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.

DRAMA/THEATRE

DRA 111 Theatre Appreciation C-L-SHC 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

DRA 112 Literature of the Theatre 3-0-3

This course provides a survey of dramatic works from the classical Greek through the present. Emphasis is placed on the language of drama, critical theory, and background as well as on play reading and analysis. Upon completion, students should be able to articulate, orally and in writing, their appreciation and understanding of dramatic works. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

DRA 120 Voice for Performance 3-0-3

This course provides guided practice in the proper production of speech for the theatre. Emphasis is placed on improving speech, including breathing, articulation, pronunciation, and other vocal variables. Upon completion, students should be able to demonstrate effective theatrical speech. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

DRA 124 Readers Theatre 3-0-3

This course provides a theoretical and applied introduction to the medium of readers theatre. Emphasis is placed on the group performance considerations posed by various genres of literature. Basics of acting are introduced as needed for performance. Upon completion, students should be able to adapt and present a literary script following the conventions of readers theatre. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

DRA 130 Acting I 0-6-3

This course provides an applied study of the actor's craft. Topics include role analysis, training the voice, and body concentration, discipline, and self-evaluation. Upon completion, students should be able to explore their creativity in an acting ensemble. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 131 Acting II 0-6-3

Prerequisites: DRA 130

This course provides additional hands-on practice in the actor's craft. Emphasis is placed on further analysis, characterization, growth, and training for acting competence. Upon completion, students should be able to explore their creativity in an acting ensemble. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 140 Stagecraft I 0-6-3

This course introduces the theory and basic construction of stage scenery and properties. Topics include stage carpentry, scene painting, stage electrics, properties, and backstage organization. Upon completion, students should be able to pursue vocational and avocational roles in technical theatre. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 141 Stagecraft II 0-6-3

Prerequisites: DRA 140

This course provides additional hands-on practice in the elements of stagecraft. Emphasis is placed on the design and implementation of the arts and crafts of technical theatre. Upon completion, students should be able to pursue vocational or avocational roles in technical theatre. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 145 Stage Make-Up 1-2-2

This course covers the research, design, selection of materials, and application of stage make-up, prosthetics, wigs, and hairpieces. Emphasis is placed on the development of techniques, style, and presentation of the finished make-up. Upon completion, students should be able to create and apply make-up, prosthetics, and hairpieces. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 171 Play Production II 0-9-3

Prerequisite: DRA 170

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 211 Theatre History I 3-0-3

This course covers the development of theatre from its origin to the closing of the British theatre in 1642. Topics include the history, aesthetics, and representative dramatic literature of the period. Upon completion, students should be able to trace the evolution of theatre and recognize the styles and types of world drama. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

DRA 260 Directing 0-6-3

Prerequisites: DRA 130

Corequisites: DRA 140

This course provides an analysis and application of the techniques of theatrical directing. Topics include script selection, analysis, casting, rehearsal planning, blocking, stage business, tempo, and technical considerations. Upon completion, students should be able to plan, execute, and critically discuss a student-directed production. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 270 Play Production III 0-9-3

Prerequisites: DRA 171

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

DRA 271 Play Production IV 0-9-3

Prerequisites: DRA 270

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ECONOMICS**C-L-SHC****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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

ECO 251 Prin 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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

ECO 252 Prin 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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

EDUCATION**C-L-SHC****EDU 114 Intro to Family Childcare 3-0-3**

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or Set 2: ENG 085

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.

EDU 118 Principles & Practices of Inst. Asst. 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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.

EDU 119 Intro to Early Childhood Educ 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.

EDU 131 Child, Family, & Community 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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.

EDU 144 Child Development I 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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. This course has been approved for

transfer under the CAA as a premajor and/or elective course requirement.

EDU 145 Child Development II 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement.

EDU 146 Child Guidance 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement.

EDU 151 Creative Activities 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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.

EDU 153 Health, Safety, and Nutrition 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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.

EDU 163 Classroom Mgt and Instruct 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 080 and RED 080 or 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.

EDU 221 Children with Exceptional 3-0-3

Minimum State Prerequisites: Take one set:

Set 1: ENG 090, RED 090, EDU 144, and EDU 145

Set 2: ENG 090, RED 090, PSY 244, and PSY 245

Set 3: ENG 095, EDU 144, and EDU 145

Set 4: ENG 095, PSY 244, and 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 for transfer under the CAA and the ICAA as a premajor and/or elective course requirement at select institutions

EDU 234 Infants, Toddlers, & Twos 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 095

This course focuses on practical applications that support the healthy development of very young children by applying principles of quality inclusive early care and education. Emphasis is placed on recognizing the interrelated factors that impact children's development through planning, evaluating and adapting quality environments, including activities and adult/child interactions. Upon completion, students should be able to demonstrate the ability to engage in respectful, responsive care that meets the unique needs of individual children/families.

EDU 235 School-Age Development and Program 2-0-2

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or 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.

EDU 241 Adult-Child Relations 2-0-2

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or 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.

EDU 243 Learning Theory 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or 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.

EDU 244 Human Growth/Development 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 095

This course introduces lateral entry teachers to theories and ages and stages related to human growth and development from birth through adolescence. Emphasis is placed on development through the stages of a child's life in the areas of physical, emotional, social, intellectual, and moral development. Upon completion, students should be able to identify and describe milestones of each stage in all areas of development and discuss factors that influence growth.

EDU 245 Policies and Procedures 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 095

This course is designed to introduce new lateral entry teachers to the policies and procedures established by the local education agency. Topics include emergency situation procedures, acceptable discipline, chain of command, role of mentors, evaluation procedures, employment requirements, dress codes, and other policies and procedures. Upon completion, students should be able to explain the policies and procedures to students, parents, or others and discuss the purpose of each policy category.

EDU 252 Math and Sci Activities 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or 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.

EDU 254 Music and Movement for Children 1-2-2

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 095

This course covers the use of music and creative movement for children. Topics include a general survey of the basic elements of music and planning, designing, and implementing music and movement experiences for creative learning. Upon completion, students should be able to use voice and various musical instruments to provide musical and movement activities for children.

EDU 257 Instructional Strategies/Math 2-2-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090, RED 090, and MAT 060 or Set 2: ENG 095 and MAT 060

This course covers concepts, activities, methods, and materials for teaching mathematics in elementary through middle school grades. Topics include individual instruction, developmental skill building, manipulatives, problem solving, critical thinking and numerical concepts. Upon completion, students should be able to assess, plan, implement and evaluate developmentally appropriate math experiences relating to the NC Standard Course of Study.

EDU 258 Instructional Strategies/Science 2-2-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 095

This course covers objectives, content, materials, and instructional approaches to natural sciences for elementary through middle grades. Topics include classroom and laboratory science experiences, research/study techniques, and critical thinking. Upon completion, students should be able to assess/plan/implement/evaluate developmentally appropriate learning experiences in science as related to the North Carolina Standard Course of Study.

EDU 259 Curriculum Planning 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090, RED 090, and EDU 119

Set 2: ENG 095 and 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.

EDU 261 Early Childhood Admin I 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 095

Minimum State Corequisites: Take 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.

EDU 262 Early Childhood Admin II 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090, RED 090 and EDU 261 or Set 2: ENG 095 and EDU 261

Minimum State Corequisites: Take 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.

EDU 271 Educational Technology 2-2-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 090

Local Prerequisite: CIS 110 or CIS 111 to EDU 271

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.

EDU 275 Effective Teacher Training 2-0-2

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or Set 2: ENG 095

This course provides specialized training using an experienced-based approach to learning. Topics include instructional preparation and presentation, student interaction, time management, learning expectations, evaluation, and curriculum principles and planning. Upon completion, students should be able to prepare and present a six-step lesson plan and demonstrate ways to improve students' time on-task.

EDU 280 Language and Literacy 3-0-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or 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.

EDU 281 Instructional Strategies/Read&Write 2-2-3

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or 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.

EDU 285 INTERNSHIP EXP SCHOOL AGE 1-9-4

Minimum State 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 onsite faculty visits.

EDU 287 Leadership Early Child Education 3-0-3

Minimum State 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.

EDU 289 Adv. Issues/School Age 2-0-2

Minimum State Prerequisites Take One Set: Set 1: ENG 090 and RED 090 or 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.

ENGINEERING

C-L-SHC

EGR 131 Introduction To Electronics Technology 1-2-2

This course introduces the basic skills required for electrical/electronics technicians. Topics include soldering/desoldering, safety practices, test equipment, scientific calculators, AWG wire table, the resistor color code, electronic devices, problem solving, and use of hand tools. Upon completion, students should be able to solder/desolder, operate test equipment, apply problem solving techniques, and use a scientific calculator.

EGR 285 Design Project 0-4-2

This course provides the opportunity to design an instructor-approved project using previously acquired skills. Emphasis is placed on selection, proposal, design, testing, and documentation of the approved project. Upon completion, students should be able to present and demonstrate projects.

ELECTRICITY

C-L-SHC

ELC 111 Introduction to Electricity 2-2-3

This course introduces the fundamental concepts of electricity and test equipment to non-electrical/electronics majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors, and capacitors); power; and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.

ELC 112 DC/AC Electricity 3-6-5

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

ELC 113 Basic Wiring I 2-6-4

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

ELC 114 Basic Wiring II 2-6-4

Local Prerequisite: 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.

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.

ELC 118 National Electrical Code 1-2-2

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

ELC 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.

ELC 121 Electrical Estimating 1-2-2

Local Prerequisite: ELC 113

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

ELC 125 Diagrams and Schematics 1-2-2

This course covers the interpretation of electrical diagrams, schematics, and drawings common to electrical applications. Emphasis is placed on reading and interpreting electrical diagrams and schematics. Upon completion, students should be able to read and interpret electrical diagrams and schematics.

ELC 126 Electrical Computations 2-2-3

This course introduces the fundamental applications of mathematics, which are used by an electrical/electronics technician. Topics include whole numbers, fractions, decimals, powers, roots, simple electrical formulas, and usage of a scientific calculator. Upon completion, students should be able to solve simple electrical mathematical problems.

ELC 127 Software for Technicians 1-3-2

This course introduces computer software which can be used to solve electrical/electronics problems. Topics include electrical/electronics calculations and applications. Upon completion, students should be able to utilize a personal computer for electrical/electronics-related applications.

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.

ELC 131 DC/AC Circuit Analysis 4-3-5

Local Corequisite: MAT 121 or MAT 161

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

ELC 132 Electrical Drawings 1-3-2

This course introduces the technical documentation that is typically found or used in the industrial environment. Topics include interpretation of service manuals, freehand sketching of lines, orthographic views and dimensions, and blueprint reading. Upon completion, students should be able to interpret technical documents and blueprints and use basic drafting skills to prepare usable field drawings.

ELC 144 OTDR Operation 1-0-1

This course covers the use of the Optical Time Domain Reflectometer (OTDR), principles of operations, typical displays, and signature interpretations. Topics include cable acceptance testing, splice loss testing, reflection, troubleshooting line breaks, and usage of the OTDR for fiber optics maintenance and restoration. Upon completion, students should be able to test for attenuation bandwidth and cable length, identify backscatter, connector loss, cable breaks, and perform acceptance testing.

ELC 213 Instrumentation 3-2-4

Local Prerequisite: ELC 111, ELC 112, or ELC 131

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

ELC 228 PLC Applications 2-6-4

Local Prerequisite: 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.

ELC 229 Applications Project 1-3-2

Local Prerequisite: ELC 112, ELC 113, or ELC 140

This course provides an individual and/or integrated team approach to a practical project as approved by the instructor. Topics include project selection and planning, implementation and testing, and a final presentation. Upon completion, students should be able to plan and implement an applications-oriented project.

ELECTRONICS

C-L-SHC

ELN 110 **Survey of Electronics** **2-2-3**

This course introduces fundamental electrical and electronic concepts for non-electronic majors. Emphasis is placed on terminology and devices used in basic electronic and digital applications. Upon completion, students should be able to demonstrate a grasp of the fundamentals of modern electronic circuits.

ELN 131 Semiconductor Applications 3-3-4

Local Corequisite: ELC 112, ELC 131, or ELC 140

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

ELN 132 Linear IC Applications 3-3-4

Local Prerequisite: ELN 131 or BMT 113 or ELC 140

This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, waveform generators, active filters, IC voltage regulators, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment.

ELN 133 Digital Electronics 3-3-4

Local Prerequisite: ELN 131 or Instructor Approval

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AC/DC conversion,

and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

ELN 140 Semiconductor Devices 4-6-6

This course covers semiconductor devices and circuits as they apply to the area of electronic servicing. Topics include semiconductor theory, diodes, transistors, linear integrated circuits, biasing, amplifiers, power supplies, and other related topics. Upon completion, students should be able to construct, verify, analyze, and troubleshoot semiconductor circuits.

ELN 141 Digital Fundamentals 4-6-6

This course covers combinational and sequential logic circuits. Topics include number systems, logic elements, Boolean algebra, Demorgan's theorem, logic families, flip flops, registers, counters, and other related topics. Upon completion, students should be able to analyze, verify, and troubleshoot digital circuits.

ELN 229 Industrial Electronics 3-3-4

Local Prerequisite: ELC 112, ELC 131, or ELC 140

This course covers semiconductor devices used in industrial applications. Topics include the basic theory, application, and operating characteristics of semiconductor devices. Upon completion, students should be able to install and/or troubleshoot these devices for proper operation in an industrial electronic circuit.

ELN 231 Industrial Controls 2-3-3

Local Prerequisite: ELC 112, ELC 131, or ELC 140

This course introduces the fundamental concepts of control of rotating machinery and associated peripheral devices. Topics include rotating machine theory, ladder logic, electromechanical and solid state relays, motor controls, pilot devices, three-phase power systems, and other related topics. Upon completion, students should be able to interpret schematics and demonstrate an understanding of electromechanical and electronic control of rotating machinery.

ELN 232 Introduction to Microprocessors 3-3-4

Local Prerequisite: ELN 133 or Instructor Approval

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

ELN 234 Communication Systems 3-3-4

Local Prerequisite: ELN 132 or ELN 140

This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques,

characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment.

ELN 236 Fiber Optics and Lasers 3-2-4

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

ELN 237 Local Area Networks 2-3-3

Local Prerequisite: CIS 110 or CIS 111 or CET 111 or ELC 127
This course introduces the fundamentals of local area networks and their operation. Topics include the characteristics of network topologies, system hardware, system configuration, installation, and operation of the LAN. Upon completion, students should be able to install and maintain a local area network.

ELN 238 Advanced LANs 2-3-3

Local Prerequisite: ELN 237
This course covers advanced concepts, tools, and techniques associated with servers, workstations, and overall local area network performance. Topics include network security and configuration, system performance and optimization, communication protocols and packet formats, troubleshooting techniques, multi-platform integration, and other related topics. Upon completion, students should be able to use advanced techniques to install, manage, and troubleshoot networks and optimize server and workstation performance.

ELN 247 Electronic Application Project 1-3-2

Local Prerequisite: ELN 131 and either ELN 132 or ELN 140
This course provides a structured approach to an application-oriented electronics project. Emphasis is placed on selecting, planning, implementing, testing, and presenting an application-oriented project. Upon completion, students should be able to present and demonstrate an electronics application-oriented project.

