FACILITY MAINTENANCE WORKER

C-L-SHC

FMW 100 Introduction to Nat Elec Code 1-0-1
This course covers the use of the National Electrical Code. Topics include wiring methods, grounding, general areas of the NEC, and other related topics. Upon completion, students should be able to use the code effectively. *This is a diploma-level course.*

FMW 101 Basic NEC Problems 1-2-2
This course covers sections of the NEC related to calculations. Topics include branch circuits, sizes, wire, conduit, and house problems. Upon completion, students should be able to use the code to find wire and conduit sizes. *This is a diploma-level course.*

FMW 102 Practical Wiring I 2-6-4
This course covers the tools and materials commonly used in the electrical field. Emphasis is placed on mounting, installing, and wiring electrical fixtures common to residential and simple commercial installations. Upon completion, students should be able to properly install boxes, wires, and switches. *This is a diploma-level course.*

FMW 103 Practical Wiring II 2-6-4
Prerequisites: FMW 102
This course covers wiring and circuit layout and the actual building of mock-ups. Topics include using electrical blueprints, planning circuit layouts, and installing electrical equipment. Upon completion, students should be able to properly install electrical and related equipment. *This is a diploma-level course.*

FMW 104 Intro-Industrial Wiring 2-6-4
Prerequisites: FMW 102
This course covers blueprint reading and planning and repairing electrical wiring systems in industrial facilities. Emphasis is placed on reading electrical blueprints when repairing or replacing electrical material in an industrial facility. Upon completion, students should be able to properly repair an electrical system. *This is a diploma-level course.*

FMW 105 Basic Heating 2-2-3
This course covers the fundamentals of heating systems, including oil, gas, and electrical systems and heat pumps. Topics include safety precautions, tools, and materials needed to safely troubleshoot and repair heating systems. Upon completion, students should be able to explain and repair the major components of a heating system. *This is a diploma-level course.*

FMW 106 Domestic Air Conditioning 2-2-3
This course covers the principles of air conditioning, including terminology, identification, and function of component. Topics include compressors, condensers, and motors and controls with emphasis on practical work with hand tools and materials in the installation of air conditioning systems. Upon completion, students should be able to repair an air conditioning system. *This is a diploma-level course.*

FMW 107 Introduction to Carpentry 1-4-3
This course introduces basic carpentry skills. Emphasis is placed on the proper and safe use of hand and power tools used by a beginning carpenter. Upon completion, students should be able to perform basic tasks involving forming, framing, and repair of windows and doors. *This is a diploma-level course.*

FMW 108 Electrical Blueprints 1-3-2
This course introduces the basic principles of blueprint reading for residential electrical systems. Topics include floor plants, switch and receptacle layouts, lighting fixtures, and finished installations. Upon completion, students should be able to interpret basic blueprints. *This is a diploma-level course.*

FMW 109 Introduction to Small Engines 2-2-3
This course provides training in the maintenance and overhaul of two- and four-cycle engines. Emphasis is placed on replacing defective parts and the rebuilding of lawn mowers, rotary tillers, and similar machines. Upon completion, students should be able to repair or rebuild a small engine. *This is a diploma-level course.*

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 to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 112 Elementary French II 3-0-3
Prerequisites: FRE 111
This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 211 Intermediate French I 3-0-3
Prerequisites: 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 212 Intermediate French II 3-0-3
Prerequisites: 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in humani-

ties/fine arts.

FOOD SERVICE

C-L-SHC

FST 100 Introduction to Foodservice Indt 1-0-1
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 3-8-7
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 104 Foodservice Equipment 1-2-2
This course provides instruction in identification, effective use, and care of foodservice equipment. Emphasis is placed on operation, maintenance, and application of standard institutional equipment. Upon completion, students should be able to demonstrate safe and efficient use of standard institutional kitchen equipment. *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 Adv. 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

C-L-SHC

GEL 111 Introductory Geology 3-2-4
This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon completion, students should be able to describe basic geological processes that shape the earth. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

GEOGRAPHY

C-L-SHC

GEO 111 World Regional Geography 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HEALTH

C-L-SHC

HEA 110 Personal Health/Wellness 3-0-3
This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues

such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective requirement.*

HEA 111 First Aid and Safety 1-2-2
This course provides first aid and safety education. Emphasis is placed on safe attitudes, accident prevention, and response to accidents and injuries. Upon completion, students should be able to demonstrate proper first aid and safety skills.