ELN 275 Troubleshooting 1-3-2

Local Prerequisites: ELN 133 and either ELN 132 or ELN 140
This course covers techniques of analyzing and repairing failures in electronic equipment. Topics include safety, signal tracing, use of service manuals, and specific troubleshooting methods for analog, digital, and other electronics-based circuits and systems. Upon completion, students should be able to logically diagnose and isolate faults and perform necessary repairs to meet manufacturers' specifications.

ENGLISH

C-L-SHC

ENG 090 Composition Strategies 3-0-3

Prerequisites: ENG 080 or ENG 085 or appropriate placement test scores

Corequisites: ENG 090A

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

ENG 090A Composition Strategies Laboratory 0-2-1

Prerequisite: ENG 080 or ENG 085 or appropriate placement test score

Corequisites: ENG 090

This writing lab is designed to practice the skills introduced in ENG 090. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay.

ENG 102 Applied Communications II 3-0-3

Prerequisites: RED 080 and ENG 090 or appropriate placement test scores

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

ENG 110 Freshman Composition 3-0-3

Prerequisites: ENG 090 and RED 080 or appropriate placement test scores

Corequisites: None

This course is designed to develop informative and business writing skills. Emphasis is placed on logical organization of writing, including effective introductions and conclusions, precise use of grammar, and appropriate selection and use of sources. Upon completion, students should be able to produce clear, concise, well-organized short papers.

ENG 111 Expository Writing 3-0-3

Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, or appropriate placement test scores.

Corequisites: ENG 111A

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 for transfer under the CAA and

ICAA as a general education course in English Composition.

ENG 111A Expository Writing Laboratory 0-2-1

Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, or appropriate placement test scores.

Corequisites: ENG 111

This writing laboratory is designed to apply the skills introduced in ENG 111. Emphasis is placed on the editing and revision components of the writing process. Upon completion, students should be able to apply those skills in the production of final drafts in ENG 111. The computer is used as a writing and design tool for this course.

ENG 112 Argument-Based Research 3-0-3

Prerequisite: ENG 111

This course, the second in a series of two, introduces research techniques, documentation styles, and argumentative strategies. Emphasis is placed on historical developments and their impact on the modern world through religion, politics, economics, and social developments. Upon completion, students should be able to compare and contrast western and non-western cultures. This course has been approved for transfer under the CAA and ICAA as a general education course in English Composition.

ENG 113 Literature-Based Research 3-0-3

Prerequisite: 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. Students should be able to respond to literature orally in class discussions and in small group and individual presentations. This course has been approved for transfer under the CAA and ICAA as a general education course in English Composition.

ENG 114 Professional Research and Reporting 3-0-3

Prerequisite: 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. The computer is used as a writing and design tool for this course. This course has been approved for transfer under the CAA and ICAA as a general education course in English Composition.

ENG 115 Oral Communication 3-0-3

This course introduces the basic principles of oral communication in both small group and public settings. Emphasis is placed on the components of the communication process, group decision-making, and public address. Upon completion, students should be able to demonstrate the principles of effective oral communication in small group and public settings.

ENG 116 Technical Report Writing 3-0-3

Prerequisite: Take one: ENG 110 or ENG 111

This course, the second in a series of two, introduces layout and design of technical reports used in business and industry. Emphasis is placed on audience analysis, data collection and analysis, technical writing style and organization, oral presentation of technical data, and the appropriate use of graphics in written and oral presentations. Upon completion, students should be able to produce written and oral reports using a variety of technical communication models.

ENG 125 Creative Writing I 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ENG 126 Creative Writing II 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ENG 231 American Literature I 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 232 American Literature II 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 233 Major American Writers 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 241 British Literature I 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 242 British Literature II 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 243 Major British Writers 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 261 World Literature I 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 262: World Literature II 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

ENG 273 African-American Literature 3-0-3

Prerequisite: Take one: ENG 112, 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

ENVIRONMENTAL

ENV 110 Environmental Science 3-0-3

This course covers the environmental problems facing society today. Topics include population, natural resources, air and water pollution, and waste disposal problems. Upon completion, students should be able to demonstrate insight into the role the individual plays in shaping the environment.

FRENCH

C-L-SHC

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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

FRE 112 Elementary French II 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

FRE 211 Intermediate French I 3-0-3

Prerequisite: FRE 112

This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

FRE 212 Intermediate French II 3-0-3

Prerequisite: FRE 211

This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

FOOD SERVICE

C-L-SHC

FST 100 Introduction to Foodservice Industry 3-0-3

This course is designed to develop an understanding of the foodservice industry and its career paths. Emphasis is placed on employability skills and attitudes relating to career goals. Upon completion, students should be able to identify job opportunities, job requirements, and career paths in the foodservice industry. This course is restricted to the Foodservice Technology program and is approvable for offering only at designated Department of Correction facilities.

FST 101 Introduction to Baking 1-4-3

This course introduces fundamental concepts, skills, and techniques in quantity baking. Topics include yeast and quick breads, cookies, cakes, and other baked goods. Upon completion, students should be able to prepare and evaluate baked products. This course is restricted to the Foodservice Technology program and is approvable for offering only at designated Department of Correction facilities.

FST 102 Basic Foodservice Skills 4-8-8

This course introduces the concepts, skills, and techniques for volume food production in an institutional setting. Emphasis is placed on development of skills in knife, tool, and equipment handling and applying principles of food preparation to produce varieties of food products. Upon completion, students should be able to demonstrate entry-level skills in a quantity foodservice operations. This course is restricted to the Foodservice Technology program

and is approvable for offering only at designated Department of Correction facilities.

FST 103 Safety and Sanitation 2-2-3

This course provides practical experience with basic principles of safety and sanitation in the foodservice industry. Emphasis is placed on personal hygiene habits, safety regulations, and food handling practices (H.A.C.C.P.) that protect the health of the consumer. Upon completion, students should be able to demonstrate appropriate safety and sanitation practices required in the foodservice industry. This course is restricted to the Foodservice Technology program and is approvable for offering only at designated Department of Correction facilities.

FST 105 Menu Planning 4-2-5

This course introduces the principles and functions of menu management for general and special populations. Emphasis is placed on building menus with regard to nutritional considerations and dietary needs. Upon completion, students should be able to develop and prepare menus to be used in a variety of dining settings. This course is restricted to the Foodservice Technology program and is approvable for offering only at designated Department of Correction facilities.

FST 106 Advanced Foodservice Skills 2-6-5

This course is designed to increase the student's level of proficiency in theory and application of foodservice skills in commercial kitchens. Emphasis is placed on the preparation and presentation of hot and cold foods. Upon completion, students should be able to plan, execute, and successfully serve entrees with complementary side items. This course is restricted to the Foodservice Technology program and is approvable for offering only at designated Department of Correction facilities.

FST 107 Advanced Baking 1-4-3

This course provides advanced skills and techniques for preparing baked goods. Emphasis is placed on specialty breads, classical deserts, pastries, and decorative finishing. Upon completion, students should be able to produce and plate a variety of quality-baked items. This course is restricted to the Foodservice Technology program and is approvable for offering only at designated Department of Correction facilities.

FST 108 Cost Control 2-2-3

This course covers the control of primary costs in foodservice establishments. Topics include purchasing, receiving, storing, issuing, production, revenue, and inventory control with emphasis on food service software. Upon completion, students should be able to apply the necessary knowledge and skills required to manage primary costs for a foodservice establishment. This course is restricted to the Foodservice Technology program and is approvable for offering only at designated Department of Correction facilities.

GEOLOGY

GEL 111 Introductory Geology **C-L-SHC** **3-2-4**

This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon completion, students should be able to describe basic geological processes that shape the earth. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

GEL 113 Historical Geology **3-2-4**

Prerequisite: Take one: GEL 111 or GEL 120

This course covers the geological history of the earth and its life forms. Emphasis is placed on the study of rock strata, fossil groups, and geological time. Upon completion, students should be able to identify major fossil groups and associated rock strata and approximate ages of geological formations. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

GEL 230 Environmental Geology **3-2-4**

Prerequisite: Take one: GEL 111, GEL 120, or PHS 130

This course provides insights into geologic forces that cause environmental changes influencing man's activities. Emphasis is placed on natural hazards and disasters caused by geologic forces. Upon completion, students should be able to relate major hazards and disasters to the geologic forces responsible for their occurrence. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

GEOGRAPHY

GEO 111 World Regional Geography **C-L-SHC** **3-0-3**

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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

HEALTHCARE BUSINESS INFORMATICS

HBI 110 Issues and Trends in HBI **3-0-3**

This course is a survey of current and emerging technology applications and data standards in the healthcare industry. Topics include the history, implementation, use, management, and impact of information technology in

healthcare settings. Upon completion, students should have an understanding of the current trends and issues in healthcare informatics.

HBI 113 Survey of Med Insurance **3-0-3**

This course is a survey of the healthcare insurance system. Emphasis is placed on the foundation necessary for understanding the healthcare delivery system, terminology and practices of healthcare insurance, and provider reimbursement. Upon completion, students should have an understanding of healthcare insurance and how outcomes are addressed through healthcare informatics.

HBI 250 Data Mgmt and Utilization **2-2-3**

This course covers the management and usage of data in healthcare settings according to current practices in healthcare informatics. Topics include data warehousing, data integrity, data security, data mining, and report generating in healthcare settings. Upon completion, students should be able to demonstrate an understanding of using healthcare data to support reporting and decision making in healthcare settings.

HEALTH

HEA 110 Personal Health/Wellness **C-L-SHC** **3-0-3**

This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective requirement.

HISTORY

HIS 111 World Civilizations I **C-L-SHC** **3-0-3**

This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco-Roman civilizations and Christian, Islamic, and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

HIS 112 World Civilizations II **3-0-3**

This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations. This course has been approved

for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

HIS 115 Introduction to Global History 3-0-3

Prerequisite: None

Corequisite: None

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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

HIS 122 Western Civilization II 3-0-3

This course introduces western civilization from the early modern era to the present. Topics include the religious wars, the Industrial Revolution, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern western civilization. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

HIS 132 American History II 3-0-3

This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major American wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

HIS 151 Hispanic Civilization 3-0-3

This course surveys the cultural history of Spain and its

impact on the New World. Topics include Spanish and Latin American culture, literature, religion, and the arts. Upon completion, students should be able to analyze the cultural history of Spain and Latin America. This course has been approved to satisfy the Comprehensive Articulation premajor and/or elective requirement.

HIS 222 African-American History I 3-0-3

This course covers African-American history through the Civil War period. Topics include African origins, the nature of slavery, African-American participation in the American Revolution, abolitionism, and the emergence of a distinct African-American culture. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early African-American history. This course has been approved for transfer under the CAA and ICAA a premajor and/or elective course requirement.

HIS 223 African-American History II 3-0-3

Prerequisite: None

Corequisite: None

This course covers African-American history from the Civil War to the present. Topics include Reconstruction, the Jim Crow era, urbanization, the Harlem Renaissance, the Civil Rights movement, and the philosophies of major African-American leaders. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in African-American history since the Civil War. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

HIS 226 The Civil War 3-0-3

Prerequisite: None

Corequisite: None

This course examines the social, political, economic, and ideological forces that led to the Civil War and Reconstruction. Topics include regional conflicts and sectionalism, dissolution of the Union, military campaigns, and the War's socioeconomic impact, aftermath, and consequences. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the United States during the era of the Civil War. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

HIS 236 North Carolina History 3-0-3

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

and/or elective course requirement.

HORTICULTURE

HOR 130 Greenhouse Design **C-L-SHC** **3-0-3**

This course covers greenhouse facilities planning and equipment selection. Topics include types of greenhouses, location factors, materials, glazing selection, calculation of heating/cooling requirements, lighting, benches, and energy conservation. Upon completion, students should be able to demonstrate knowledge of material selection, facilities planning, equipment need selection, and appropriate calculations.

HOR 168 Plant Propagation **2-2-3**

This course is a study of sexual and asexual reproduction of plants. Emphasis is placed on seed propagation, grafting, stem and root propagation, micro-propagation, and other propagation techniques. Upon completion, students should be able to successfully propagate ornamental plants.

HUMAN SERVICES

HSE 110 Introduction to Human Services **C-L-SHC** **2-2-3**

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.

HSE 112 Group Process I **1-2-2**

Prerequisite: Enrollment in the HSE program

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

HSE 123 Interviewing Techniques **2-2-3**

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.

HSE 125 Counseling **2-2-3**

Prerequisite: PSY 150

This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of

self-exploration, problem solving, decision-making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques.

HSE 210 Human Services Issues **2-0-2**

Prerequisite: Successful completion of 12 SHC in the HSE program

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.

HSE 225 Crisis Intervention **3-0-3**

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.

HUMANITIES

HUM 110 Technology and Society **C-L-SHC** **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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

HUM 115 Critical Thinking **3-0-3**

Prerequisites: Take one set: 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

HUM 120 Cultural Studies **3-0-3**

This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

HUM 122 Southern Culture 3-0-3

This course explores the major qualities that make the South a distinct region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

HUM 150 American Women's Studies 3-0-3

This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

HUM 160 Introduction to Film 2-2-3

This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

HUM 180 Internaional Cultural Exploration 2-3-3

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

HUM 220 Human Values and Meaning 3-0-3

Prerequisite: ENG 111

This course presents some major dimensions of human experience as reflected in art, music, literature, philosophy, and history. Topics include the search for identity, the quest for knowledge, the need for love, the individual and society, and the meaning of life. Upon completion, students should be able to recognize interdisciplinary connections and distinguish between open and closed questions and between narrative and scientific models of understanding. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

HYDRAULICS**C-L-SHC****HYD 110 Hydraulics/Pneumatics I 2-3-3**

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

HYD 121 Hydraulics/Pneumatics II 1-3-2

Prerequisite: HYD 110

This course is a continuation of HYD 110 and provides further investigation into fluid power systems. Topics include advanced system components, troubleshooting, and other related topics. Upon completion, students should be able to demonstrate an understanding of the installation, application, operation, and maintenance of fluid power components and systems.

INTERNATIONAL BUSINESS**C-L-SHC****INT 110 International Business 3-0-3**

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

INDUSTRIAL SCIENCE**C-L-SHC****ISC 110 Workplace Safety 1-0-1**

This course introduces the basic concepts of workplace safety. Topics include fire, ladders, lifting, lock-out/tag-out, personal protective devices, and other workplace safety issues related to OSHA compliance. Upon completion, students should be able to demonstrate an understanding of the components of a safe workplace.

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.

ISC 121 Environmental Health and Safety 3-0-3

This course covers workplace environmental, health, and safety concepts. Emphasis is placed on managing the implementation and enforcement of environmental health

and safety regulations and on preventing accidents, injuries, and illnesses. Upon completion, students should be able to demonstrate an understanding of basic concepts of environmental, health, and safety.

ISC 131 Quality Management 3-0-3

This course provides a study and analysis of the aspects and implications of quality management that lead to customer satisfaction through continuous quality improvement. Topics include Total Quality Management, ISO 9000, organizing for quality, supplier/vendor relationships, and the role of leadership in quality management. Upon completion, students should be able to demonstrate an understanding of quality management concepts and techniques.

ISC 175 QA Fundamentals 1-0-1

This course is designed to increase fundamental knowledge in the philosophies, principles, and practice of quality in the work environment. Topics include the history and basics of quality, philosophies of quality, daily application of principles, and roles of quality professions with emphasis on cGMP environment. Upon completion, students should be able to discuss quality fundamentals, components of quality systems, and identify standards and programs of quality.

ISC 210 Oper & Prod Planning 3-0-3

This course includes the fundamentals of operations and production planning, forecasting, and scheduling. Topics include demand management, production planning and control, scheduling, and budgeting. Upon completion, students should be able to demonstrate an understanding of the concepts and techniques involved in operations and production planning.

ISC 215 Job Analysis and Evaluation 3-0-3

This course includes techniques necessary to gather facts about specific operations and responsibilities of the job, identify methods improvement, and facilitate performance evaluation. Emphasis is placed on what the job entails including mental abilities, job skills, and physical requirements, as well as job improvement and performance evaluation methods. Upon completion, students should be able to demonstrate an understanding of job analysis and evaluation methods.

ISC 221 Statistical Qual Control 3-0-3

This course covers the principles and techniques of statistical process control for the improvement of productivity. Emphasis is placed on basic statistics for quality control, organization and procedures for efficient quality control including inspections, process control, and tests of significance. Upon completion, students should be able to apply statistical principles and techniques to enhance production.

ISC 278 cGMP Quality Systems 2-0-2

This course focuses on the development, implementation, and on-going maintenance of a quality system in a cGMP environment. Topics include the cGMP standard, components of cGMP quality systems, quality function roles and training, and development of documentation such as SOPs and system review procedures. Upon completion, the student should be able to identify the components of a quality system and develop a quality system manual utilizing the cGMP standard.

ISC 279 Auditing for cGMP 2-2-3

This course provides basic knowledge in internal audit planning, implementation, and reporting utilizing cGMP as the standard. Topics include auditing basics and types, phases of the audit process, regulatory requirements, auditing tools, auditor qualifications and skills, and behaviors while being audited. Upon completion, students should be able to identify the components of an audit program, develop a plan based on cGMP standards, and demonstrate reporting techniques.

ISC 280 Validation Fundamentals 1-2-2

This course covers the fundamental concepts and components of a validation program in a cGMP environment. Emphasis is placed on FDA requirements concerning validation, types of validation, documentation, procedures, and the QA role. Upon completion, students should be able to discuss the purpose of validation, identify the steps in the validation process, and effectively utilize sample documentation.

LASERS AND OPTICS

C-L-SHC

LEO 111 Lasers and Applications 1-3-2

Corequisite: MAT 122

This course covers the basic principles of laser operations and applications with a particular emphasis on laser safety. Topics include the properties of laser light, laser components, laser beam characteristics, and laser safety. Upon completion, students should be able to make measurements of laser beam characteristics and conduct a safety audit and hazards analysis of a laser facility.

LEO 211 Photonics Technology 5-6-7

Prerequisites: LEO 111, ELN 132, and ELN 133

This course covers optical theory, optical equipment, optical components, and laser systems. Topics include generation and control of light using optical components such as lasers, lenses, mirrors, diffraction gratings, filters, and polarizers. Upon completion, students should be able to construct, analyze, verify, and troubleshoot optical systems using appropriate techniques and equipment.

LEO 212 Photonics Applications 3-3-4

Corequisite: LEO 111

This course provides knowledge and skills related to

emerging photonics applications in North Carolina industry. Topics include applications such as materials processing, bar code scanning, surgical applications, optical data storage, and optical computers. Upon completion, students should be able to describe and analyze the critical issues attendant to a variety of photonics applications.

LEO 221 PC Interface 3-3-4

Prerequisite: ELN 133

This course covers the interaction of hardware and software in PC-based control systems. Topics include programming, I/O circuits, A/D and D/A converters, communications, and other related applications. Upon completion, students should be able to construct, program, verify, analyze, and troubleshoot both hardware and software for a basic PC-interface.

LEO 222 Photonics Applications Project 1-3-2

Prerequisites: ELN 132 and LEO 211

This course provides a structured approach to an applications-oriented photonics project. Emphasis is placed on selecting, planning, implementing, testing, and presenting the project. Upon completion, students should be able to present and demonstrate their photonics project.

LEO 223 Fiber Optics 3-3-4

Prerequisites: ELN 132 and ELN 133

This course covers the principles of fiber optics, particularly as a communications transmission medium. Topics include digital communications systems, optical fibers, cables, splices, connectors, optical transmitters and receivers, installation techniques, component testing, and system testing. Upon completion, students should be able to splice and connectorize a fiber, make measurements of fiber optic systems, and test and troubleshoot fiber optic components and systems.

LEGAL EDUCATION

C-L-SHC

LEX 110 Intro to Paralegal Study 2-0-2

This course introduces the paralegal profession and the legal system, and an emphasis is placed on the role of professional and legal ethics. Topics include regulations, ethics, case analysis, legal reasoning, career opportunities, professional organizations, terminology, and other related topics. Upon completion, the student should be able to explain the role of a paralegal and identify the skills, knowledge, and ethics required of paralegals.

LEX 120 Legal Research/Writing I 2-2-3

This course introduces the techniques of legal research and writing. Emphasis is placed on locating, analyzing, applying, and updating sources of law; effective legal writing, including proper citation; and the use of electronic research methods. Upon completion, students should be able to perform legal research and writing assignments using techniques covered in the course.

LEX 121 Legal Research/Writing II 2-2-3

Prerequisite: LEX 120

This course covers advanced topics in legal research and writing. Topics include more complex legal issues and assignments involving preparation of legal memos, briefs, and other documents and the advanced use of electronic research methods. Upon completion, students should be able to perform legal research and writing assignments using techniques covered in the course.

LEX 130 Civil Injuries 3-0-3

This course covers traditional tort concepts and the evolving body of individual rights created by statute. Topics include intentional and non-intentional torts with emphasis on negligence, strict liability, civil rights, workplace and environmental liability, remedies, and damages. Upon completion, students should be able to recognize, explain, and evaluate elements of civil injuries and related defenses.

LEX 140 Civil Litigation I 3-0-3

This course introduces the structure of the legal system and the rules governing civil litigation. Topics include jurisdiction, state and federal rules of civil procedure, and evidence. Upon completion, students should be able to assist an attorney in the preparation of pleadings and motions.

LEX 141 Civil Litigation II 2-2-3

Prerequisite: LEX 140

This course covers advanced topics in the civil litigation process. Topics include motions, discovery, and trial and appellate procedures. Upon completion, students should be able to assist an attorney in preparing and organizing documents for trial, settlement, and post-trial practice.

LEX 150 Commercial Law I 2-2-3

This course covers legally enforceable agreements, forms of organization, and selected portions of the Uniform Commercial Code. Topics include drafting and enforcement of contracts, leases, and related documents and selection and implementation of business organization forms, sales, and commercial papers. Upon completion, students should be able to apply the elements of a contract, prepare various business documents, and understand the role of commercial paper.

LEX 160 Criminal Law & Procedure 2-2-3

This course introduces substantive criminal law and procedural rights of the accused. Topics include elements of state/federal crimes, defenses, constitutional issues, pre-trial and trial process, and other related topics. Upon completion, students should be able to explain elements of specific crimes and assist an attorney in preparing a criminal case.

LEX 170 Administrative Law 2-0-2

This course covers the scope, authority, and regulatory operations of various federal, state, and local administrative agencies. Topics include social security, worker's

compensation, unemployment, zoning, and other related topics. Upon completion, students should be able to research sources of administrative law, investigate, and assist in representation of clients before administrative agencies.

LEX 180 Case Analysis & Reasoning 1-2-2

Corequisite: LEX 120

This course covers the techniques of reading and applying legal opinions and the skills of case analysis. Emphasis is placed on the components of opinions and on types of legal writing. Upon completion, students should be able to read, analyze, and brief opinions and prepare legal memoranda, briefs, and other legal documents.

LEX 210 Real Property I 3-0-3

This course introduces the study of real property law. Topics include the distinction between real and personal property, various estates, mechanics of conveyance and encumbrance, recordation, special proceedings, and other related topics. Upon completion, students should be able to identify estates, forms of deeds, requirements for recording, and procedures to enforce rights to real property.

LEX 211 Real Property II 1-4-3

Prerequisite: LEX 210

This course continues the study of real property law relating to title examination and preparation of closing documents. Topics include use of courthouse and other public records in title examination and preparation of documents required in real estate transactions and closings. Upon completion, students should be able to plot/draft a description, perform complete title examination, and draft closing documents, including title insurance forms and prepare disbursement reconciliation.

LEX 220 Corporate Law 2-0-2

This course covers the legal aspects of forming, operating, and maintaining a business. Emphasis is placed on the business corporation with additional coverage of sole proprietorships and partnerships. Upon completion, students should be able to draft basic partnership and corporate documents and file these documents as required.

LEX 240 Family Law 3-0-3

This course covers laws governing domestic relations. Topics include marriage, separation, divorce, child custody, support, property division, adoption, domestic violence, and other related topics. Upon completion, students should be able to interview clients, gather information, and draft documents related to family law.

LEX 250 Wills, Estates, & Trusts 2-2-3

This course covers various types of wills, trusts, probate, estate administration, and intestacy. Topics include types of wills and execution requirements, caveats and dissents, intestate succession, inventories and accountings, distribution and settlement, and other related topics. Upon completion, students should be able to draft simple wills,

prepare estate forms, understand administration of estates, including taxation and explain terms regarding trusts.

LEX 260 Bankruptcy & Collections 3-0-3

This course provides an overview of the laws of bankruptcy and the rights of creditors and debtors. Topics include bankruptcy procedures and estate management, attachment, claim and delivery, repossession, foreclosure, collection, garnishment, and post-judgment collection procedure. Upon completion, students should be able to prepare and file bankruptcy forms, collection letters, statutory liens, and collection of judgments.

LEX 271 Law Office Writing 1-2-2

This course covers the basics of writing for the law office including the drafting of general correspondence, the briefing of cases, and the preparation of settlement brochures. Emphasis is placed on legal vocabulary in the context of letter writing, briefing judicial opinions, and the preparation of the settlement brochure. Upon completion, students should be able to draft letters to clients, opposing counsel, government entities, and insurance companies and prepare the settlement brochure.

LEX 280 Ethics & Professionalism 2-0-2

This course reinforces legal ethics and the role of the paralegal in a professional work environment. Topics include a review of ethics, employment opportunities, and search techniques; paralegal certification; and other related topics. Upon completion, students should be able to understand the paralegal's role in the ethical practice of law.

LIBRARY AND INFORMATION TECHNOLOGY

C-L-SHC

LIB 110 Introduction to Libraries 3-0-3

This course includes the history and future of libraries, a survey of library types, and an overview of library organization, services, and community relationships. Emphasis is placed on societal roles of the library, literary and intellectual freedom, comparisons and contrasts of library types, and the roles of professional organizations. Upon completion, students should be able to discuss literacy and intellectual freedom, describe library organization, and compare types of libraries, their materials, and services.

LIB 111 Lib. Info. Resources/Svcs 2-2-3

This course provides introductory skills for selecting and using general and specialized information resources in print and electronic formats and related copyright issues. Emphasis is placed on selection tools, print and electronic censorship, core collection materials in various disciplines, compiling bibliographies, and interpreting and referring reference questions. Upon completion, students should be able to use numerous resources to answer directional and factual questions and to decide when to refer difficult reference questions.

LIB 112 Library Coll. Dev./Acq. 2-2-3

This course covers library collection development and acquisitions policies and procedures. Emphasis is placed on evaluating mission statements, needs assessment studies, purchasing materials using selection criteria and tools, and related collection development and acquisitions activities. Upon completion, students should be able to evaluate mission statements, conduct needs assessments using selected criteria, and complete related collection development and acquisitions activities.

LIB 113 Lib. Cataloging & Classification 2-2-3

This course covers standards and procedures for copy cataloging and types of classification systems. Emphasis is placed on selecting bibliographic records, maintaining and using authority records, and the importance of the catalog to the library mission. Upon completion, students should be able to select the appropriate MARC record, search OCLC, and demonstrate an understanding of authority files.

LIB 114 Lib. Public Serv. Oper. 2-2-3

This course covers effective library orientations, effective patron service, automated circulation systems, statistics and reports, reserves, and security. Emphasis is placed on public relations, problem solving, communication skills, circulation systems and policies, interlibrary loan procedures, shelving, and display options. Upon completion, students should be able to deal with diverse patrons, conduct library orientations, compile reports from statistical data, initiate interlibrary loans, and prepare displays.

LIB 210 Electronic Lib. Databases 2-2-3

Prerequisite: LIB 111 and WEB 110

This course covers developing search strategies for using electronic resources in the humanities, social and behavioral sciences, physical and life sciences, and health-related fields. Emphasis is placed on the reference interview, teaching Boolean logic and other search strategies, retrieving and evaluating information, and citing it in APA/MLA style. Upon completion, students should be able to describe methods of information retrieval, use search strategies to teach basic research using databases, and cite resources appropriately.

LIB 211 Library Program Develop 3-0-3

This course covers the purpose of library programs and various methods used for program design, promotion, delivery, and evaluation. Topics include serving library communities through appropriate program activities such as storytelling, puppet shows, book clubs, lectures, reading aloud, workshops, special collections, and outreach. Upon completion, students should be able to prepare, promote, deliver, and evaluate appropriate library programs.

LIB 212 Lib. Services/Spec. Needs 3-0-3

This course covers basic information for serving library users with special needs. Emphasis is placed on ADA

guidelines, the location and use of appropriate resources, and accessibility options. Upon completion, students should be able to access appropriate information about ADA guidelines, locate and use appropriate resources, and be aware of accessibility options.

LIB 213 Cataloging Nonprint Mat. 2-2-3

Prerequisite: LIB 113

This course continues the study and application of information cataloging practices. Emphasis is placed on cataloging information resources, updating bibliographic materials in databases, an overview of Dublin Core, and non-print materials cataloging practices. Upon completion, students should be able to catalog nonprint and electronic resources.

LIB 214 Lib. Services/Children 3-0-3

This course covers the location, evaluation, acquisition, and presentation of children's materials in libraries. Emphasis is placed on locating, evaluating, acquiring, and presenting children's literature, video and audio materials, and web sites through programs, displays, talks, and instruction. Upon completion, students should be able to locate, evaluate, acquire, and present a wide range of children's materials to library users.

MACHINING**C-L-SHC****MAC 111 Machining Technology I 2-12-6**

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

MAC 112 Machining Technology II 2-12-6

Local Prerequisite: 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.

MAC 113 Machining Technology III 2-12-6

Local Prerequisite: 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.

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.

MAC 122 CNC Turning 1-3-2

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

MAC 124 CNC Milling 1-3-2

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

MAC 151 Machining Calculations 1-2-2

This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.