HISTORY

C-L-SHC

HIS 111 World Civilizations I 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 112 World Civilizations II -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 to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 115 Introduction to Global History 3-0-3
This course introduces the study of global history. Emphasis is placed on topics such as colonialism, industrialism, and nationalism. Upon completion, students should be able to analyze significant global historical issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 121 Western Civilization I 3-0-3
This course introduces western civilization from pre-history to the early modern era. Topics include ancient Greece, Rome, and Christian institutions of the Middle Ages and the emergence of national monarchies in western Europe. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 122 Western Civilization II 3-0-3
This course introduces western civilization from the early modern era to the present. Topics include the religious wars, the Industrial Revolution, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 131 American History I 3-0-3
This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 132 American History II 3-0-3
This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major American wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 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 to satisfy the comprehensive articulation agreement pre-major 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 to satisfy the comprehensive articulation agreement pre-major and/or elective course requirement.*

HORTICULTURE

HOR 130 Greenhouse Design 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

C-L-SHC

HSE 110 Introduction to Human Services 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
Prerequisites: 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
Prerequisites: 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
Prerequisites: 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

C-L-SHC

HUM 110 Technology and Society 3-0-3
This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

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

HUM 120 Cultural Studies 3-0-3
This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 122 Southern Culture 3-0-3
This course explores the major qualities that make the South a distinct region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 150 Amer. 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 160 Introduction to Film 2-2-3
This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 220 Human Values and Meaning 3-0-3
Prerequisites: 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 to satisfy the Comprehensive Articulation Agreement general education core requirement 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
Prerequisites: 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, 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 115 Construction Safety 2-0-2
This course introduces the basic concepts of construction site safety. Topics include ladders, lifting, lock-out/tag-out, personal protective devices, scaffolds, and above/below ground work based on OSHA regulations. Upon completion, students should be able to demonstrate knowledge of applicable safety regulations and safely participate in construction projects.

ISC 121 Envir 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 professionals 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 and 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. This course is a unique concentration requirement of the Operations Management concentration in the Business Administration program.

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
Prerequisites: Completion of curriculum mathematics requirement
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, 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.

JOURNALISM

JOU 113 Prin. of Comm. Journ. 3-0-3
This course introduces the field of community journalism and other print media. Emphasis is placed on American mass media and the specific role and responsibility of community newspapers. Upon completion, students should be able to demonstrate knowledge of regulations, organizational structure, historical development, and ongoing operation of community newspapers and related industries.

JOU 120 Journalism/Theory and Production 2-2-3
This course provides a study of basic journalistic writing and production techniques. Emphasis is placed on interviewing, drafting, editing, layout, design, and printing. Upon completion, students should be able to demonstrate competence in the various phases of writing and producing a publication.

JOU 214 Communications Law/Ethics 3-0-3
This course introduces the judicial, legislative, and administrative policies pertinent to the ethical and legal operation of newspapers and other print media. Emphasis is placed upon First Amendment protection, libel, privacy, free press, fair trial, judicial controls, government regulations, copyright, and ethical standards and practices. Upon completion, students should have an understanding and appreciation of these issues and the ability to analyze the important legal and ethical issues involved.

JOU 215 News Gathering/Reporting 2-2-3
This course introduces the basic techniques of news gathering and reporting. Emphasis is placed on gathering information through interviews, official documents, public opinion polls, news releases, and other electronic sources. Upon completion, students should be able to explain and demonstrate the various methods of research for news gathering and reporting.

JOU 216 Writing for Mass Media 2-2-3
This course is an introduction of news writing for newspapers and other print media including the techniques of news gathering, reporting, and interviewing. Emphasis is placed on basic methods of gathering information, conducting interviews, organizing a story, writing leads, writing clear, concise copy and upon developing research skills. Upon completion, students should be able to write clear, concise, accurate, complete, balanced and readable news stories according to guidelines set by industry standards.

JOU 217 Feature/Editorial Writing 2-2-3
Prerequisite: ENG 111
This course covers the basics of persuasive writing for community newspapers and other print media. Emphasis is placed on writing features, reviews, and editorials, including audience analysis, appropriate language, effective supporting details, completeness, and accuracy. Upon completion, students should be able to write effective feature stories, reviews, and editorials.