MAC 153 Compound Angles 1-2-2

This course introduces the application of basic types and uses of compound angles. Emphasis is placed on problem solving by tilting and rotating adjacent angles to resolve an unknown compound angle. Upon completion, students should be able to set up and develop compound angles on parts using problem solving techniques.

MAC 224 Advanced CNC Milling 1-3-2

Prerequisite: 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.

MAC 226 CNC EDM Machining 1-3-2

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

MAC 241 Jigs and Fixtures I 2-6-4

Local Prerequisite: MAC 112

This course introduces the application and use of jigs and

fixtures. Emphasis is placed on design and manufacture of simple jigs and fixtures. Upon completion, students should be able to design and build simple jigs and fixtures.

MAC 243 Die Making I 2-6-4

Local Prerequisite: MAC 112

This course introduces the principles and applications of die making. Topics include types, construction, and application of dies. Upon completion, students should be able to design and build simple dies.

MAC 244 Die Making II 1-9-4

Local Prerequisite: MAC 243

This course provides continued study in the application and use of dies. Emphasis is placed on the design and manufacturing of complex dies. Upon completion, students should be able to design and build complex dies.

MAC 245 Mold Construction I 2-6-4

Local Prerequisite: MAC 112

This course introduces the principles of mold making. Topics include types, construction, and application of molds. Upon completion, students should be able to design and build simple molds.

MAC 246 Mold Construction II 1-9-4

Local Prerequisite: MAC 245

This course provides continued study in the application and use of molds. Emphasis is placed on design and manufacturing of complex molds. Upon completion, students should be able to design and build complex molds.

MASONRY

C-L-SHC

MAS 110 Masonry I 5-15-10

This course introduces the basic principles of construction with masonry units. Topics include history of the masonry field, safety practices, blueprint reading, and principles of laying masonry units to the line using tools, equipment, and materials. Upon completion, students should be able to demonstrate knowledge of safety practices, blueprint reading, and basic tool use; identify materials; operate machinery; and lay masonry units.

MAS 120 Masonry II 5-15-10

This course provides practical experience in cost estimating, foundations, bonding variations, expansion joints, wall ties, building codes, and other related topics. Emphasis is placed on material estimation, layout of footing, construction of walls, reinforcements, scaffolding, insulating, and building codes. Upon completion, students should be able to determine cost, plan sound building procedures, construct masonry projects, and apply building codes.

MAS 130 Masonry III 6-6-8

This course provides fundamentals and skills used in masonry construction. Emphasis is placed on building chimneys, fireplaces, columns, concrete masonry, and

arches; using materials economically; satisfying needs and expectations; and proper work ethics. Upon completion, students should be able to build structures covered in the course, demonstrate increased speed and accuracy, and make smooth transitions between construction stages.

MAS 140 Introduction to Masonry 1-2-2

This course introduces basic principles and practices of masonry. Topics include standard tools, materials, and practices used in basic masonry and other related topics. Upon completion, students should be able to demonstrate an understanding of masonry and be able to use basic masonry techniques.

MATHEMATICS

C-L-SHC

MAT 050 Basic Math Skills 3-2-4

This course is designed to strengthen basic math skills. Topics include properties, rounding, estimating, comparing, converting, and computing whole numbers, fractions, and decimals. Upon completion, students should be able to perform basic computations and solve relevant mathematical problems.

MAT 060 Essential Mathematics 3-2-4

Prerequisite: MAT 050 or appropriate placement test scores
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.

MAT 070 Introductory Algebra 3-2-4

Prerequisite: MAT 060 or appropriate placement test scores
Corequisites: RED 080 or ENG 085 or appropriate placement test scores

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.

MAT 080 Intermediate Algebra 3-2-4

Prerequisite: MAT 070 or appropriate placement test scores
Corequisites: RED 080 or ENG 085 or appropriate placement test scores

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.

MAT 101 Applied Mathematics I 2-2-3

Prerequisite: Take one: MAT 060, MAT 070, MAT 080, MAT 090, MAT 095, or appropriate placement test scores

This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve practical problems in their specific areas of study. This course is intended for certificate and diploma programs.

MAT 110 Mathematical Measurement 2-2-3

Prerequisite: Take one set: MAT 060 and MAT 070, MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175 or appropriate placement test scores

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.

MAT 115 Mathematical Models 2-2-3

Prerequisite: Take one set: MAT 060 and MAT 070, MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175, or appropriate placement test scores

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 and their groups, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently.

MAT 120 Geometry and Trigonometry 2-2-3

Prerequisites: Take one set: MAT 060 and MAT 070, MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 121, MAT 161, MAT 171, MAT 175, or appropriate placement test scores

This course introduces the concepts of plane trigonometry and geometry with emphasis on applications to problem solving. Topics include the basic definitions and properties of plane and solid geometry, area and volume, right triangle trigonometry, and oblique triangles. Upon completion, students should be able to solve applied problems both independently and collaboratively using technology.

MAT 121 Algebra/Trigonometry I 2-2-3

Prerequisite: Take one set: MAT 060 and MAT 070, MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175, or appropriate placement test scores.

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.

MAT 122 Algebra/Trigonometry II 2-2-3

Prerequisite: Take one: MAT 121, MAT 161, MAT 171, or MAT 175

This course extends the concepts covered in MAT 121 to include additional topics in algebra, function analysis, and trigonometry. Topics include exponential and logarithmic functions, translation and scaling of functions, Sine Law, Cosine Law, vectors and statistics. Upon completion, students should be able to demonstrate an understanding of the use of technology to solve problems and to analyze and communicate results.

MAT 140 Survey of Mathematics 3-0-3

Prerequisite: Take one set: MAT 060 and MAT 070, MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175, or appropriate placement test scores.

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. Under the CAA and ICAA, this course satisfies the general education Mathematics requirement for the AA and AFA degrees. It does not satisfy the general education Mathematics requirement for the AS degree.

MAT 151 Statistics I 3-0-3

Prerequisite: Take one set: MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175, or appropriate placement test scores.

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 for transfer under the CAA and ICAA as a general education course in Mathematics (Quantitative).

MAT 161 College Algebra 3-0-3

Prerequisite: Take one set: MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, or appropriate placement test scores.

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. Under the CAA and ICAA, this course satisfies the general education Mathematics requirement for the AA and AFA degrees. It does not satisfy the general education Mathematics requirement for the AS degree.

MAT 162 College Trigonometry 3-0-3

Prerequisite: Take one set: MAT 060 and MAT 080, MAT 060 and MAT 090, or appropriate placement test scores.

This course provides an integrated technological approach to trigonometric applications used in problem solving. Emphasis is placed on applications involving trigonometric ratios, right triangles, oblique triangles, trigonometric functions, graphing, vectors, and complex numbers. Upon completion, students should be able to apply the above principles of trigonometry to problem solving and communication. Under the CAA and ICAA, this course satisfies the general education Mathematics requirement for the AA and AFA degrees. It does not satisfy the general education Mathematics requirement for the AS degree.

MAT 171 Precalculus Algebra 3-0-3

Prerequisite: Take one set: MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 161, or appropriate placement test scores.

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 for transfer under the CAA and ICAA as a general education course in Mathematics.

MAT 172 Precalculus Trigonometry 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a general education

course in Mathematics.

MAT 175 Precalculus 4-0-4

Prerequisite: MAT 161

This course provides an intense study of the topics which are fundamental to the study of calculus. Emphasis is placed on functions and their graphs with special attention to polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic trigonometry. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics.

MAT 210 Logic 3-0-3

Prerequisite: Take one: MAT 161, MAT 171, or MAT 175

This course introduces the concept of deductive logic with emphasis on the use of formal logic in analysis. Topics include traditional logic, propositional logic, and determination of validity including truth tables, Venn diagrams, and translational exercises. Upon completion, students should be able to analyze data based on formal logic or ordinary language discourse. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics.

MAT 263 Brief Calculus 3-0-3

Prerequisite: MAT 161, MAT 171, or MAT 175

This course is designed for students needing one semester of calculus. Topics include functions, graphing, differentiation, and integration with emphasis on applications drawn from business, economics, and biological and behavioral sciences. Upon completion, students should be able to demonstrate an understanding of the use of basic calculus and technology to solve problems and to analyze and communicate results. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics.

MAT 271 Calculus I 3-2-4

Prerequisite: Take one: 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 for transfer under the CAA and ICAA as a general education course in Mathematics.

MAT 272 Calculus II 3-2-4

Prerequisite: 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 for transfer under the CAA and ICAA as a general education course in Mathematics.

MAT 273 Calculus III 3-2-4

Prerequisite: 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 for transfer under the CAA and ICAA as a general education course in Mathematics.

MAT 280 Linear Algebra 3-0-3

Prerequisite: MAT 271

This course provides a study of linear algebra topics with emphasis on the development of both abstract concepts and applications. Topics include vectors, systems of equations, matrices, determinants, vector spaces, linear transformations in two or three dimensions, eigenvectors, eigenvalues, diagonalization, and orthogonality. Upon completion, students should be able to demonstrate both an understanding of theoretical concepts and appropriate use of linear algebra models to solve application problems. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

MAT 285 Differential Equations 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

MOTORCYCLE MECHANICS

C-L-SHC

MCM 101 Introduction to Motorcycle Mechanics 3-8-7

This course covers the proper nomenclature of parts and components of motorcycles, ATVs, and personal watercraft. Topics include theory of operation, differences of operation, preventive maintenance, and operating principles involved in servicing and repairing motorcycles, ATVs, and personal watercraft. Upon completion, students should be able to perform basic inspection, diagnosis, repair, and/or adjustment of motorcycles, ATVs, and personal watercraft.

MCM 102 Motorcycle Engines 2-9-5

This course covers the construction and operation of components in internal combustion engines used in modern motorcycles. Topics include two- and four-cycle engines, power trains, and final drive systems. Upon completion, students should be able to disassemble, inspect, measure, reassemble, and operationally test two- and four-cycle motorcycle engines.

MCM 103 Motorcycle Electrical Systems 2-8-6

This course introduces starting, ignition, charging, and electrical accessory systems and their components and how they function in modern motorcycles. Topics include wiring diagrams, batteries, AC generators, rectifiers, voltage regulators, and diodes as well as points-coil, capacitor discharge, and electronic ignition systems. Upon completion, students should be able to diagnose and repair various starting, ignition, charging, and electrical accessory systems.

MCM 104 Motorcycle Fuel Systems 2-6-5

This course introduces various types of fuels and fuel systems used in motorcycle internal combustion engines. Emphasis is placed on the theory and principles of carburetion and fuel injection. Upon completion, students should be able to service, disassemble, inspect, reassemble, and adjust to manufacturers' specifications the components of various fuel systems.

MCM 105 Motorcycle Chassis 1-6-3

This course covers chassis adjustments, components, and types and uses of frames and suspensions. Emphasis is placed on proper and safe use of tools and equipment in servicing and maintaining motorcycle chassis. Upon completion, students should be able to service and repair motorcycle chassis systems and suspension components.

MCM 106 Troubleshooting 2-6-4

This course covers shop procedures for fast and accurate diagnosis of problems in the electrical, mechanical, and fuel systems of motorcycles. Emphasis is placed on developing a logical sequence of diagnostic procedures. Upon completion, students should be able to diagnose problems in the electrical, mechanical, and fuel systems of motorcycles.

MECHANICAL

C-L-SHC

MEC 110 Introduction to CAD/CAM 1-2-2

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

MEC 111 Machine Processes I 1-4-3

This course introduces 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 manufacture simple parts to specified tolerance.

MEC 130 Mechanisms 2-2-3

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

MEC 141 Introduction to Manufacturing Processes 2-2-3

This course covers the properties and characteristics of manufacturing materials and the processes used to form them. Emphasis is placed on manufacturing materials, heat-treating processes, and manufacturing processes. Upon completion, students should be able to identify physical characteristics of materials and describe processes used to manufacture a part.

MEC 161 Manufacturing Processes I 3-0-3

This course provides the fundamental principles of value-added processing of materials into usable forms for the customer. Topics include material properties and traditional and non-traditional manufacturing processes. Upon completion, students should be able to specify appropriate manufacturing processing for common engineering materials.

MEC 161A Manufacturing Proc I Lab 0-3-1

This course is a laboratory for MEC 161. Emphasis is placed on experiences that enhance the materials presented in MEC 161. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in MEC 161.

MEC 231 Computer-Aided Manufacturing I 1-4-3

Prerequisite: MEC 110

This course introduces computer-aided design/manufacturing (CAD/CAM) applications and concepts. Topics include software, programming, data transfer and verification, and equipment setup. Upon completion, students should be able to produce parts using CAD/CAM applications.

MEC 232 Computer-Aided Manufacturing II 1-4-3

Prerequisite: MEC 231

This course provides an in-depth study of CAM applications and concepts. Emphasis is placed on the manufacturing of complex parts using computer-aided manufacturing software. Upon completion, students should be able to manufacture complex parts using CAM software.

MEC 250 Statics and Strength of Mat 4-3-5

Local Prerequisite: MAT 122, PHY 131

This course covers the concepts and principles of statics and stress analysis. Topics include systems of forces on

structures in equilibrium and analysis of stresses and strains on these components. Upon completion, students should be able to analyze forces and the results of stresses and strains on structural components.

MEDICAL ASSISTING

C-L-CI-SHC

MED 110 Orientation to Medical Assisting 1-0-0-1

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

MED 116 Introduction to Anatomy and Physiology 3-2-0-4

Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, or appropriate placement test scores.

This course introduces basic anatomy and physiology. Emphasis is placed on the relationship between body structure and function and the procedures common to health care. Upon completion, students should be able to identify body system components and functions relating this knowledge to the delivery of health care.

MED 118 Medical Law and Ethics 2-0-0-2

Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, or appropriate placement test scores.

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

MED 121 Medical Terminology I 3-0-0-3

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

MED 122 Medical Terminology II 3-0-0-3

Prerequisite: 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.

MED 130 Administrative Office Procedures I 1-2-0-2

Prerequisites: Enrollment in the Medical Assisting program or

permission of instructor; MAT 060

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

MED 131 Administrative Office Procedures II 1-2-0-2

Prerequisite: 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.

MED 140 Exam Room Procedures I 3-4-0-5

Prerequisites: Enrollment in the Medical Assisting program; CIS 111, MAT 110, MED 110, MED 116, MED 118, MED 121, MED 130

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

MED 150 Laboratory Procedures I 3-4-0-5

Prerequisites: Enrollment in the Medical Assisting program; CIS 111, MAT 110, MED 110, MED 116, MED 118, MED 121, MED 130

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

MED 230 Administrative Office Procedures III 1-2-0-2

Prerequisites: MED 131, MED 134, MED 260 or CMA certification, BIO 163, ENG 111, PSY 110, and CIS 111

This course provides advanced medical office administrative procedures. Emphasis is placed on management skills including personnel supervision, practice management, public relations, and insurance coding. Upon completion, students should be able to exhibit advanced managerial medical assisting skills.

MED 232 Medical Insurance Coding 1-3-0-2

Prerequisites: MED 122 and MED 131

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

MED 240 Exam Room Procedures II 3-4-0-5

Prerequisite: MED 140

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

MED 260 Clinical Externship 0-0-15-5

Prerequisites: Enrollment in the Medical Assisting program;

Adult, Infant, and Child CPR Certification for Health Care

Providers; CIS 111, MAT 110, MED 110, MED 116, MED 118, MED 122, MED 130, ENG 110 or ENG 111, MED 140, MED 150, and PSY 110

Corequisite: MED 240

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. The student will not receive any monetary compensation for this externship.

MED 264 Medical Assisting Overview 2-0-0-2

Prerequisite: MED 134, MED 260 or CMA certification, BIO 163, ENG 111, PSY 110, and CIS 111

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

MED 270 Symptomatology 2-2-0-3

Prerequisites: MED 260 or CMA certification, BIO 163, ENG 111, PSY 110, and CIS 111, or special permission of instructor

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

MED 272 Drug Therapy 3-0-0-3

Prerequisite: MED 260 or CMA certification, BIO 163, ENG 111, PSY 110, and CIS 111, or special permission of instructor

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.

MED 274 Diet Therapy/Nutrition 3-0-0-3

Prerequisites: MED 134, MED 260 or CMA certification, BIO 163, ENG 111, PSY 110, and CIS 111, or special permission of instructor

This course introduces the basic principles of nutrition as they relate to health and disease. Topics include basic nutrients, physiology, dietary deficiencies, weight management, and therapeutic nutrition in wellness and disease. Upon completion, students should be able to interpret clinical and dietary data and provide patient counseling and education.

MED 276 Patient Education 1-2-0-2

Prerequisites: MED 134, MED 260 or CMA certification, BIO 163, ENG 111, PSY 110, and CIS 111, or special permission of instructor

This course is designed to provide communication skills, basic education principles, and knowledge of available community resources and to apply this knowledge to the clinical setting. Emphasis is placed on identifying appropriate community resources, developing patient education materials, and perfecting written and oral communication skills. Upon completion, students should be able to instruct, communicate effectively, and act as a liaison between the patient and community agencies.

MARKETING

C-L-SHC

MKT 120 Principles of Marketing 3-0-3

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

MKT 123 Fundamentals of Selling 3-0-3

This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.

MKT 223 Customer Service 3-0-3

This course stresses the importance of customer relations in the business world. Emphasis is placed on learning how to respond to complex customer requirements and to efficiently handle stressful situations. Upon completion, students should be able to demonstrate the ability to handle customer relations.

MAINTENANCE

C-L-SHC

MNT 110 Introduction to Maintenance Procedures 1-3-2

This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance

procedures and practices according to current industry standards.

MNT 111 Maintenance Practices 2-2-3

This course provides in-depth theory and practical applications relating to predictive and preventive maintenance programs. Emphasis is placed on equipment failure analysis, maintenance management software, and techniques such as vibration and infrared analysis. Upon completion, students should be able to demonstrate an understanding of modern analytical and documentation methods.

MNT 230 Pumps and Piping Systems 1-3-2

This course covers pump installation and maintenance and related valves and piping systems. Topics include various types of pump systems and their associated valves, piping requirements, and other related topics. Upon completion, students should be able to select and install pump and piping systems and demonstrate proper maintenance and troubleshooting procedures.

MNT 240 Industrial Equipment Troubleshoot 1-3-2

Local Prerequisite: ELC 112 or ELC 131

This course covers the various service procedures, tools, instruments, and equipment necessary to analyze and repair typical industrial equipment. Emphasis is placed on electro-mechanical and fluid power equipment troubleshooting, calibration, and repair, including common techniques and procedures. Upon completion, students should be able to troubleshoot and repair industrial equipment.

MNT 270 Bioprocess Equipment Maintenance 1-3-2

Prerequisite: MNT 110

This course covers the equipment used in a bioprocess manufacturing facility and the techniques used to maintain and troubleshoot it. Topics include types of equipment, the role of equipment in the bioprocess manufacturing facility, troubleshooting bioprocess equipment, and the role of a bioprocess maintenance technician. Upon completion, students should be able to maintain and troubleshoot bioprocess equipment in a biotechnology manufacturing facility using work techniques appropriate for the biotechnology industry.

MNT 280 Bioprocess Operating System 1-3-2

Prerequisite: ELC 128

This course covers the specific SCADA (Supervisory Control and Data Acquisition) software used to operate bioprocess equipment in a modern biotechnology manufacturing facility. Topics include the operation, configuration, applications, and problem solving of standard bioprocess control software. Upon completion, students should be able to safely utilize bioprocess control software when required in the maintenance and operation of bioprocess equipment.

MUSIC

C-L-SHC

MUS 110 Music Appreciation 3-0-3

This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

MUS 112 Introduction to Jazz 3-0-3

This course introduces the origins and musical components of jazz and the contributions of its major artists. Emphasis is placed on the development of discriminating listening habits, as well as the investigation of the styles and structural forms of the jazz idiom. Upon completion, students should be able to demonstrate skills in listening and understanding this form of American music. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

NETWORKING TECHNOLOGY

C-L-SHC

NET 110 Networking Concepts 2-2-3

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.

NET 111 Internetwork Arch and Design 2-2-3

Prerequisite: CIS 282 or NET 110

This course introduces the physical and logical design of local-area networks, wide-area networks, and networking devices used in the design implementation and integration. Topics include LAN segmentation, VLANs, IP addressing, router, switch, and server placement with an emphasis on design. Upon completion, students should be able to understand fundamental LAN and WAN design and the physical and logical aspects needed to achieve the design goal.

NET 113 Home Automaton Systems 2-2-3

This course covers the design, installation, testing, troubleshooting, and customer service of a fully automated home. Emphasis is placed on a structured wiring system that integrates the home phone, TV, home theater, audio, video, computer network, lighting, security systems, and automation systems into a pre-wired, remote controlled system. Upon completion, students should be able to design, install, and maintain home automation systems.

NET 115 Telecommunication Fundamentals 1-2-2

This course covers the fundamentals of the electronic

transfer of information for those who have not received credit for NET 110. Topics include terminal emulation software usage, file transfer methods, PC-based fax/modem/voice-mail operations, accessing and navigating the Internet, and bulletin boards. Upon completion, students should be able to access and use online services and the Internet, send and receive email, and perform other basic telecommunication operations.

NET 116 Fundamentals of Voice/Data Cable 2-2-3

Prerequisite: CIS 110 or CIS 111 or CTS 125

This introductory course to Voice and Data Cabling focuses on cabling issues related to data and voice connections. Topics include skills in design documentation, determining cabling equipment, pulling, mounting and managing cable, selecting wiring closets, terminating cable, installing jacks, and testing cable. Upon completion, students should be able to understand of the industry, media and cabling, physical and logical networks, and signal transmission.

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.

NET 126 Routing Basics 1-4-3

Prerequisite: 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.

NET 175 Wireless Technology 2-2-3

Prerequisite: 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.

NET 225 Routing and Switching I 1-4-3

Prerequisite: 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 prerequisite courses.

Upon completion, students should be able to perform tasks related to VLSM, routing protocols, switching concepts and configuration, STP, VLANs, and VTP.

NET 226 Routing and Switching II 1-4-3

Prerequisite: 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.

NET 230 Wide Area Networking 2-2-3

Prerequisite: 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.

NET 240 Network Design 3-0-3

Prerequisite: 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.

NET 289 Networking Project 1-4-3

Corequisite: 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.

NETWORKING OPERATING SYSTEM

C-L-SHC

NOS 110 Operating System Concepts 2-3-3

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.

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.

NOS 120 Linux/UNIX Single User 2-2-3

Prerequisite: NOS 110 or CET 211

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

NOS 130 Windows Single User 2-2-3

Prerequisite: NOS 110 or CET 211

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

NOS 220 Linux/UNIX Administration I 2-2-3

Prerequisite: 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.

NOS 230 Windows Administration I 2-2-3

Prerequisite: 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.

NOS 231 Windows Administration II 2-2-3

Prerequisite: 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.

NOS 240 Novell Administration I 2-2-3

Prerequisite: NOS 110

This course will introduce students to the Novell 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.

NURSING**C-L-CI-SHC****NUR 101 Practical Nursing I 7-6-6-11**

Prerequisite: Admission to the Practical Nursing program

Corequisites: BIO 165 and PSY 110

This course introduces concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, legal/ethical/professional issues, wellness/illness patterns, and basic nursing skills. Upon completion, students should be able to demonstrate beginning understanding of nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. Theoretical concepts are augmented by laboratory and clinical experiences. This is a diploma-level course.

NUR 102 Practical Nursing II 8-0-12-12**NUR 102A Practical Nursing II (6)-(0)-(6)-(8)****NUR 102B Practical Nursing II (2)-(0)-(6)-(4)**

Prerequisites: BIO 165, PSY 110, and NUR 101

Corequisites: BIO 166

This course includes more advanced concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, delegation, cost effectiveness, legal/ethical/professional issues, and wellness/illness patterns. Upon completion, students should be able to begin participating in the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. Theoretical concepts are augmented by clinical experiences focusing on adult clients with alterations in functional health patterns. This is a diploma-level course.

NUR 103 Practical Nursing III 6-0-12-10

Prerequisites: BIO 166 and NUR 102

This course focuses on use of nursing/related concepts by practical nurses as providers of care/members of discipline in collaboration with health team members. Emphasis is placed on the nursing process, wellness/illness patterns, entry-level issues, accountability, advocacy, professional development, evolving technology, and changing health care delivery systems. Upon completion, students should be able to use the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. Theoretical concepts are augmented by clinical experiences focusing on the child-bearing and child-rearing family. This is a diploma-level course.

NUR 105 LPN Refresher 8-6-6-12

Prerequisite: Admission to the LPN Refresher Certificate program

This refresher course is designed to provide a review for the previously licensed practical nurse whose license has lapsed. Emphasis is placed on common medical-surgical conditions and nursing interventions, including mental health principles, pharmacological concepts, and safe clinical practice. Upon completion, students will be eligible to apply for reinstatement of licensure.

NUR 110 Nursing I 5-3-6-8

Prerequisite: Admission to the Associate Degree program

Corequisites: BIO 165, PSY 150, ENG 111, ENG 111A, and ACA 115

This course introduces concepts basic to beginning nursing practice. Emphasis is placed on introducing the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to demonstrate beginning competence in caring for individuals with common alterations in health.

NUR 111 Introduction to Health Concepts 4-6-6-8

Prerequisites: Admission to the Associate Degree program

Corequisites: BIO 165, PSY 150, ENG 111, ENG 111A, and ACA 115

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

NUR 112 Health-Illness Concepts 3-0-6-5

Prerequisites: NUR 111, NUR 113, BIO 165, PSY 150, ENG 111, ENG 111A, and ACA 115

Corequisites: BIO 166 and PSY 241

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

NUR 113 Family Health Concepts 3-0-6-5

Prerequisites: NUR 111, BIO 165, PSY 150, ENG 111, ENG 111A, and ACA 115

Corequisites: BIO 166, PSY 241, and NUR 112

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

provide safe nursing care incorporating the concepts identified in this course.

NUR 114 Holistic Health Concepts 3-0-6-5

Prerequisites: NUR 111, NUR 112, NUR 113, NUR 211, BIO 165, PSY 150, E

Corequisites: ENG Elective, SOC 210 and NUR 212

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

NUR 120 Nursing II 5-3-6-8

Prerequisites: NUR 110, BIO 165, PSY 150, ENG 111, and ENG 111A

Corequisites: BIO 166 and PSY 241

This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on developing the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to participate in the delivery of nursing care for individuals with common alterations in health. Theoretical concepts and clinical experiences focus on use of the nursing process to deliver nursing care to mothers, infants, children, and families.

NUR 130 Nursing III 4-3-6-7

Prerequisites: Admission to the Associate Degree program, NUR 120, BIO 166, and PSY 241

Corequisites: CIS 111

This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on expanding the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to deliver nursing care to individuals with common alterations in health. Theoretical concepts and clinical experiences focus on use of nursing process.

NUR 210 Nursing IV 5-3-12-10

Prerequisites: NUR 130, CIS 111, BIO 166, PSY 241, ENG 111, and ENG 111A

Corequisites: ENG 112, SOC 210, ENG 112/ENG 113/or ENG 114

This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on using collaboration as a provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to modify nursing care for individuals with common alterations in health. Theoretical concepts and clinical experiences in NUR 210 focus on the use of nursing process in acute care, rehabilitation, and home health care settings.

NUR 220 Nursing V 4-3-15-10

Prerequisites: NUR 210, SOC 210, and ENG 112 or ENG 113 or ENG 114

Corequisites: Humanities/Fine Arts Elective

This course provides an expanded knowledge base for delivering nursing care to individuals of various ages. Emphasis is placed on the nurse's role as an independent provider and manager of care for a group of individuals and member of a multidisciplinary team. Upon completion, students should be able to provide comprehensive nursing care to a group of individuals with common complex health alterations. Theoretical concepts and clinical experiences in NUR 220 focus on use of the nursing process and application of psychosocial, leadership, and management skills in caring for individuals/groups.

NUR 211 Health Care Concepts 3-0-6-5

Prerequisites: NUR 111, NUR 112, NUR 113, BIO 165, PSY 150, ENG 111, ENG 111A, ACA 115, BIO 166, and PSY 241

Corequisites: CIS 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.

NUR 212 Health System Concepts 3-0-6-5

Prerequisites: NUR 111, NUR 112, NUR 113, NUR 114, NUR 211, BIO 165, PSY 150, ENG 111, ENG 111A, ACA 115, BIO 166, PSY 241, and CIS 111

Corequisites: ENG Elective and SOC 210

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

NUR 213 Complex Health Concepts 4-3-15-10

Prerequisites: NUR 111, NUR 112, NUR 113, NUR 114, NUR 211, NUR 212, BIO 165, PSY 150, ENG 111, ENG 111A, ACA 115, BIO 166, PSY 241, and CIS 111

Corequisites: Humanities/Fine Arts Elective

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.

OPERATIONS MANAGEMENT**C-L-SHC****OMT 112 Materials Management 3-0-3**

This course covers the basic principles of materials management. Emphasis is placed on the planning, procurement, movement, and storage of materials. Upon completion, students should be able to demonstrate an understanding of the concepts and techniques related to materials management. This course is a unique concentration requirement of the Operations Management concentration in the Business Administration program.

OMT 160 Ethical Issues in Op Mgmt 3-0-3

This course focuses on a wide variety of ethical issues in operations management. Emphasis is placed on distinguishing between legal and illegal actions as well as ethical and nonethical actions. Upon completion, students should be able to demonstrate critical thinking skills to evaluate ethical situations.

OMT 181 Industry Reporting Skills 3-0-3

This course is designed to develop skills in technical writing and oral presentations with emphasis on business reports and professional presentations. Topics include documenting procedures, writing work instructions, information security, preparing business reports, and developing and presenting proposals. Upon completion, students should be able to communicate effectively in a manufacturing or industry setting.

OMT 218 Dev Team Performance 3-0-3

This course provides a foundation for enhancing team effectiveness and performance. Topics include clarification of team responsibilities, techniques for keeping the team on course, being a team player, and playing a vital role in team decisions. Upon completion, students should be able to understand the advantage of teamwork in a workplace environment and understand their role in being an effective team member.