JOU 218 Basic Photojournalism 2-2-3
This course introduces the principles and techniques of photojournalism for use in print and other journalistic mass media. Emphasis is on standard and digital photography, shooting events or pre-planned photographs, image aesthetics/color theory, digital photo imaging methods, and evaluation of pictorial effects. Upon completion, students should be able to use standard and digital cameras and to employ digital image processing to create photojournalistic content.

JOU 219 News Editing 2-2-3
This course provides a comprehensive study of editing skills needed for success in newspaper journalism and other print media. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, editing, graphics, and pagination. Upon completion, students should be prepared to use standard journalism reference materials to compose and edit news copy.

LASERS AND OPTICS

C-L-SHC

LEO 111 Lasers and Applications 1-3-2
Corequisites: 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 polarizer's. 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
Corequisites: 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
Prerequisites: 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 Apps 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 Introduction 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
Prerequisites: 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
Prerequisites: 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 and 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 and Reasoning 1-2-2
Corequisites: 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
Prerequisites: 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, 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, and 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 and 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 and 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, purchas-

ing 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 and Class. 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
Prerequisites: 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 purposes of library programs and various methods used for program design, promotion, and delivery. Topics include serving special populations, through such activities as storytelling, book mobiles, puppets, book clubs, book reviews, reading aloud, workshops, and special collections. Upon completion, students should be able to promote special collections, prepare library programs, and demonstrate an understanding of the relationship between audience and program.

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

MAC 113 Machining Technology III 2-12-6
Prerequisites: MAC 112
This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications.

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 152 Adv Machining Calc 1-2-2
This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.

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. *This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.*

MAC 224 Advanced CNC Milling 1-3-2
Prerequisites: MAC 124
This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.

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
Prerequisites: 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
Prerequisites: 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
Prerequisites: 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. *This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.*

MAC 245 Mold Construction I 2-6-4
Prerequisites: 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
Prerequisites: 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. *This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.*

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
Prerequisites: MAT 050 or required placement score
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
Prerequisites: MAT 060 or required placement score
Corequisites: RED 080 or ENG 085 or required placement score.
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
Prerequisites: MAT 070 or required placement score
Corequisites: RED 080 or ENG 085 or required placement score
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
Prerequisites: MAT 060, MAT 070, or MAT 080 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
Prerequisites: MAT 070, MAT 080, MAT 120, MAT 121, MAT 161, MAT 171, or 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
Prerequisites: MAT 070, MAT 080, MAT 120, MAT 121, MAT 161, MAT 171, or 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, functional notation, linear functions and their groups, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently.

MAT 120 Geometry and Trigonometry 2-2-3
Prerequisites: MAT 070, MAT 080, MAT 121, MAT 161, MAT 171, or 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
Prerequisites: MAT 070 or MAT 080 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
Prerequisites: 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
Prerequisites: MAT 070, MAT 080, MAT 120, MAT 121, MAT 161, MAT 171, or 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 151 Statistics I 3-0-3
Prerequisites: MAT 080, MAT 120, MAT 121, MAT 140, MAT 161, MAT 171, or 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 161 College Algebra 3-0-3
Prerequisites: MAT 080 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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics for the Associate in Arts Degree.*

MAT 162 College Trigonometry 3-0-3
Prerequisites: MAT 161
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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics for the Associate in Arts Degree.*

MAT 171 Precalculus Algebra 3-0-3
Prerequisites: MAT 080 or 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 172 Precalculus Trigonometry 3-0-3
Prerequisites: MAT 171
This is the second of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on properties and applications of transcendental functions and their graphs, right and oblique triangle trigonometry, conic sections, and vectors, and polar coordinates. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 175 Precalculus 4-0-4
Prerequisites: 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 210 Logic 3-0-3
Prerequisites: 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. exponential and logarithmic functions. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

MAT 263 Brief Calculus 3-0-3
Prerequisites: MAT 161, MAT 171, or MAT 175
This course introduces concepts of differentiation and integration and their applications to solving problems; the course is designed for students needing one semester of calculus. Topics include functions, graphing, differentiation, and integration with emphasis on applications drawn from business, economics, and biological and behavioral sciences. Upon completion, students should be able to demonstrate an understanding of the use of basic calculus and technology to solve problems and to analyze and communicate results. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 271 Calculus I 3-2-4
Prerequisites: MAT 172 or MAT 175
This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications. Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 272 Calculus II 3-2-4
Prerequisites: MAT 271
This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite

series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 273 Calculus III 3-2-4
Prerequisites: MAT 272
This course covers the calculus of several variables and is third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

MAT 280 Linear Algebra 3-0-3
Prerequisites: 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 othogonality. 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 to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

MAT 285 Differential Equations 3-0-3
Prerequisites: MAT 272
This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first-order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the phenomena. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

MOTORCYCLE MECHANICS

C-L-SHC

MCM 101 Introduction to Motorcycle Mech 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. *This is a diploma-level course.*

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. *This is a diploma-level course.*

MCM 103 Motorcycle Elect 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. *This is a diploma-level course.*

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. *This is a diploma-level course.*

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. *This is a diploma-level course.*

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. *This is a diploma-level course.*

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 safely machine simple parts to specified tolerances.