OMT 260 Issues in Operations Mgt. 3-0-3

Prerequisites: ISC 121, ISC 210, OMT 112, and ISC 130, ISC 131, ISC 132, or ISC 221

This course presents a variety of topics that highlight contemporary problems and issues related to operations management. Emphasis is placed on production and operations planning, environmental health and safety, materials management, and quality systems. Upon completion, students should be able to demonstrate the ability to make decisions and resolve problems in an operations management environment. This course is a unique concentration requirement of the Operations Management concentration in the Business Administration program.

OFFICE ADMINISTRATION

C-L-SHC

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.

OST 132 Keyboard Skill Building 1-2-2

Local Prerequisite: OST 131

This course is designed to increase speed and improve accuracy in keyboarding. Emphasis is placed on diagnostic tests to identify accuracy and speed deficiencies followed by corrective drills. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed.

OST 134 Text Entry & Formatting 2-2-3

Local Prerequisite: OST 131

This course is designed to provide the skills needed to increase speed, improve accuracy, and format documents. Topics include letters, memos, tables, and business reports. Upon completion, students should be able to produce documents and key timed writings at speeds commensurate with employability.

OST 135 Adv Text Entry & Format 3-2-4

Prerequisite: OST 134

This course is designed to incorporate computer application skills in the generation of office documents. Emphasis is placed on advanced document production. Upon completion, students should be able to make independent decisions regarding planning, style, and method of presentation.

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.

OST 137 Office Software Applications 2-2-3

Local Prerequisite: OST 131

This course introduces the concepts and functions of software that meets the changing needs of the community. Emphasis is placed on the terminology and use of software through a hands-on approach. Upon completion, students should be able to use software in a business environment.

OST 138 Advanced Software Appl 2-2-3

Prerequisite: OST 137 or CIS 111 or CIS 110

This course is designed to improve the proficiency in the utilization of software applications used in business offices through a hands-on approach. Emphasis is placed on in-depth usage of software to create a variety of documents applicable to current business environments. Upon

completion, students should be able to master the skills required to design documents that can be customized using the latest software applications.

OST 141 Med Terms I-Med 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.

OST 142 Medical Terms II-Med Office 3-0-3

Prerequisite: OST 141

This course is a continuation of OST 141 and continues the study, using a language-structure approach, of medical office terminology and vocabulary. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in the remaining 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.

OST 148 Med Coding Billing & Insurance 3-0-3

Local Prerequisite/Corequisite: OST 141

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.

OST 149 Med Legal Issues 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.

OST 164 Text Editing Applications 3-0-3

This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.

OST 181 Into 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.

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.

OST 233 Office Publications Design 2-2-3

Prerequisite: 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.

OST 236 Adv Word/Information Proc 2-2-3

Prerequisite: 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.

OST 241 Med Ofc Transcription I 1-2-2

Prerequisite: MED 121 or OST 141

This course introduces machine transcription techniques as applied to medical documents. Emphasis is placed on accurate transcription, proofreading, and use of reference materials as well as vocabulary building. Upon completion, students should be able to prepare accurate and usable transcripts of voice recordings in the covered specialties.

OST 242 Med Ofc Transcription II 1-2-2

Prerequisite: OST 241

This course continues building machine transcription techniques as applied to medical documents. Emphasis is placed on accurate transcription and text editing, efficient use of reference materials, increasing transcription speed and accuracy, and improving understanding of medical terminology. Upon completion, students should be able to display competency in accurately transcribing medical documents.

OST 243 Med Office Simulation 2-2-3

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.

OST 248 Diagnostic Coding 1-2-2

Prerequisite: MED 121 or OST 141

This course provides an in-depth study of diagnostic coding. Emphasis is placed on ICD coding system. Upon

completion, students should be able to properly code diagnoses in a medical facility.

OST 281 Emerg Issues in the Med Ofc 3-0-3

This course provides a comprehensive discussion of topics familiar to the health care setting. Topics include emerging issues in the health care setting. Upon completion, students should be able to demonstrate an understanding of current medical office procedures and treatments.

OST 285 Adv Emerg Issues in Medical Ofc 3-0-3

Prerequisites: OST 281

This course provides an advanced comprehensive discussion of topics familiar to the health care setting. Topics include advanced emerging issues in the health care setting such as homeostasis, pharmacology, laboratory and pathology tests, and new surgical procedures. Upon completion, students should be able to demonstrate an understanding of advanced medical procedures and treatments.

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.

OST 289 Administrative Office Mgt. 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.

PROFESSIONAL CRAFTS: CLAY**C-L-SHC****PCC 110 Introduction to Pottery 3-15-8**

This course introduces pottery making for potters, including clay preparation, wheel throwing and trimming, surface decoration, and glazing and firing techniques. Topics include clay bodies, the mixing process, potter's wheel basics, glazing, kiln loading and firing, and safety issues. Upon completion, students should be able to prepare clay; center and throw basic forms; trim, mix, and apply basic glazes; and load and fire bisque kilns.

PCC 111 Functional Pottery I 3-15-8

This course covers the important elements of designing and producing utilitarian pottery, including wall thickness, balance and proportion, surface decoration, and glazing and firing techniques. Topics include bowls, mugs, plates, casseroles, stemware, and bottles, with emphasis on safe glazing and supervised firing. Upon completion, students

should be able to produce a variety of functional pots, apply a glaze, and load and assist firing a kiln.

PCC 112 History of Pottery 1-0-1

This course examines the historical development of ceramics and the contributions made by specific cultures or countries. Topics include potters from early societies, including the Mediterranean countries, China, Cyprus, and Crete with emphasis on design, technique, and firing methods. Upon completion, students should be able to identify numerous historical pottery types, discuss the societies which produced them, and demonstrate knowledge of their production methods.

PCC 113 Contemporary Pottery 1-0-1

This course surveys numerous 19th- and 20th-century potters and artists who have contributed to the contemporary ceramics movement. Topics include artists such as Leach, Cardew, and Hamada and the important design and technical contributions these potters have made to the ceramics movement. Upon completion, students should be able to identify numerous contemporary potters and their work.

PCC 116 Pottery Tool Making 1-3-2

This course covers design concepts and construction techniques for building simple personal studio equipment, including wedging tables, extruders, and kiln furniture. Emphasis is placed on skills and safe use of hand tools, design fundamentals, selection of needed materials, and construction methods. Upon completion, students should be able to identify appropriate projects, select materials and tools, obtain materials, and construct several small and one major project.

PCC 118 Clay: Special Study 0-4-2

This course provides a format in which to explore personal interests in clay with instructor supervision. Emphasis is placed on student proposals and student-instructor-developed contractual agreements specifying goals, deadlines, and evaluation criteria. Upon completion, students should be able to complete clay works as specified in student-instructor-designed contractual agreements.

PCC 119 Clay Design: Spec Study 0-4-2

This course provides a format in which to explore personal interests in clay design with instructor supervision. Emphasis is placed on student proposals and student-instructor-developed contractual agreements specifying goals, deadlines, and evaluation criteria. Upon completion, students should be able to complete clay design projects as specified in student-instructor-designed contractual agreements.

PCC 121 Hand Building I 2-3-3

This course introduces students to the basic hand building processes of creating three-dimensional functional and sculptural vessels in clay. Emphasis is placed on using design elements and principles for the purpose of forming

and decorating ceramic vessels. Upon completion students should be able to demonstrate skills in pinch, coil, and slab methods as well as function and creative expression

PCC 122 Hand Building II 0-6-2

Prerequisite: PCC 121

This course is designed to build upon experience gained with basic hand building techniques for the purpose of creating original sculpture or functional ceramics. Emphasis is placed on personal instruction geared toward skill development in the areas of constructing and solving structural problems. Upon completion, students should be able to demonstrate the ability to form clay into complex sculptures or functional vessels.

PCC 125 Clay Casting 1-3-2

Prerequisites: PCC 110

This course introduces the different ways of shaping ceramic items, leading to the use of plaster molds and process of "slipcasting." Topics include model and mold-making, block and case mastermold, gypsum, resins, clay selection, mineral additives, flocculation, thixotrophy, deflocculation, rheology, specific gravity, and casting rates. Upon completion, students should be able to cast in molds; remove, de-seam, and clean greenware; maintain molds; and layout studios.

PCC 132 Glaze Formulation 1-3-2

This course provides an in-depth study of glazes used on pottery. Emphasis is placed on performing glaze tests, analyzing glazes, mixing a variety of glazes, and correcting glaze faults. Upon completion, students should be able to demonstrate an understanding of glaze chemical qualities and formulate new glazes.

PCC 241 Kiln Design/Construction 1-3-2

This course covers basic concepts of kiln design and construction. Topics include construction materials, heat sources, kiln furniture, and site selection. Upon completion, students should be able to design and construct a kiln prototype.

PROFESSIONAL CRAFTS: DESIGN

PCD 110 Introduction to Craft Design 1-3-2 C-L-SHC

This course introduces the basic principles, elements, vocabulary, and process of two-dimensional design within the context of professionally produced crafts. Emphasis is placed on general design concepts and vocabulary, conceptual thinking, design process application, and observational skills. Upon completion, students should be able to demonstrate enhanced observational skills and a working knowledge of design vocabulary, concepts, and processes.

PCD 111 Advanced Craft Design 1-3-2

Prerequisite: PCD 110

This course explores the conceptual process of design as

applied to the three-dimensional form. Emphasis is placed on solving three-dimensional design problems which are material, function, site, or client specific. Upon completion, students should be able to apply an enhanced understanding of the relationship between design concept, process, and product in three-dimensional form.

PCD 211 Prof Craft Design 1-3-2

Prerequisite: PCD 110

This course covers the development of customer- or site-influenced design and the development and design of craft marketing promotional materials. Topics include customer-guided, site-specific, and other design influences and development and design of logos, hang tags, web sites, brochures, and related promotional materials. Upon completion, students should be able to design within site, customer, or other limitations, and complete a design package for their personal marketing needs.

PROCESS CONTROL INSTRUMENTATION

C-L-SHC

PCI 170 DAQ and Control 3-3-4

Local Prerequisite: ELN 132

This course is a survey of data acquisition and control applications in an industrial setting. Topics include remote I/O systems, PC-based data acquisition, real-time monitoring, and other related topics. Upon completion, students should be able to demonstrate an understanding of data acquisition circuits.

PROFESSIONAL CRAFTS: SCULPTURE

C-L-SHC

PCS 112 Beginning Welding for Artists 1-4-3

This course is an introduction to the proper equipment and tools of the metal shop and welding methods for the artist. Topics include welding, cutting, forging, fabricating and finishing, and studio safety. Upon completion, students will be able to demonstrate efficient and safe use of metal shop tools and equipment.

PCS 110 Introduction to Metal Sculpture 2-9-5

Prerequisite: PCS 112

This course introduces the process and design of metal sculpture for the craftsman. Topics include design of metal sculpture, their layout, construction, finishing, and studio safety. Upon completion, students should be able to demonstrate the ability to design and construct metal sculptures.

PCS 114 Advanced Metal Sculpture 2-9-5

Prerequisite: PCS 110

This course is designed to introduce advanced techniques of metal sculpture. Topics include forging, fabricating, and casting, with emphasis placed on the design and construction of artistic sculpture. Upon completion, students

will demonstrate advanced skills in the techniques of welding, forging, and casting metal sculpture.

PCS 210 Introduction to Clay Sculpture 1-9-4

Prerequisite: PCC 110

This course introduces the techniques of sculpture, including figures, animals, and portraits, and the tools and equipment needed. Topics include the artistic concepts of form, rhythm, flow, movement, color, and its relation to light. Upon completion, students should be able to form well-designed sculptures demonstrating the artistic concepts as applied to decorative ceramics.

PHYSICAL EDUCATION

C-L-SHC

PED 110 Fit and Well for Life 1-2-2

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 113 Aerobics I 0-3-1

This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 114 Aerobics II 0-3-1

This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 115 Step Aerobics I 0-3-1

This course introduces the fundamentals of step aerobics. Emphasis is placed on basic stepping up and down on an adjustable platform; cardiovascular fitness; and upper body, floor, and abdominal exercises. Upon completion, students should be able to participate in basic step aerobics. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 116 Step Aerobics II 0-3-1

Prerequisite: PED 115

This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises. Upon completion students should be able to participate in and design a step aerobics routine. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement..

PED 117 Weight Training I 0-3-1

This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight training program. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 118 Weight Training II 0-3-1

Prerequisite: PED 117

This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and interests. Upon completion, students should be able to establish and implement an individualized advanced weight training program. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 121 Walk, Jog, Run 0-3-1

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 128 Golf-Beginning 0-2-1

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 130 Tennis-Beginning 0-2-1

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 149 Flag Football 0-2-1

This course introduces the fundamentals and rules of flag football. Emphasis is placed on proper techniques and strategies for playing in game situations. Upon completion, students should be able to participate in recreational flag football. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 152 Swimming-Beginning 0-2-1

This course is designed for non-swimmers and beginners. Emphasis is placed on developing confidence in the water, learning water safety, acquiring skills in floating, and learning elementary strokes. Upon completion, students should be able to demonstrate safety skills and be able to tread water, back float, and use the crawl stroke for 20 yards. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 155 Water Aerobics 0-3-1

This course introduces rhythmic aerobic activities performed in water. Emphasis is placed on increasing cardiovascular fitness levels, muscular strength, muscular endurance, and flexibility. Upon completion, students

should be able to participate in an individually-paced exercise program. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 160 Canoeing-Basic 0-2-1

Prerequisite: PED 152

This course provides basic instruction for the beginning canoeist. Emphasis is placed on safe and correct handling of the canoe and rescue skills. Upon completion, students should be able to demonstrate basic canoeing, safe-handling, and self-rescue skills. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PED 254 Coaching Basketball 1-2-2

This course introduces the theory and methods of coaching basketball. Emphasis is placed on rules, game strategies, and selected techniques of coaching basketball. Upon completion, students should be able to demonstrate competent coaching skills in basketball. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

PHILOSOPHY

C-L-SHC

PHI 210 History of Philosophy 3-0-3

Prerequisite: ENG 111

This course introduces fundamental philosophical issues through an historical perspective. Emphasis is placed on such figures as Plato, Aristotle, Lao-Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

PHI 215 Philosophical Issues 3-0-3

Prerequisite: ENG 111

This course introduces fundamental issues in philosophy considering the views of classical and contemporary philosophers. Emphasis is placed on knowledge and belief, appearance and reality, determinism and free will, faith and reason, and justice and inequality. Upon completion, students should be able to identify, analyze, and critique the philosophical components of an issue. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

PHI 230 Introduction to Logic 3-0-3

Prerequisite: ENG 111

This course introduces basic concepts and techniques for distinguishing between good and bad reasoning. Emphasis is placed on deduction, induction, validity, soundness, syllogisms, truth functions, predicate logic, analogical inference, common fallacies, and scientific methods. Upon completion, students should be able to analyze arguments, distinguish between deductive and inductive arguments, test validity, and appraise inductive reasoning. This course has

been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

PHI 240 Introduction to Ethics 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

PHYSICS

C-L-SHC

PHY 110 Conceptual Physics 3-0-3

Corequisite: PHY 110A

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

PHY 110A Conceptual Physics Laboratory 0-2-1

Corequisite: PHY 110

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

PHY 121 Applied Physics I 3-2-4

Prerequisite: MAT 060 or appropriate placement test scores.

This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Topics include systems of units, problem solving methods, graphical analyses, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.

PHY 131 Physics-Mechanics 3-2-4

Prerequisite: Take one: MAT 121, MAT 161, MAT 171, or MAT 175

This algebra/trigonometry-based course introduces fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem solving methods, graphical analysis, vectors, motion, forces,

Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 133 Physics-Sound and Light 3-2-4

Prerequisite: PHY 131

This algebra/trigonometry-based course is a study of fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem solving methods, graphical analysis, wave motion, sound, light, and modern physics. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 151 College Physics I 3-2-4

Prerequisite: Take one: MAT 161, MAT 171, or MAT 175

This course uses algebra/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 for transfer under the CAA and ICAA as a general education course in Natural Science.

PHY 152 College Physics II 3-2-4

Prerequisite: PHY 151

This course uses algebra/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 for transfer under the CAA and ICAA as a general education course in Natural Science.

PHY 251 General Physics I 3-3-4

Prerequisite: MAT 271

Corequisite: 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 for transfer under the CAA and ICAA as a general education course in Natural Science.

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 for transfer under the CAA and ICAA as a general education course in Natural Science.

POWER MECHANICS

C-L-SHC

PME 101 Small Engine Repair I 1-15-6

This course covers the rebuilding of small, air-cooled, single-cylinder engines under fifteen cubic inch displacement. Emphasis is placed on complete engine rebuilding, including all internal engine components, following safe shop procedures. Upon completion, students should be able to safely disassemble, repair, and reassemble small engines according to industry standards. This is a diploma-level course.

PME 103 Small Engine Carburetion 1-9-4

This course is an in-depth study of carburetion principles, design, and application. Emphasis is placed on developing a working knowledge of the carburetor systems used on small engines. Upon completion, students should be able to safely disassemble, rebuild, install, and test carburetors and fuel systems. This is a diploma-level course.

PME 106 Small Engine Transmissions 2-6-4

This course covers the knowledge and skills needed to repair small engine transmissions, transaxles, and right-angle drive systems. Topics include schematics, gears, shafts, bearings, shifter forks, axles, lubrication, and safety procedures. Upon completion, students should be able to safely service, repair, or rebuild manual transmission, transaxles, and right-angle drive systems to industry standards. This is a diploma-level course.

POLITICAL SCIENCE

C-L-SHC

POL 120 American Government 3-0-3

This course is a study of the origins, development, structure, and functions of American national government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

POL 130 State and Local Government 3-0-3

This course includes state and local political institutions and practices in the context of American federalism. Emphasis

is placed on procedural and policy differences as well as political issues in state, regional, and local governments of North Carolina. Upon completion, students should be able to identify and discuss various problems associated with intergovernmental politics and their effect on the community and the individual. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

POL 210 Comparative Government 3-0-3

This course provides a cross-national perspective on the government and politics of contemporary nations such as Great Britain, France, Germany, and Russia. Topics include each country's historical uniqueness, key institutions, attitudes and ideologies, patterns of interaction, and current political problems. Upon completion, students should be able to identify and compare various nations' governmental structures, processes, ideologies, and capacity to resolve major problems. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

POL 220 International Relations 3-0-3

This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, 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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

PSYCHOLOGY

C-L-SHC

PSY 101 Applied Psychology 3-0-3

This course introduces the basic principles of psychology as they apply to daily life. Topics include perception, emotions, motivation, adjustment, behavior management, communication, and related topics that promote growth and development on the job and in one's personal life. Upon completion, students should be able to apply the principles learned in this class to everyday living. This course is intended for certificate and diploma programs.

PSY 102 Human Relations 2-0-2

This course covers the skills necessary to handle human relationships effectively. Topics include self-understanding, interpersonal communication, group dynamics, leadership skills, diversity, time and stress management, and conflict resolution with emphasis on work relationships. Upon completion, students should be able to demonstrate improved personal and interpersonal effectiveness. This course is intended for certificate and diploma programs.

PSY 110 Life Span Development 3-0-3

This course provides an introduction to the study of human growth and development. Emphasis is placed on the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span and apply this knowledge to their specific field of study.

PSY 115 Stress Management 2-0-2

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

PSY 118 Interpersonal Psychology 3-0-3

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

PSY 150 General Psychology 3-0-3

This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

PSY 234 Organizational Psychology 3-0-3

Prerequisite: PSY 150

This course introduces the field of industrial and organizational psychology. Topics include employee motivation, organizational structure, leadership, selection and training, conflict resolution, communication, job satisfaction, and other related influences on performance. Upon completion, students should be able to demonstrate a basic understanding of organizational dynamics and behaviors in the workplace.

PSY 237 Social Psychology 3-0-3

Prerequisite: Take one: 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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

PSY 241 Developmental Psychology 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

PSY 246 Adolescent Psychology 3-0-3

Prerequisite: PSY 150

This course provides an overview of the behavior patterns, life changes, and social issues that accompany the developmental stage of adolescence. Topics include developmental theories; physical, cognitive, and psychosocial growth; transitions to young adulthood; and socio-cultural factors that influence adolescent roles in home, school, and community. Upon completion, students should be able to identify typical and atypical adolescent behavior patterns as well as appropriate strategies for interacting with adolescents. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

PSY 281 Abnormal Psychology 3-0-3

Prerequisite: 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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

PHARMACEUTICAL TECHNOLOGY

PTC 110 Industrial Environment 3-0-3 C-L-SHC

This course introduces the pharmaceutical industry, including a broad overview of work in this field. Emphasis is placed on good manufacturing practices (GMP), work conduct, company organization, job expectations, personal safety, hygiene, and company rules and regulations. Upon completion, students should be able to follow good manufacturing practice regulations and inspect a pharmaceutical manufacturing facility for compliance with GMP.

READING

RED 080 Introduction to College Reading 3-2-4 C-L-SHC

Prerequisite: RED 070 or ENG 075 or appropriate placement test scores

This course introduces effective reading and inferential thinking skills in preparation for RED 090. Emphasis is placed on vocabulary, comprehension, and reading strategies. Upon completion, students should be able to determine main ideas and supporting details, recognize basic patterns of organization, draw conclusions, and understand vocabulary in context. This course does not satisfy the developmental reading prerequisite for ENG 111 or ENG 111A.

RED 090 Improved College Reading 3-2-4

Prerequisite: RED 080 or ENG 085 or appropriate placement test scores

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.

RELIGION

REL 110 World Religions 3-0-3 C-L-SHC

This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

REL 211 Introduction to Old Testament 3-0-3

This course is a survey of the literature of the Hebrews with readings from the law, prophets, and other writings. Emphasis is placed on the use of literary, historical, 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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

SUBSTANCE ABUSE

SAB 110 Substance Abuse Overview C-L-SHC 3-0-3

This course provides an overview of the core concepts in substance abuse and dependence. Topics include the history of drug use/abuse, effects on societal members, treatment of addiction, and preventive measures. Upon completion, students should be able to demonstrate knowledge of the etiology of drug abuse, addiction, prevention, and treatment.

INFORMATION SYSTEMS SECURITY

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.

SEC 160 Security 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.

SEC 210 Intrusion Detection 2-2-3

Prerequisite: 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.

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.

SOCIOLOGY

SOC 210 Introduction to Sociology C-L-SHC 3-0-3

This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

SOC 213 Sociology of the Family 3-0-3

This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse lifestyles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

SOC 220 Social Problems 3-0-3

This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems. This course has been approved for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

SOC 225 Social Diversity 3-0-3

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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

SOC 232 Social Context of Aging 3-0-3

This course provides an overview of the social implications of the aging process. Emphasis is placed on the roles of older adults within families, work and economics, politics, religion, education, and health care. Upon completion, students should be able to identify and analyze changing perceptions, diverse lifestyles, and social and cultural realities of older adults. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

SOC 240 Social Psychology 3-0-3
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 for transfer under the CAA and ICAA as a general education course in Social/Behavioral Sciences.

SPANISH

SPA 110 Introduction to Spanish C-L-SHC 2-0-2
This course provides an introduction to understanding, speaking, reading, and writing Spanish. Emphasis is placed on pronunciation, parts of speech, communicative phrases, culture, and skills for language acquisition. Upon completion, students should be able to identify and apply basic grammar concepts, display cultural awareness, and communicate in simple phrases in Spanish.

SPA 111 Elementary Spanish I 3-0-3
This course introduces the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

SPA 112 Elementary Spanish II 3-0-3
Prerequisite: SPA 111
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 for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

SPA 121 Spanish Language and Culture 3-0-3
This course is designed to provide an understanding of everyday Spanish language and to promote cultural awareness. Emphasis is placed on providing a balanced foundation in listening, speaking, reading, writing, and understanding Hispanic languages and cultures. Upon completion, students should be able to communicate in elementary Spanish, to research and experience various cultural resources, and to function in a multicultural society.

SPA 141 Culture and Civilization 3-0-3
Prerequisite: None
Corequisite: None
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 for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

SPA 151 Hispanic Literature 3-0-3
Prerequisites: ENG 111
Corequisites: None
This course includes selected readings by Hispanic writers. Topics include fictional and non-fictional works by representative authors from a variety of genres and literary periods. Upon completion, students should be able to analyze and discuss selected texts within relevant cultural and historical contexts. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

SPA 161 Cultural Immersion 2-3-3
Prerequisite: SPA 111
This course explores Hispanic culture through intensive study taking place on campus and during a field experience in a host country or area. Topics include an overview of linguistic, historical, geographical, sociopolitical, economic, and/or artistic concerns of the area visited. Upon completion, students should be able to exhibit first-hand knowledge of issues pertinent to the host area and demonstrate understanding of cultural differences. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

SPA 211 Intermediate Spanish I 3-0-3
Prerequisite: SPA 112
This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

SPA 212 Intermediate Spanish II 3-0-3
Prerequisite: SPA 211
This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved for transfer under the CAA and ICAA as a general education course in Humanities/Fine Arts.

SPA 221 Spanish Conversation 3-0-3
Prerequisite: SPA 212

Corequisite: None

This course provides an opportunity for intensive communication in spoken Spanish. Emphasis is placed on vocabulary acquisition and interactive communication through the discussion of media materials and authentic texts. Upon completion, students should be able to discuss selected topics, express ideas and opinions clearly, and engage in formal and informal conversations. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

SPA 231 Reading and Composition 3-0-3

Prerequisite: SPA 212

Corequisite: None

This course provides an opportunity for intensive reading and composition in Spanish. Emphasis is placed on the use of literary and cultural materials to enhance and expand reading and writing skills. Upon completion, students should be able to demonstrate in writing an in-depth understanding of assigned readings. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

SURVEYING

SRV 110 Surveying I 2-6-4

Corequisites: MAT 121, MAT 161, MAT171, or MAT 175

This course introduces the theory and practice of plane surveying. Topics include measuring distances and angles, differential and profile leveling, compass applications, topography, and mapping. Upon completion, students should be able to use/care for surveying instruments, demonstrate field note techniques, and apply the theory and practice of plane surveying.

SRV 112 Landscape Arch Surveying 2-6-4

Prerequisites: MAT 101, MAT110, MAT 115, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175

This course covers surveying techniques commonly used by landscape architects and contractors. Topics include boundary and topographic surveying. Upon completion students should be able to create boundary and topo maps and layout construction projects both on paper and in the field.

SUSTAINABILITY TECHNOLOGIES

SST 110 Intro to Sustainability 3-0-3

This course introduces sustainability issues and individual contributions toward environmental sustainability. Topics include management processes needed to maximize renewable/nonrenewable energy resources, economics of sustainability, and reduction of environmental impacts. Upon completion, students should be able to discuss sustainability practices and demonstrate an understanding of their effectiveness and impacts.

SST 120 Energy Use Analysis 2-2-3

This course introduces the principles of analyzing energy use, energy auditing tools and techniques, conservation techniques, and calculating energy savings. Topics include building system control theory, calibrating digital controls, energy loss calculations, and applicable conservation techniques. Upon completion, students should be able to demonstrate an understanding of energy use, audits, and controls in the analysis of energy consumption.

SST 130 Modeling Renewable Energy 2-2-3

This course introduces software and other technologies used for modeling renewable energy systems. Topics include renewable energy modeling software applications, data analysis, renewable energy sources, and cost of renewable energy systems. Upon completion, students should be able to use appropriate technology to model the effectiveness of renewable energy systems.

SST 140 Green Building Concepts 1-3-2

This course introduces green building design, LEED® (Leadership in Energy and Environmental Design) and comparable certifications, and their significance in modern building construction. Topics include LEED certification or similar rating systems, energy efficiency, indoor environmental quality, and sustainable building materials. Upon completion, students should be able to incorporate ecological awareness and sustainable principles within the context of design and construction.

SST 210 Issues in Sustainability 3-0-3

Prerequisites: SST 110

This course introduces the long-term impacts and difficulties of applying sustainability concepts in an organization, business, or society. Topics include the application of sustainable technologies and the analysis of affordability, efficiencies, recycling, and small and large-scale design. Upon completion, students should be able to recognize the possible limitations of sustainable technologies and be prepared to reconcile such conflicts.

SST 250 Capstone Project 1-6-3

Prerequisites: SST 110

This course introduces an integrated team approach to a sustainability topic of interest to students, faculty, or professional community. Topics include problem identification, proposal preparation, conceptual design, and an effective project work schedule. Upon completion, students should be able to integrate the many facets of a topic based on environmental sustainability into a completed project.

TELEPHONY

TCT 100 Telco Safety Regulations 1-2-2

This course covers Occupational Safety and Health Administration (OSHA) and similar safety regulations and their specific application in the telecommunications

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industry. Emphasis is placed on applying safe working standards, acquiring permits, and working with low and high voltage electricity in confined spaces. Upon completion, students should be able to research and apply appropriate safety regulations applicable to the telecommunications industry.

TCT 101 Vault Management 1-2-2

This course covers locating, inspecting, managing, and maintaining a safe working environment in a telecommunications vault. Emphasis is placed on safety, ingress, egress, potential hazardous atmosphere or material engulfment, tool utilization, installation, removal, and splicing or bonding of communication media. Upon completion, students should be able to safely identify, inspect, enter, perform work in, and exit a telecommunications vault.

TCT 102 Underground Locating 1-2-2

This course covers underground utilities locating to include telephony, community access television (CATV), gas, power, water and sewer. Emphasis is placed on locating and properly marking underground utilities in accordance with state One-Call legislation. Upon completion, students should be able to locate, identify, and protect underground utilities.

TCT 103 Installer Level 1 Cabling 1-2-2

This course covers structured premises cabling for the beginning level installer. Emphasis is placed on Installer Level 1 knowledge of standards and codes for the telecommunications industry and properly structured premises cabling techniques. Upon completion, students should be prepared to take the Building Industry Consulting Service International (BICSI) Installer Level 1 certification examination and install premises cabling systems.