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 Mfg 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 231 Comp-Aided Manufact I 1-4-3
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 Comp-Aided Manufact. II 1-4-3
Prerequisites: 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
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-SHC

MED 110 Orientation to Med Assist 1-0-1
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 A and P 3-2-4
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 2-0-2
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 3-0-3
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 3-0-3
Prerequisites: MED 121
This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 130 Admin Office Proc I 1-2-2
Prerequisites: Enrollment in the Medical Assisting program or permission of instructor, MAT 060
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 Admin Office Proc II 1-2-2
Prerequisites: MED 130
This course provides medical office procedures in both economic and management skills. Topics include physical plant maintenance, equipment and supplies, liability coverage, medical economics, and introductory insurance procedures. Upon completion, students should be able to manage the economics of the medical office and supervise personnel.

MED 134 Medical Transcription 2-2-3
Prerequisites: MED 121, MED 122, CIS 111
This course provides the basic knowledge, understanding, and skills required to complete medical reports and transcribe medical dictation. Emphasis is placed on correct punctuation, capitalization, and spelling. Upon completion, students should be able to demonstrate competence in medical transcription.

MED 138 Infection/Hazard Control 2-0-0-2
This course introduces the student to infection and hazard control procedures necessary for the healthcare worker. Topics include introduction to Microbiology, Practical Infection Control, Sterilization and Monitoring, Chemical Disinfectants, Aseptic Technique, Infectious Diseases, OSHA Standards, and Applicable North Carolina Laws. Upon com-

pletion, students should be able to: understand infectious diseases, disease transmission, infection control procedures, biohazard management, OSHA Standards, and applicable North Carolina laws.

MED 140 Exam Room Procedures I 3-4-5
Prerequisites: Enrollment in the Medical Assisting program CIS 111, MAT 110, MED 110, MED 116, MED 118, MED 121, MED 130, MED 138
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 3-4-5
Prerequisites: Enrollment in the Medical Assisting program CIS 111, MAT 110, MED 110, MED 116, MED 118, MED 121, MED 130, MED 138
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 Admin Office Proc III 1-2-0-2
Prerequisites: MED 131, MED 134, MED 260 or CMA certification, BIO 163, ENG 110 or ENG 111/111A, 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 1-3-2
Prerequisite: MED 122, 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
Prerequisites: 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 MED Clinical Externship 0-15-5
Prerequisites: Enrollment in the Medical Assisting Program; Adult, Infant, and Child CPR Certification for Healthcare Providers; CIS 111, MAT 110, MED 110, MED 116, MED 118, MED 122, MED 130, MED 138, ENG 110 or ENG 111/111A, MED 140, MED 150, PSY 110
Corequisites: 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 Med Assisting Overview 2-0-2
Prerequisite: MED 134, MED 260 or CMA certification, BIO 163, ENG 110 or ENG 111/111A, 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 2-2-3
Prerequisite: MED 260 or CMA certification, BIO 163, ENG 110 or ENG 111/111A, 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 3-0-3
Prerequisite: MED 260 or CMA certification, BIO 163, ENG 110 or ENG 111/111A, 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 3-0-3
Prerequisite: MED 134, MED 260, or CMA certification, BIO 163, ENG 110 or ENG 111/111A, 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 1-2-2
Prerequisite: MED 134, MED 260, or CMA certification, BIO 163, ENG 110 or ENG 111/111A, 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.

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 Indust Equip Troubleshoot 1-3-2
Prerequisites: 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 electromechanical and fluid power equipment troubleshooting and repair, including common techniques and procedures. Upon completion, students should be able to troubleshoot and repair industrial equipment.

MNT 270 Bioprocess Equip Maint 1-3-2
Prerequisites: 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 Sys 1-3-2
Prerequisites: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 to satisfy the Comprehensive Articulation Agreement general education core requirement 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*