TCT 104 Installer Level 2 Copper 1-2-2

This course introduces the foundation for copper-based structured cabling system installation for intermediate installers. Emphasis is placed on copper transmission principles, installation, termination, testing, retrofitting, pathways and spaces, grounding, bonding and protection, fire stopping, and life safety. Upon completion, students should be prepared to take the Building Industry Consulting Service International (BICSI) ITS Installer 2, Copper examination.

TCT 105 Installer Level 2 Fiber 1-2-2

This course introduces the foundation for fiber-based structured cabling system installation for intermediate installers. Emphasis is placed on fiber transmission principles, installation, termination, testing, retrofitting, pathways and spaces, grounding, bonding and protection, fire stopping, life safety, and field coordination. Upon completion, students should be prepared to take the Building Industry Consulting Service International (BICSI) ITS Installer 2, Optical Fiber examination.

TCT 106 Technician Level Cabling 1-2-2

This course covers structured premises cabling at the technician level. Emphasis is placed on technician level knowledge of standards and codes for the telecommunications industry and properly structured premises cabling techniques. Upon completion, students should be prepared to take the Building Industry Consulting Service International (BICSI) technician level certification examination and install premises cabling systems.

TEL 100 Telecommunications Basic Electricity 3-0-3

This course covers DC and AC theory with specific emphasis on the specialized needs of telecommunications personnel. Emphasis is placed on electron theory, conductors, insulators, Ohm's Law, capacitance, and inductance as it relates to small gauge, twisted-pair copper wire. Upon completion, students should be able to understand trouble symptoms and correct faults on the telephone physical plant network.

TEL 102 Pole Climbing 0-2-1

This course covers basic skills in pole climbing and working aloft. Emphasis is placed on safety, climbing techniques, maintenance of climbing gear, working aloft, and potential hazards. Upon completion, students should be able to safely climb and work aloft.

TEL 104 CATV I and R: Distribution 0-2-1

This course provides training in the fundamentals of the CATV distribution system, including home and business installations. Emphasis is placed on plant construction, subscriber terminal installation, cabling, wiring, separation and clearance, proper grounding procedures, and safety. Upon completion, students should be able to install, test, and correct faults on the CATV distribution system, including home and business installations.

TEL 105 Fiber Optics Splicing 1-2-2

This course covers splicing and maintaining aerial or buried, single mode, loose tube buffered fiber optic cable. Emphasis is placed on hands-on cleaving, fusion and mechanical splicing. Upon completion, students should be able to splice, test, and locate faults using an OTDR and an OLTS to return fibers to service.

TEL 106 Fiber Optics Connectors 1-2-2

This course covers installing and maintaining fiber optic cables, connectors, and patch panels in local area networks. Emphasis is placed on installing and testing connectors including ST, SC, and SFF using anaerobic, crimp and Hotmelt, and then testing using an OLTS. Upon completion, students should be able to install and test connectors and patch cords.

TEL 108 Comdial Key Systems 0-2-1

This course covers programming and maintaining Comdial 616X and 816X Key Systems. Emphasis is placed on programming new systems and moves and changes in working systems. Upon completion, students should be able

to install new systems, complete the initial programming, and perform routine moves and changes.

TEL 109 T-1 Span Line Maintenance 0-2-1

This course provides training in design, construction, turn-up testing, troubleshooting, and maintenance of T-1 span lines. Emphasis is placed on method of transmission, troubleshooting, testing, and repair of T-1 span lines. Upon completion, students should be able to install, test, and repair T-1 span lines.

TEL 201 Station I and R 1-2-2

This course covers the fundamentals of trouble-free telephone installation from aerial and buried cable in homes and businesses. Emphasis is placed on drop-wire attachments, station protection, and wire runs, as well as methods for testing and checking stations for customer satisfaction. Upon completion, students should be able to correctly install, test, and repair telephone stations and wiring up to entry into the cable plant.

TEL 202 Cable Splicing 1-2-2

This course covers the cable color-code, splicing methods, and closures used throughout the telephone industry. Emphasis is placed on cable color-code, engineering drawings, proper splicing methods, and cable closures. Upon completion, students should be able to perform the basic functions of a cable splicer and meet telephone industry standards.

TEL 203 Cable Fault Location 0-2-1

This course covers identifying fault types and using test equipment to locate the faults in aerial and underground cable. Emphasis is placed on identifying fault types and correct uses of various types of test equipment to precisely locate the fault. Upon completion, students should be able to identify fault type, properly use test equipment, and locate the fault within inches.

TEL 204 Transmission Fundamentals 2-0-2

This course covers the basic concepts of point-to-point voice and data transmission in both inside and outside telecommunications plant facilities. Topics include test equipment, impedance matching, line characteristics, loading, impedance compensation, bridge taps, tie trunks, echo, singing point, and via net loss. Upon completion, students should be able to maintain facilities to provide fault-free voice and data transmission within the telecommunications network.

TEL 205 Digital CO Administration 1-2-2

This course covers data modifications in DMS-10 digital central office switches from remote or on-site locations. Emphasis is placed on normal day-to-day data modification procedures to support customer-originated service orders, including any required hardware changes. Upon completion, students should be able to successfully perform any software or hardware modifications involved in normal

daily operations of the DMS-10 digital switch.

TEL 209 ADSL Installation 0-2-1

This course provides the hands-on skills necessary for installing and troubleshooting digital subscriber lines (DSL). Topics include DSL technology, services and operation, network wiring, cable pair specifications, computer configuration for DSL operation, and Golite technology. Upon completion, students should be able to install, test, and repair DSL services.

VETERINARY MEDICAL TECHNOLOGY

VET 110 Animal Breeds and Husbandry 2-2-3 C-L-SHC

Local Prerequisite: Enrollment in Veterinary Medical Technology program

This course provides a study of the individual breed characteristics and management techniques of the canine, feline, equine, bovine, porcine, ovine, caprine, and laboratory animals. Topics include physiological data, animal health management, and basic care and handling of animals. Upon completion, students should be able to identify breeds of domestic and laboratory animals, list physiological data, and outline basic care, handling, and management techniques.

VET 114 Introduction to Veterinary Medical Technology 1-0-1

Local Prerequisite: Enrollment in Veterinary Medical Technology program

This course introduces the standard operating procedures and responsibilities of veterinary medical technology departments, common zoonotic diseases, safety and ethical issues, and USDA/DEA/OSHA regulations/compliance. Emphasis is placed on standard operating procedures, zoonotic diseases, safety and ethical issues, and the importance of USDA/DEA/OSHA regulations and compliance. Upon completion, students should be able to perform duties assigned in veterinary medical technology, recognize potential zoonotic diseases, and establish safety protocols/regulatory compliance.

VET 120 Veterinary Anatomy and Physiology 3-3-4

Local Prerequisite: Enrollment in the Veterinary Medical Technology program

This course covers the structure and function of the animal body with emphasis on the similarities and differences among domestic animals. Emphasis is placed on the structure and function of the major physiological systems of domestic, laboratory, and zoo animals. Upon completion, students should be able to identify relevant anatomical structure and describe basic physiological processes for the major body systems.

VET 121 Veterinary Medical Terminology 3-0-3

Local Corequisite: Enrollment in Veterinary Medical Technology program

This course covers the basic medical terminology required for veterinary technicians. Topics include the pronunciation, spelling, and definition of word parts and vocabulary terms

unique to the anatomy, clinical pathology, and treatment of animals. Upon completion, students should be able to demonstrate knowledge and understanding of basic medical terms as they relate to veterinary medicine.

VET 123 Veterinary Parasitology 2-3-3

Local Prerequisite: VET 120

This course covers the common internal and external parasites of companion animals, livestock, selected zoo animals, and wild animals. Emphasis is placed on laboratory diagnosis of the most common forms of the parasite through fecal, urine, skin, and blood exams. Upon completion, students should be able to identify common parasites and discuss life-cycles, treatment and prevention strategies, and public health aspects of veterinary parasitology.

VET 125 Veterinary Diseases I 2-0-2

Local Prerequisite: VET 120

This course introduces basic immunology, fundamentals of disease processes including inflammation, and common infectious diseases of animals and their prevention through immunization. Topics include fundamental disease processes, principles of medical therapy, immunologic processes, infections and zoonotic diseases of domestic animals, and prevention of disease. Upon completion, students should be able to describe basic disease and immunological processes, recognize infections and zoonotic diseases, and discuss prevention strategies.

VET 126 Veterinary Diseases II 1-3-2

Prerequisite: VET 125

This course includes the study of basic disease processes, fundamentals of pathology, and other selected topics of veterinary medicine. Topics include histopathology, pathologic changes associated with common diseases of animals, necropsy procedures, specimen handling. Upon completion, students should be able to describe basic pathologic changes associated with disease, recognize histopathologic changes, and properly perform collection and submission of necropsy specimens.

VET 131 Veterinary Laboratory Techniques I 2-3-3

Prerequisite: VET 123

Corequisite: VET 133

This course includes the fundamental study of hematology, hemostasis, and urinalysis. Emphasis is placed on basic hematology and urinalysis techniques, manual skill development, instrumentation, quality control, and applications to veterinary science. Upon completion, students should be able to perform manual and automated CBCs, hemostatic assays, and complete urinalyses and maintain laboratory equipment and quality control.

VET 133 Veterinary Clinical Practice I 2-3-3

Local Prerequisite: VET 123

Local Corequisite: VET 131

Corequisite: VET 120

This course introduces basic practices and techniques of the veterinary clinic and biomedical research fields for dogs,

cats, and laboratory animals. Topics include physical exam, husbandry, housing, sanitation, restraint and handling, administration of medications, anesthesia and euthanasia techniques, grooming, and dentistry. Upon completion, students should be able to properly restrain, medicate, examine, groom, and maintain each of the species studied.

VET 137 Veterinary Office Practices 1-2-2

Local Prerequisites: VET 131, VET 133, Enrollment in Veterinary Medical Technology program

This course is designed to teach basic administrative techniques, client communication skills, and regulations pertaining to veterinary medicine. Topics include record keeping, telephone techniques, professional liability, office procedures, state and national regulatory laws, human relations, and animal welfare. Upon completion, students should be able to demonstrate effective communication techniques, office procedures, and knowledge of regulatory laws and issues relating to animal welfare.

VET 211 Veterinary Laboratory Techniques II 2-3-3

Prerequisite: VET 131

Corequisite: VET 213

This course covers advanced hematology, serology, immunology, and clinical chemistry. Topics include advanced hematologic, serologic, and immunologic test procedures; manual and automated clinical chemistry procedures; laboratory safety; and quality control. Upon completion, students should be able to collect, prepare, and analyze serum and plasma samples and outline quality control and safety procedures.

VET 212 Veterinary Laboratory Techniques III 2-3-3

Prerequisite: VET 211

Corequisite: VET 214

This course introduces the basic principles of microbiology, histology, and cytology. Emphasis is placed on collection of microbiological samples for culture and sensitivity and collection and preparation of samples for histological and cytological examination. Upon completion, students should be able to perform microbiological culture and sensitivity and evaluate cytology and histology specimens.

VET 213 Veterinary Clinical Practice II 1-9-4

Prerequisite: VET 133

Local Corequisite: VET 211

This course covers basic radiography, anesthesia techniques, dentistry, sample collection and handling, surgical assistance and instrumentation, sterile techniques, and patient record keeping. Topics include basic radiography, injectable and gas anesthesia, dentistry, instrument identification and care, sterile surgical technique, specimen collection and processing, and maintenance of patient records. Upon completion, students should be able to take and process radiographs, administer and monitor anesthesia, assist in surgical procedures, collect specimens, and maintain surgical records.

VET 214 Veterinary Clinical Practice III 1-9-4

Prerequisite: VET 213

Local Corequisite: VET 212

This course covers advanced anesthetic techniques, special radiographic techniques, advanced dentistry, sample collection and processing, bandaging, and emergency and critical care procedures. Topics include induction and maintenance of anesthesia, radiographic contrast studies, advanced dentistry, external coaptation, intensive care procedures, and advanced sample collection techniques. Upon completion, students should be able to demonstrate proficiency in sample collection, radiology, anesthesia, critical care and emergency procedures, and dentistry.

VET 215 Veterinary Pharmacology 3-0-3*Prerequisites: CHM 130 and CHM 130A or CHM 151**Corequisite: VET 213*

This course introduces drugs and other substances utilized in veterinary medicine. Emphasis is placed on drug classification and methods of action, administration, effects and side effects, storing and handling of drugs, and dosage calculations. Upon completion, students should be able to properly calculate and administer medications, recognize adverse reactions, and maintain pharmaceutical inventory and administration records.

VET 217 Large Animal Clinical Practice 2-3-3*Prerequisite: VET 120**Local Prerequisite: VET 125**Corequisite: VET 213**Local Corequisite: VET 214*

This course covers topics relevant to the medical and surgical techniques for the common domestic large animal species. Topics include physical exam, restraint, sample collection, bandaging, emergency treatment, surgical and obstetrical procedures and instruments, herd health, and lameness topics. Upon completion, students should be able to safely perform restraint, examination, and sample collection; assist surgical, obstetrical, and emergency procedures; and discuss herd health.

VET 237 Animal Nutrition 3-0-3*Local Prerequisites: CHM 130 and CHM 130A; enrollment in Veterinary Medical Technology program*

This course covers the principles of nutrition and their application to feeding practices of domestic, farm, and companion animals. Topics include basic nutrients and nutritional needs of individual species, proximate analysis, interpretation of food and feed labels, types of animal foods, and ration formulation. Upon completion, students should be able to select appropriate diets for animals in various stages of health and disease, analyze nutrition labels, and identify foods.

WEB TECHNOLOGIES**C-L-SHC****WEB 110 Internet/Web Fundamentals 2-2-3**

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 website created with mark-up language, and effectively use and understand the function of search engines.

WEB 140 Web Development Tools 2-2-3

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.

WEB 210 Web Design 2-2-3

This course introduces intermediate to advanced web design techniques. Topics include customer expectations, advanced markup language, multimedia technologies, usability and accessibility practices, and techniques for the evaluation of web design. Upon completion, students should be able to employ advanced design techniques to create high impact and highly functional web sites.

WEB 250 Database Driven Websites 2-2-3*Prerequisite: DBA 110*

This course introduces dynamic (database-driven) website development. Topics include the use of basic database CRUD statements (create, read, update, and delete) incorporated into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards.

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.

WELDING**C-L-SHC****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.

WLD 112 Basic Welding Processes 1-3-2

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

WLD 115 SMAW (Stick) Plate 2-9-5

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

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

Prerequisite: 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.

WLD 121 GMAW (MIG) FCAW/Plate 2-6-4

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

WLD 131 GTAW (TIG) Plate 2-6-4

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

WLD 141 Symbols and 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.

WLD 151 Fabrication I 2-6-4

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

WLD 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.

WLD 262 Inspection and Testing 2-2-3

This course introduces destructive and non-destructive testing methods. Emphasis is placed on safety, types and methods of testing, and the use of testing equipment and materials. Upon completion, students should be able to understand and/or perform a variety of destructive and non-destructive testing processes